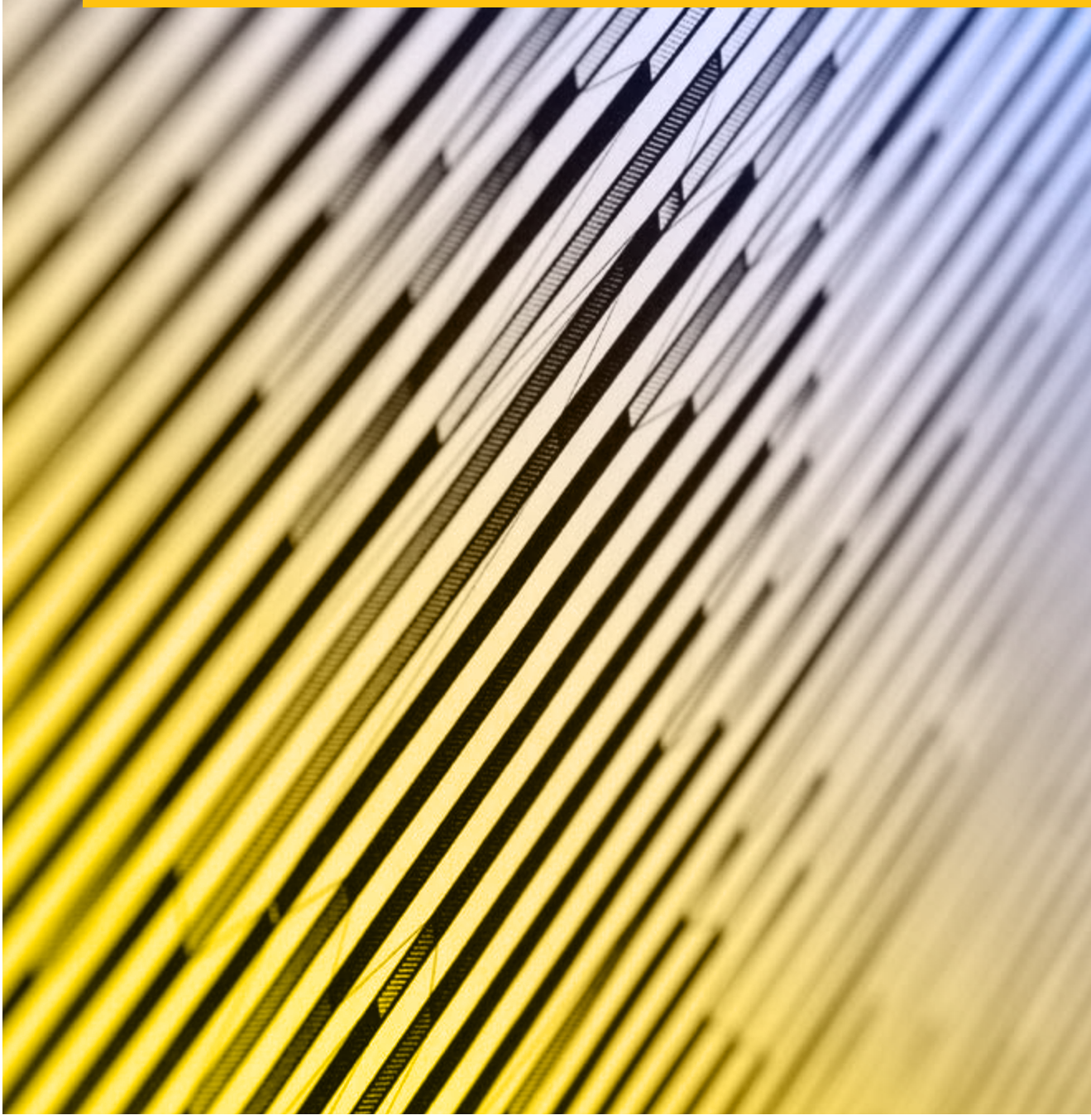
statistics

CO_2 emissions from fuel combustion



International Energy Agency
Secure Sustainable Together

2017

CO_2 emissions from fuel combustion

2017

INTERNATIONAL ENERGY AGENCY

The International Energy Agency (IEA), an autonomous agency, was established in November 1974. Its primary mandate was – and is – two-fold: to promote energy security amongst its member countries through collective response to physical disruptions in oil supply, and provide authoritative research and analysis on ways to ensure reliable, affordable and clean energy for its 29 member countries and beyond. The IEA carries out a comprehensive programme of energy co-operation among its member countries, each of which is obliged to hold oil stocks equivalent to 90 days of its net imports. The Agency's aims include the following objectives:

- Secure member countries' access to reliable and ample supplies of all forms of energy; in particular, through maintaining effective emergency response capabilities in case of oil supply disruptions.
- Promote sustainable energy policies that spur economic growth and environmental protection in a global context – particularly in terms of reducing greenhouse-gas emissions that contribute to climate change.
- Improve transparency of international markets through collection and analysis of energy data.
- Support global collaboration on energy technology to secure future energy supplies and mitigate their environmental impact, including through improved energy efficiency and development and deployment of low-carbon technologies.
- Find solutions to global energy challenges through engagement and dialogue with non-member countries, industry, international organisations and other stakeholders.

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The European Commission also participates in the work of the IEA.

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FOREWORD

The energy sector is in a state of transition. In recent years, we have seen a fundamental shift in the way governments around the world approach energy-related environmental issues, with policy considerations increasingly driven by concerns about environmental sustainability, economic competitiveness, energy security, air pollution and climate change. The goal is to create a clean, sustainable, affordable and accessible global energy system.

As such, climate change remains a key focus of IEA work – and a central aspect of this work is providing complete, accurate and timely data. The IEA works with the IEA family of countries and beyond to improve reporting of energy data, ultimately resulting in more accurate estimations of CO_2 emissions.

This is important, because energy accounts for approximately two-thirds of total greenhouse gas emissions and around 80% of CO_2. Any effort to reduce emissions and mitigate climate change must include the energy sector.

Based on official energy data and IPCC methodologies, this publication represents the most comprehensive set of estimates of CO_2 emissions from fuel combustion across the globe and all sectors of the economy.

In the lead-up to the UN climate negotiations at COP23 in Bonn, Germany, which follow the successful outcomes of the Paris and Marrakech meetings, this latest information on the level and growth of CO_2 emissions from fuel combustion, their source and geographic distribution will be vital for the participants and decision makers in the UNFCCC process.

This edition includes data from 1971 to 2015 for more than 150 countries and regions worldwide – by sector and by fuel – as well as a number of CO_2-related indicators. It is our hope that this breakdown will assist the reader in better understanding the evolution of emissions worldwide.

The IEA will continue to provide accurate data to inform the debate and ultimately promote evidence-based policy recommendations on the complex, but critically important, relationship between energy and climate change.

Dr. Fatih Birol
Executive Director

What's new?

New focus on Association countries and on geographic regions

In the 2017 edition, six new regional aggregates are added as a response to user requests. Firstly, the *IEA and Accession/Association countries* aggregate is added to show the wider connections the IEA has beyond members as part of the continuous development of the IEA's work; this shows member countries, Accession countries and Association countries as a whole. The five regional geographic aggregates are also included: Africa, Americas, Asia, Europe and Oceania, which are based on country aggregations in line with the UN's geographic regions. Note that these aggregates – apart from Africa - have different coverage from those historically presented in this publication (e.g. Armenia is included in Non-OECD Europe and Eurasia and in Asia at the same time). For the list of countries in each aggregation, please refer to the section "Geographical coverage".

New OECD member: Latvia

Latvia became an OECD member in July 2016. Accordingly, Latvia appears in the list of OECD members and is included in the zone aggregates for data from 1990, starting with the 2017 edition. Prior to 1990, data for Latvia are included in Former Soviet Union.

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COUNTRIES

PART III: GREENHOUSE-GAS EMISSIONS STATISTICS

Kyoto Protocol base years

The year 1990 should be the base year for the estimation and reporting of inventories. According to the provisions of Article 4.6 of the Convention and Decisions 9/CP.2 and 11/CP.4, the following Annex I Parties that are undergoing the process of transition to a market economy, are allowed to use a base year or a period of years other than 1990, as follows:

Bulgaria:	to use 1988
Hungary:	to use the average of the years 1985 to 1987
Poland:	to use 1988
Romania:	to use 1989
Slovenia:	to use 1986

ABBREVIATIONS

Btu:	British thermal unit
BKB:	brown coal briquettes (braunkohlebriketts)
Gg:	gigagramme
GJ:	gigajoule
$GtCO_2$:	gigatonnes of carbon dioxide
GWh:	gigawatt hour
J:	joule
kcal:	kilocalorie
kg:	kilogramme
kt:	thousand tonnes
ktoe:	thousand tonnes of oil equivalent
kWh:	kilowatt hour
MJ:	megajoule
Mt:	million tonnes
$MtCO_2$:	million tonnes of carbon dioxide
Mtoe:	million tonnes of oil equivalent
m^3:	cubic metre
PJ:	petajoule
t:	metric ton = tonne = 1 000 kg
tC:	tonne of carbon
Tcal:	teracalorie
TJ:	terajoule
toe:	tonne of oil equivalent = 10^7 kcal
CC:	carbon content
CEF:	carbon emission factor
COF:	carbon oxidation factor
CHP:	combined heat and power
GCV:	gross calorific value
GDP:	gross domestic product
GWP:	global warming potential
NCV:	net calorific value
PPP:	purchasing power parity
TFC	total final consumption
TPES:	total primary energy supply
CDM:	Clean Development Mechanism
COP:	Conference of the Parties to the Convention (see UNFCCC)
EITs:	Economies in Transition (refer to the chapter *Geographical coverage*)
G20:	Group of Twenty (refer to the chapter *Geographical coverage*)
IEA:	International Energy Agency
IPCC:	Intergovernmental Panel on Climate Change
OECD:	Organisation for Economic Co-operation and Development
UN:	United Nations
UNECE:	United Nations Economic Commission for Europe
UNFCCC:	United Nations Framework Convention on Climate Change
e	estimated
..	not available
-	nil
x	not applicable
+	growth greater than 1 000%

Important cautionary notes

The estimates of CO_2 emissions from fuel combustion presented in this publication are calculated using the IEA energy balances and the default methods and emission factors from the *2006 IPCC Guidelines for National Greenhouse Gas Inventories.* There are many reasons why **the IEA Secretariat estimates of CO_2 emissions from fuel combustion may not be the same as the figures that a country submits to the UNFCCC**, even if a country has accounted for all of its energy use and correctly applied the *IPCC Guidelines.*

In this publication, the IEA Secretariat presents CO_2 emissions from fuel combustion. IEA estimates include emissions from all reported energy use of fuels, but exclude emissions from non-energy use of fuels. Such totals may differ from those calculated using the Sectoral Approach of the *2006 IPCC Guidelines,* as under these guidelines some fuel combustion emissions have been reallocated out of the Source category energy and reclassified as industrial process emissions.

Information on "key sources" from fuel combustion, as developed in the *IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories,* are only given for combustion sources and will not include key sources from fugitive emissions, industrial processes, solvents, agriculture and waste. Please see the chapters *IEA emissions estimates* and *IPCC methodologies* for further information.

Energy data on OECD member and non-member countries[1] are collected by the Energy Data Centre (EDC) of the IEA Secretariat, headed by Mr. Duncan Millard. The IEA would like to thank and acknowledge the dedication and professionalism of the statisticians working on energy data in the respective countries.

Summary data for other greenhouse gases and sources are provided in cooperation with the PBL Netherlands Environmental Assessment Agency and the Joint Research Centre of the European Commission (JRC).

Mr. Loïc Coënt was responsible for the CO_2 emissions from fuel combustion estimates, and for the preparation of the publication. Input on international mitigation efforts was provided by Ms. Christina Hood. Desktop publishing support was provided by Ms. Sharon Burghgraeve. Ms. Roberta Quadrelli had overall responsibility for this publication.

CO_2 emission estimates from 1960 to 2015 for the Annex II countries and from 1971 to 2015 for all other countries are available on our online data service and on CD-ROM suitable for use on Windows-based systems. To order, please see the information provided at the end of this publication. Moreover, data can also be obtained on a pay-per-view basis. Details are available at www.iea.org/statistics.

Enquiries about data or methodology should be addressed to:

Energy Data Centre – CO_2 emissions
Telephone: (+33-1) 40-57-66-01
E-mail: emissions@iea.org

1. This document is without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area. In this publication, "country" refers to a country or a territory, as the case may be.

CO_2 EMISSIONS OVERVIEW

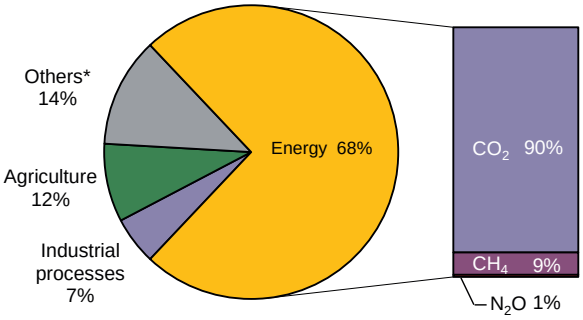
The growing importance of energy-related emissions

Climate scientists have observed that carbon dioxide (CO_2) concentrations in the atmosphere have been increasing significantly over the past century, compared to the pre-industrial era level of about 280 parts per million (ppm). In 2016, the average concentration of CO_2 (403 ppm)[1] was about 40% higher than in the mid-1800s, with an average growth of 2 ppm/year in the last ten years. Significant increases have also occurred in the levels of methane (CH_4) and nitrous oxide (N_2O).

Energy use and greenhouse gases

The *Fifth Assessment Report* from the Intergovernmental Panel on Climate Change (Working Group I) states that human influence on the climate system is clear (IPCC, 2013). Among the many human activities that produce greenhouse gases, the use of energy represents by far the largest source of emissions. Smaller shares correspond to agriculture, producing mainly CH_4 and N_2O from domestic livestock and rice cultivation, and to industrial processes not related to energy, producing mainly fluorinated gases and N_2O (Figure 1).

Figure 1. Estimated shares of global anthropogenic GHG, 2014



* Others include large-scale biomass burning, post-burn decay, peat decay, indirect N_2O emissions from non-agricultural emissions of NO_x and NH_3, Waste, and Solvent Use.

Source: based on IEA estimates for CO_2 from fuel combustion and EDGAR version 4.3.2 for CO_2, CH_4 and N_2O emissions and 4.2FT2010 for the F-gases; based on 100-year Global Warming Potential (GWP), see Part III.

Within the energy sector[2], CO_2 resulting from the oxidation of carbon in fuels during combustion dominates total GHG emissions.

CO_2 emissions from energy account for the largest share of global anthropogenic GHG emissions, representing over three quarters of emissions from

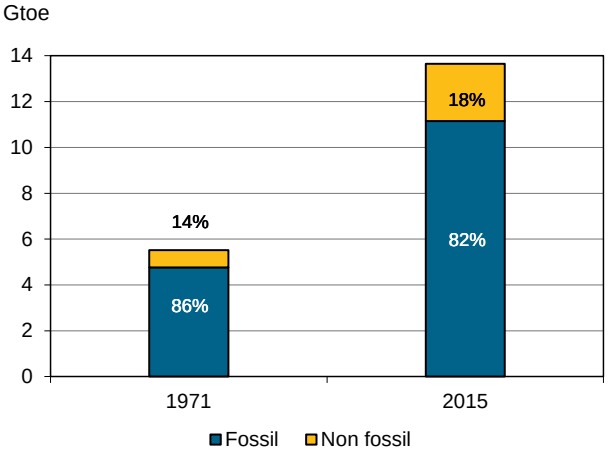
1. Globally averaged marine surface annual mean expressed as a mole fraction in dry air. Ed Dlugokencky and Pieter Tans, NOAA/ESRL (www.esrl.noaa.gov/gmd/ccgg/trends/).

2. The energy sector includes emissions from "fuel combustion" (the large majority) and "fugitive emissions", which are intentional or unintentional releases of gases resulting from production, processes, transmission, storage and use of fuels (e.g. CH_4 emissions from coal mining).

Annex I[3] countries, and about 58% of global emissions.[4] This percentage varies greatly by country, due to diverse national structures.

Increasing demand for energy comes from worldwide economic growth and development. Global energy demand as measured by total primary energy supply (TPES) increased by almost 150% between 1971 and 2015, still mainly relying on fossil fuels (Figure 2).

Figure 2. World primary energy supply*

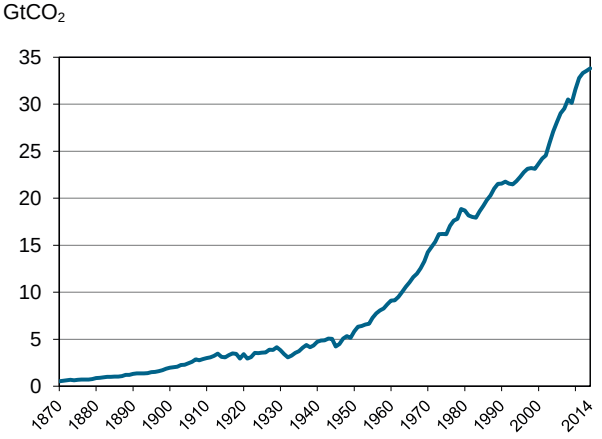


* World primary energy supply includes international bunkers. In this graph, non-renewable waste is included in Fossil.

Despite the growth of non-fossil energy (considered as non-emitting[5]), especially in electricity generation where it now accounts for 34% of the global figure (including nuclear, hydropower and other renewable sources), the share of fossil fuels within the world energy supply is relatively unchanged over the past four decades. In 2015, fossil sources accounted for 82% of the global TPES.

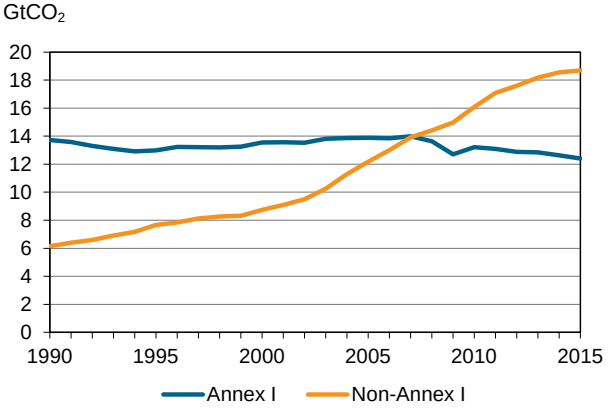
The growth in world energy demand from fossil fuels has played a key role in the upward trend in CO_2 emissions (Figure 3). Since the Industrial Revolution, annual CO_2 emissions from fuel combustion have dramatically increased from near zero to over 33 $GtCO_2$ in 2015.

Figure 3. Trend in CO_2 emissions from fossil fuel combustion, 1870-2014



Source: Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, US Department of Energy, Oak Ridge, Tenn., United States.

Figure 4. Regional CO_2 emissions trends, 1990-2015



More recently, since 1990, emissions in non-Annex I countries have tripled, while emissions in Annex I countries have declined slightly (Figure 4).

The next section provides a brief overview of recent trends in energy-related CO_2 emissions, as well as in some of the socio-economic drivers of emissions.

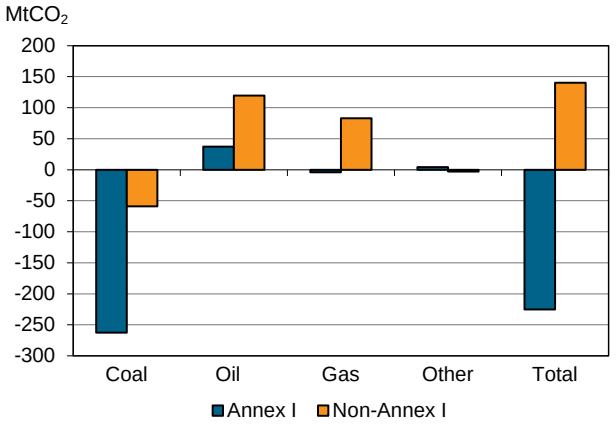
3. See *Geographical coverage*.
4. Based on 100-year Global Warming Potential (GWP), see Part III.
5. Excluding the life cycle of all non-emitting sources and excluding combustion of biofuels (considered as non-emitting CO_2, based on the assumption that the released carbon will be reabsorbed by biomass regrowth, under balanced conditions).

Recent emissions trends

In 2015, global CO_2 emissions reached 32.3 $GtCO_2$, which is comparable to the 2014 level[6] (- 0.1%). This contrasts with the growth rates seen in 2013 (1.7%) and 2014 (0.6%), and with the average annual growth rate since 2000 (2.2%). The year 2015 was the first year since the 1990s in which our data do not show a global increase in CO_2 emissions from fuel combustion whilst the global economy keeps growing.

Emissions in non-Annex I countries continued to increase (0.8%), although at a slower rate than in previous years, while emissions in Annex I countries decreased (-1.8%) due to visible declines in emissions from coal (-6.5%). In absolute terms, the global emissions trend was driven by increases from oil and natural gas in non-Annex I countries, compensated by decreased emissions from coal mainly in Annex I countries (Figure 5).

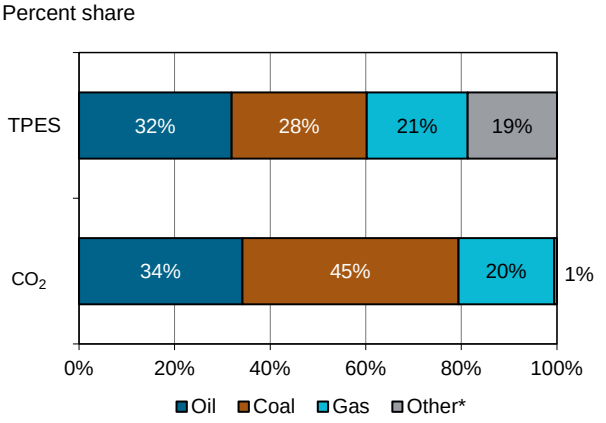
Figure 5. Change in CO_2 emissions, 2014-2015



Emissions by fuel

Although coal represented 28% of the world TPES in 2015, it accounted for 45% of the global CO_2 emissions due to its heavy carbon content per unit of energy released, and to the fact that almost one fifth of the TPES derives from carbon-neutral fuels (Figure 6). Compared to gas, coal is nearly twice as emission intensive on average.[7]

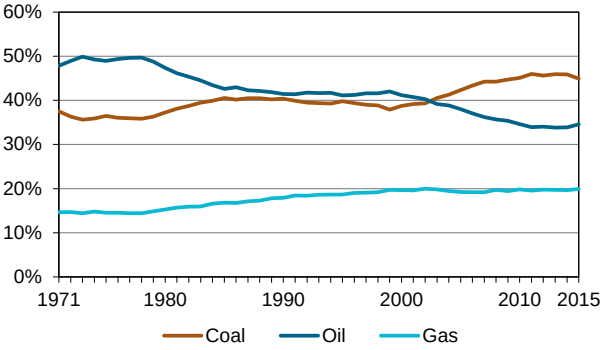
Figure 6. World primary energy supply and CO_2 emissions: shares by fuel in 2015



* Other includes nuclear, hydro, geothermal, solar, tide, wind, biofuels and waste.

From the late 1980s until the early 2000s, coal and oil were each responsible for approximately 40% of global CO_2 emissions, with emissions from oil generally exceeding those from coal by a few percentage points. However, the trends differed at a regional level. In Annex I countries, oil is the largest source of fuel combustion emissions, whereas, in non-Annex I countries emissions from coal ranked highest. Since then, mainly due to the increasing influence of non-Annex I countries, coal has increased from 39% in 2002 to 45% in 2015, while oil has decreased from 40% to 35%, with natural gas approximately stable at 20% of global emissions (Figure 7).

Figure 7. Fuel shares in global CO_2 emissions



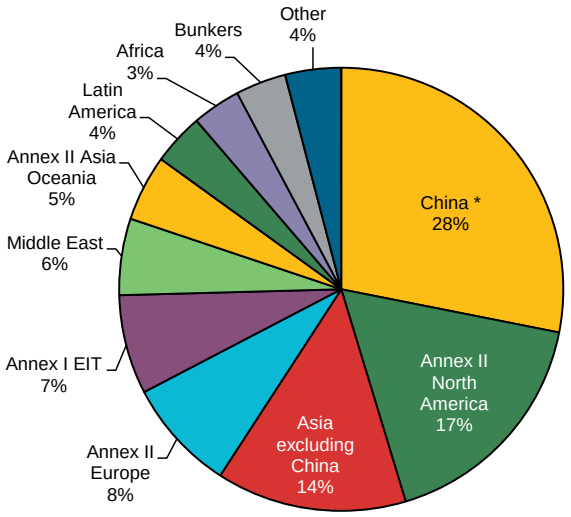
6. The IEA CO_2 emissions estimates are derived from the IEA energy balances, which use official country data to the maximum extent possible. The IEA is continuously working together with national administrations worldwide to ensure data quality improvements in the longer-term. As this work progresses, revisions to the underlying energy data and thus the CO_2 estimates may occur.

7. Default carbon emission factors from the *2006 IPCC Guidelines*: 15.3 tC/TJ for gas, 15.7 to 26.6 tC/TJ for oil products, 25.8 to 29.1 tC/TJ for primary coals.

Emissions by region

Non-Annex I countries, collectively, represented 58% of global CO_2 emissions in 2015, while Annex I countries represented 38%, with international marine and aviation bunkers responsible for the remaining 4%. On a regional level, the contributions to global CO_2 emissions vary greatly: in 2015, China (28%) and Annex II North America[9] (17%) were responsible for the largest share of emissions, followed by Asia excluding China[8] (12%), Annex II Europe[9] (8%) and Annex I EIT[9] (7%), with smaller shares coming from the Middle East (5%), Annex II Asia Oceania (5%), Latin Americas (4%) and Africa (4%) (Figure 8).

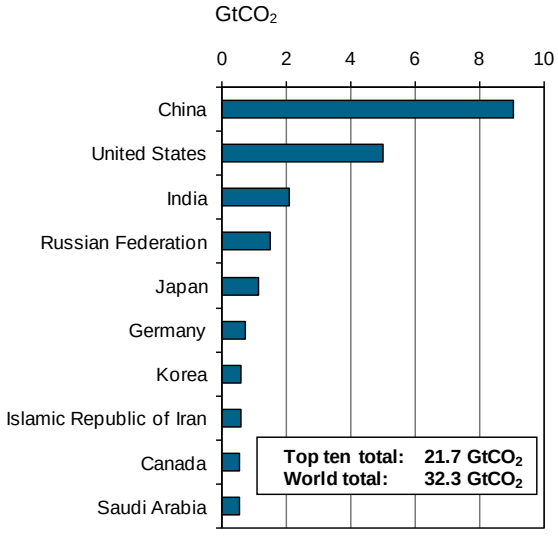
Figure 8. CO_2 emissions by region, 2015



* China includes Hong Kong, China.

Regional differences conceal even larger differences among individual countries. Over two-thirds of global emissions for 2015 originated from just ten countries, with the shares of China (28%) and the United States (15%) far surpassing those of all others. Combined, these two countries alone produced 14.0 $GtCO_2$. The top ten emitting countries include five Annex I countries and five non-Annex I countries (Figure 9).

Figure 9. Top ten emitting countries, 2015

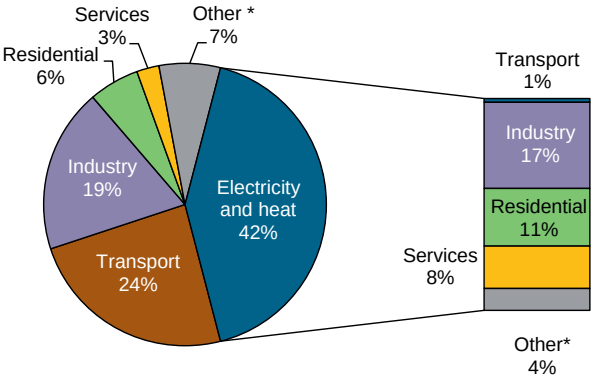


As different regions and countries have contrasting economic and social structures, the picture changes significantly when moving from absolute emissions to indicators such as emissions per capita or per GDP. A more comprehensive analysis is given in the section *Coupling emissions with socio-economic indicators* later in this discussion.

Emissions by sector

Two sectors produced two-thirds of global CO_2 emissions from fuel combustion in 2015: electricity and heat generation, by far the largest, which accounted for 42%, and transport, accounting for 24% (Figure 10).

Figure 10. World CO_2 emissions from fuel combustion by sector, 2015



The graph also shows allocation of electricity and heat to end-use sectors.

* Other includes agriculture/forestry, fishing, energy industries other than electricity and heat generation, and other emissions not specified elsewhere.

8. For the purposes of this discussion, Asia excludes China and includes Korea. Japan is included in Annex 2 Asia Oceania.
9. See *Geographical coverage*

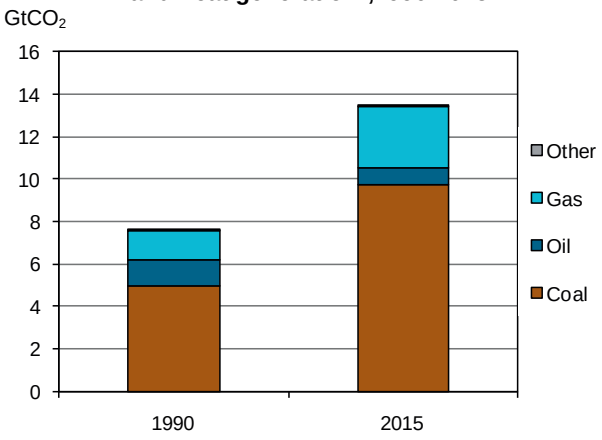
Despite an increase in the share of renewables, generation of electricity and heat worldwide relies heavily on coal, the most carbon-intensive fossil fuel. Countries such as Australia, China, India, Poland and South Africa produce over two-thirds of their electricity and heat through the combustion of coal.

Between 2014 and 2015, CO_2 emissions from electricity and heat decreased by 0.9%, compared with an increase of 0.4% between 2013 and 2014, and 1.4% between 2012 and 2013. While the share of oil in electricity and heat emissions has declined steadily since 1990, the share of gas increased slightly, and the share of coal increased significantly, from 65% in 1990 to 72% in 2015 (Figure 11). This trend is however changing and in the last years a progressive switch from coal to gas in electricity and heat generation can be observed. As an impact, 2015 was the first year when global emission from coal combustion decreased significantly since the post-crisis rebound.

Emissions from electricity generation specifically increased by 45% between 2000 and 2015. At a regional level, trends over the same period differed (Figure 12). Both Annex II Europe and Annex II North America showed a decrease in total emissions from electricity generation. In Annex II North America, this was driven by improvements in i) the thermal efficiency of generation; ii) the CO_2 intensity of the fossil fuel mix (both reflecting a shift from coal towards natural gas), and iii) an increase in the share of electricity output from non-emitting sources. In Annex II Europe, the share of electricity output from fossil fuels fell 20% between 2000 and 2015 lead by decreases in Italy and the United Kingdom. In Italy, the share of fossil-based electricity declined significantly (2000: 81%; 2015: 61%), as output from oil products fell, while that from solar PV, wind and hydro increased. Likewise, in the United Kingdom, electricity output from coal and gas decreased, while that from wind and combustible renewables increased, lowering the share of fossil fuels in the electricity mix (2000: 75%; 2015: 68%).

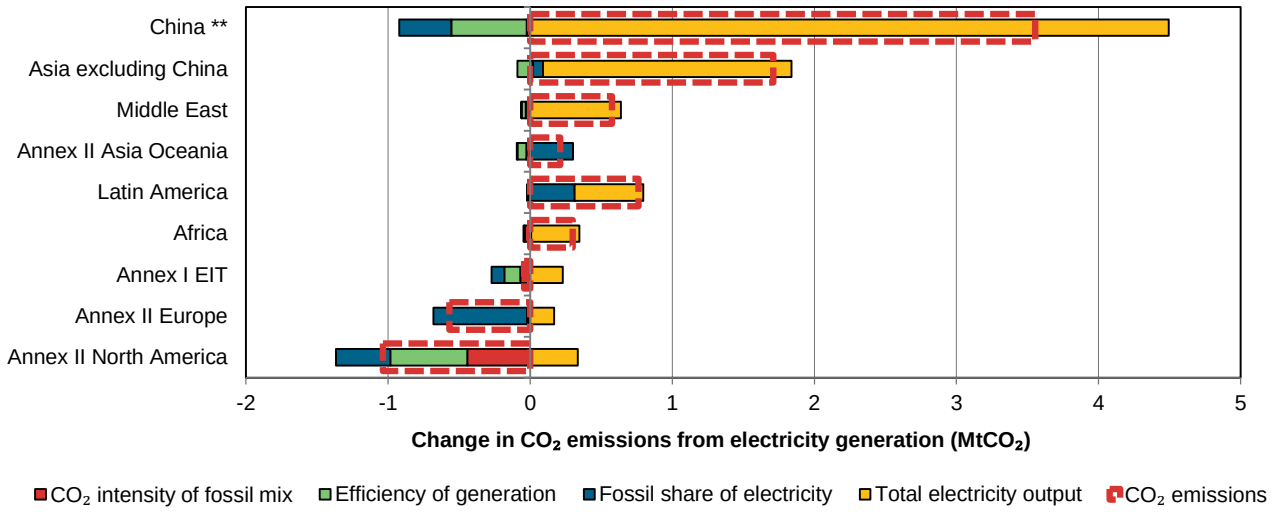
By contrast, Annex II Asia Oceania showed an increase in emissions from electricity generation, primarily due to a higher share of electricity output from fossil fuels. This predominantly reflected events in Japan, where sizeable fossil-fuel-powered generating capacity was brought online in the wake of the accident at Fukushima Daiichi in 2011.

Figure 11. CO_2 emissions from electricity and heat generation*,1990-2015



* Refers to main activity producers and autoproducers of electricity and heat.

Figure 12. CO_2 emissions from electricity generation: driving factors*, 2000-2015

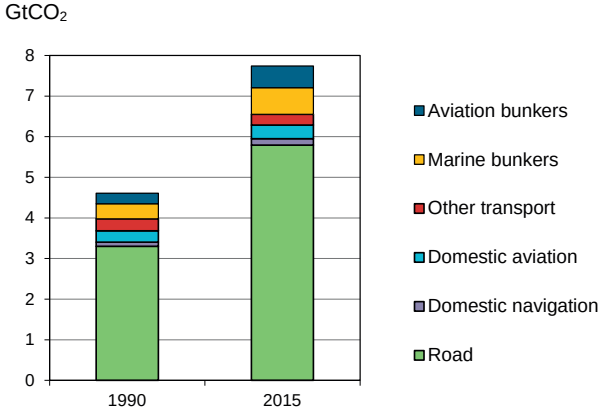


* Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec output.
** China includes Hong Kong, China.

Outside Annex I, all regions exhibited an increase in emissions from electricity generation, driven primarily by increased output. This was particularly notable in China, where total output has increased over four-fold since 2000, and in the remainder of Asia[10], where output more than doubled. In both of these regions, much of the increased output was met through carbon intensive coal-fired plants. However, in China, efficiency improvements and a recently increased share of non-fossil generation (from a combination of increased output from wind, solar PV, hydro and nuclear sources) reduced emissions per unit of output.

For transport, the 68% increase since 1990 (Figure 13) was led by increasing emissions from the road sector, which accounted for three quarters of transport emissions in 2015. Despite efforts to limit emissions from international transport, between 1990 and 2015, emissions from marine and aviation bunkers grew even faster than those from road (marine: +77% aviation: +105%).

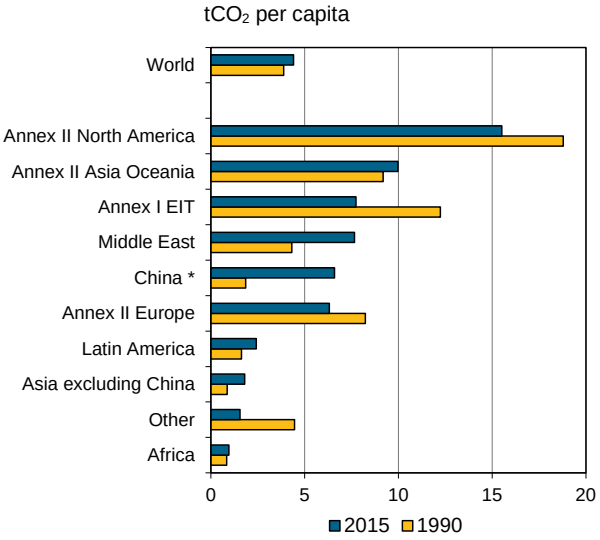
Figure 13. CO_2 emissions from transport, 1990-2015



Coupling emissions with socio-economic indicators[11]

Per-capita emission levels vary significantly across the world, highlighting the wide divergences in the way different countries and regions use energy (Figure 14). For example, among the five largest emitters, the levels of per-capita emissions in 2015 were very diverse, ranging from 1.6 tCO_2 for India and 6.6 tCO_2 for China to 15.5 tCO_2 for the United States. On average, industrialised countries emit far larger amounts of CO_2 per capita than developing countries, with the lowest levels worldwide observed in Africa.

Figure 14. CO_2 emissions per capita by major world regions, 1990-2015



* China includes Hong Kong, China.

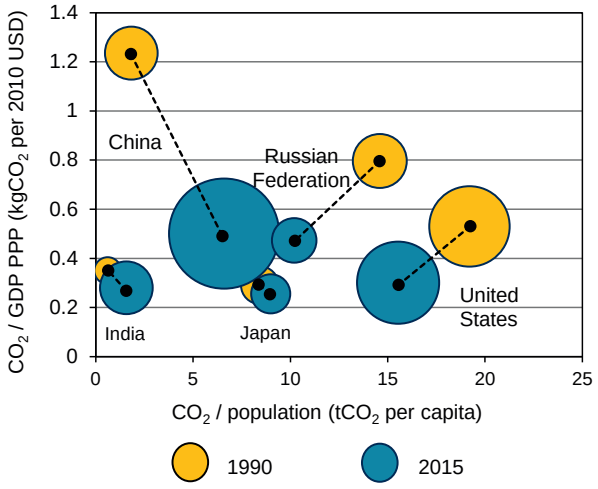
Globally, per-capita emissions increased by 13% between 1990 and 2015, however, contrasting trends were observed amongst the top five emitting countries, generally reducing gaps (Figure 15). China more than tripled its per-capita emissions, while India more than doubled theirs (as did some other rapidly expanding economies), reflecting strong per-capita GDP growth. Conversely, per-capita emissions decreased significantly in both the Russian Federation (-30%) and the United States (-19%), although following very different patterns. Values for Russia dramatically dropped in the early 1990s, and increased somewhat since then, while values for the United States began falling in the mid-to-late 2000s, having remained stable for many years.

For emissions per unit of GDP[12], all the five largest emitters have shown reductions between 1990 and 2015, in line with the decoupling observed globally

10. For the purposes of this discussion, Asia excludes China and includes Korea. Japan is included in Annex 2 Asia Oceania.
11. No single indicator can provide a complete picture of a country's CO_2 emissions performance or its relative capacity to reduce emissions. The indicators discussed here are certainly incomplete and should only be used to provide a rough description of the situation in a country.
12. Throughout this analysis, GDP refers to GDP in 2010 USD, using purchasing power parities. A note of caution is necessary concerning the indicator of CO_2 emissions per GDP. It can be very useful to measure efforts over time for one country, but has limitations when comparing countries, as it is very sensitive to the base year used for the GDP purchasing power parity (PPP).

(-31%). This trend was most pronounced for China and the Russian Federation, whose 1990 levels were significantly higher than those of other countries, and for the United States.

Figure 15. Trends in CO_2 emission intensities for the top five emitting countries*, 1990-2015

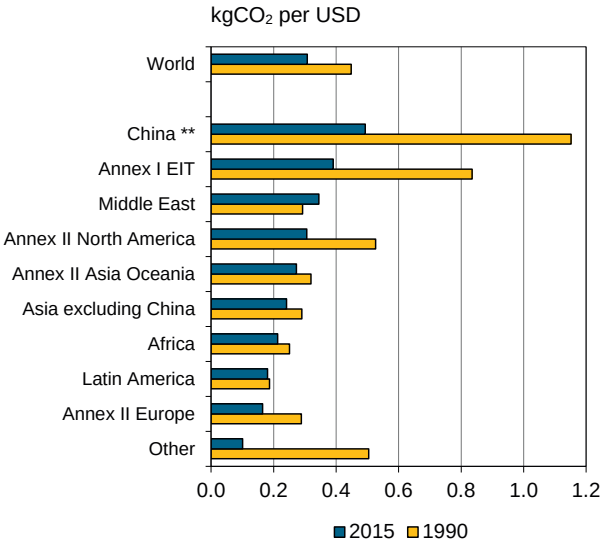


* The size of the circle represents the total CO_2 emissions from the country in that year.

Levels of emissions per GDP also vary significantly across regions, but much less in 2015 than in 1990 (Figure 16). Although climate, economic structure and other variables can affect energy use, relatively high values of emissions per GDP indicate a potential for decoupling CO_2 emissions from economic growth, including through fuel switching away from carbon-intensive sources or from energy efficiency at all stages of the energy value chain (from raw material extraction to energy end-use).[13]

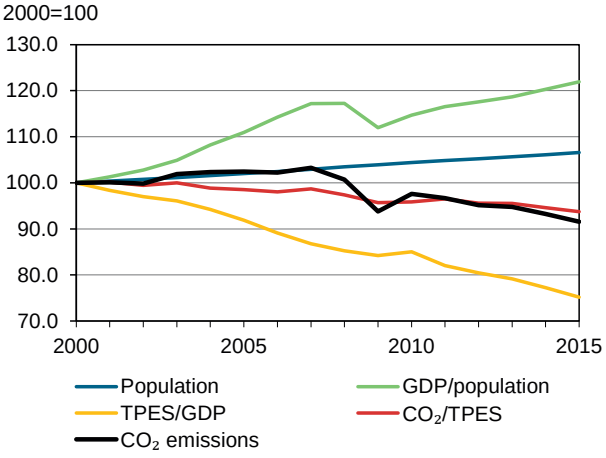
On a global level, CO_2 emissions grew by 40% between 2000 and 2015. A simple decomposition[14] shows the main driving factors of the world CO_2 emissions trend. Globally, economic growth partially decoupled from energy use, as energy intensity decreased by 21% over the period. However, with a practically unchanged carbon intensity of the energy

Figure 16. CO_2 emissions per GDP* by major world regions, 1990-2015



* GDP in 2010 USD, using purchasing power parities.
** China includes Hong Kong, China.

Figure 17. Annex I CO_2 emissions and drivers (Kaya decomposition)[14], 2000-2015



mix[15], the combined growth in population (20%) and in per capita GDP (43%) led to a significant increase in global CO_2 emissions between 2000 and 2015. However, due to differences in levels of economic, demographic and technological development and growth, emissions evolved at different rates in Annex I and non-Annex I countries and regions.

13. The IEA's Policies and Measures Databases offer access to information on energy-related policies and measures taken or planned to reduce GHG emissions, improve energy efficiency and support renewable energy development and deployment. The online databases can be consulted at: www.iea.org/policiesandmeasures/.

14. CO_2 emissions can be decomposed into the product of four factors: population, per capita GDP, TPES/GDP, CO_2/TPES. For a more detailed description of the Kaya decomposition, see the chapter *Indicator sources and methods* in Part I.

15. Also known, in its index form, as Energy Sector Carbon Intensity Index (ESCII), as in the IEA publication *Tracking Clean Energy Progress 2016*.

In Annex I countries as a whole, CO_2 emissions in 2015 were actually 8% lower than in 2000 (Figure 17). Significant decoupling of energy consumption from economic activity (TPES/GDP: -25%) acted to decrease emissions but per-capita economic output grew (GDP/population: +22%), as did population (+7%), however, the energy sector's carbon intensity (CO_2/TPES) declined mildly (-6%).

By contrast, emissions in non-Annex I countries doubled over the same period (Figure 18), as very strong growth in per-capita economic output (+90%) combined with population growth (+23%). The CO_2 intensity of the energy mix also increased (CO_2/TPES: +12%), mainly due to higher coal consumption in larger countries. However, a significant decrease in the energy intensity of the economic output (TPES/GDP: -18%) tempered those increases. A decomposition showing the effect of changes in the four driving factors on regional emissions over time is presented in Figure 19. As can be seen, trends vary greatly across countries and regions. Therefore, a thorough understanding of the factors driving CO_2 emissions trends is essential when designing sound and effective emissions reduction policies at a national and international level.

Figure 18. Non-Annex I CO_2 emissions and drivers (Kaya decomposition)[14], 1990-2015

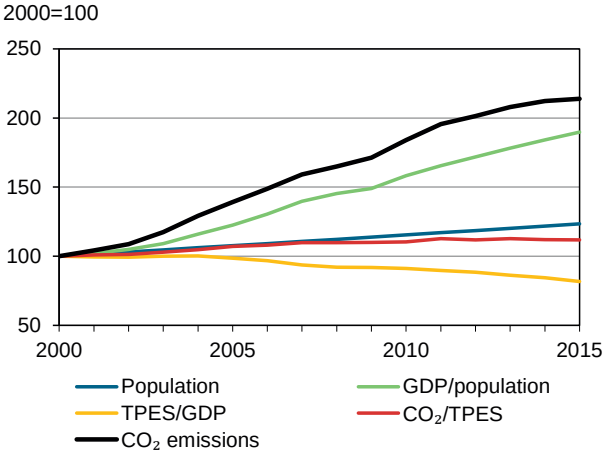
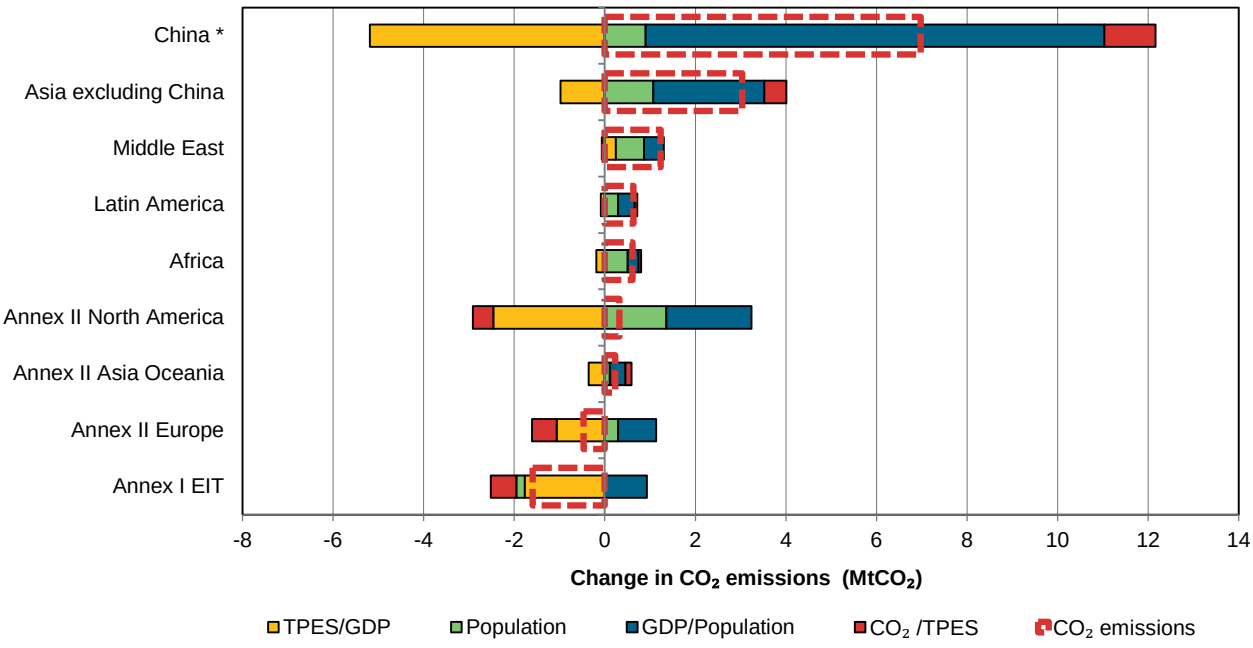


Figure 19. Global CO_2 emissions and drivers (Kaya decomposition), 1990-2015



* China includes Hong Kong, China.

Developing a low-carbon world

With the energy sector accounting for approximately two-thirds of global GHG emissions, action in the energy sector can make or break efforts to achieve global climate goals. Traditionally, industrialised countries have emitted the large majority of anthropogenic greenhouse gases (GHGs). More recently, shares of developing country emissions surpassed those of industrialised countries, and have kept rising very rapidly. To shift towards a low-carbon world, mitigation efforts must occur across all countries: decarbonising the energy supplies of industrialised countries, and shifting developing countries onto a low-carbon development path.

Timely and accurate CO_2 and GHG statistics (complemented by other energy sector metrics that provide insight into underlying transformation of the energy system) will prove central to measuring achievement of international climate targets and to informing policy makers and carbon market participants. The ability of countries to monitor and review emissions from their sources is essential in their engagement towards national and global GHG mitigation. The Capacity-building Initiative for Transparency launched at COP21 will be critical to making this happen. The IEA will also continue to support countries through provision of energy and emissions statistics, and training developed and developing country officials in policy, modelling, and energy statistics.

The Paris Agreement: International action beyond 2020

The global community adopted the historic Paris Agreement in December 2015, the first international climate agreement to extend mitigation obligations to all countries, both developed and developing. The Agreement was ratified in record pace by October 2016 and came into force 4 November 2016, just before the start of the 22nd Conference of the Parties (COP22). As of 21 August 2017, there are 195 signatories to the Paris Agreement of which 160 have also formally joined the agreement (by for example depositing their instruments of ratification).

Since the Agreement's adoption and entry into force, countries have shifted their focus to implementing their commitments under the accord, such as negotiating a "rulebook", which includes rules and guidelines for emissions accounting and transparency of mitigation action and financial support.

Previous climate agreements: Kyoto and Cancún

The first binding commitments to reduce greenhouse gas emissions were set under the Kyoto Protocol's first commitment period (2008-12). Participating industrialised countries were required (as a group) to curb domestic emissions by about 5% relative to 1990 over this period. Thirty-eight Parties have also agreed to take commitments under a second commitment period which will run from 2013 to 2020. The Doha Amendment to the Kyoto Protocol, which would bring this second commitment period into force requires ratification by 144 countries (two-thirds of those participating); as of 9 August 2017 only 80 have ratified.

Countries comply with their Kyoto Protocol targets by reducing emissions from fossil fuel combustion, reducing emission in other sectors (e.g. land-use or direct industrial emissions), or through use of the Kyoto Protocol's "flexible mechanisms" by which industrialised countries can earn emission credits from emissions reduction projects in participating developing countries and economies in transition (EITs).

Through its flexibility mechanisms and provisions for international trading, the Kyoto Protocol has made CO_2 a tradable commodity, and has been a key driver for the development of national emissions trading schemes. However the smaller pool of countries with targets in the Kyoto Protocol's second commitment period, coupled with a large surplus of project credits carried forward from the first period, have led to low prices and project developers exiting the market.

Despite its extensive participation (192 Parties), the Kyoto Protocol is limited in its potential to address global emissions. The United States remains outside of the Protocol's jurisdiction, and developing countries do not face emissions targets. The Kyoto Protocol second commitment period targets imply action on less than 13% of global CO_2 emissions in 2014 (Table 2).

Alongside agreement of a second Kyoto Protocol commitment period, developed and developing countries submitted voluntary emission reduction pledges for 2020 under the Copenhagen Accord and Cancún Agreements. With the participating Parties producing over 80% of global emissions, these pledges have far greater coverage. Table 2 summarises the 2020 targets of the ten highest-emitting Parties, all remaining IEA member countries, and their progress towards these targets. While Annex I Parties submitted absolute

emission reduction targets (e.g. 20% below 1990 levels), non-Annex I Parties submitted "nationally appropriate mitigation actions", many of which are intensity-based targets (e.g. reductions on a CO_2/GDP basis in China and India) or targets specifying reductions below business-as-usual scenarios (e.g. Korea, Mexico, Indonesia, South Africa). In addition, a number of these developing country targets are conditional on international support – either requiring support to be implemented or to achieve greater levels of ambition and GHG emissions reductions. Although the ambition of these pledges is insufficient to limit temperature rise to 2°C above pre-industrial levels, the breadth of participation in mitigation commitments marked a significant improvement on the coverage of the Kyoto Protocol, and laid the groundwork for the Paris Agreement.

Table 1. 2020 greenhouse gas reduction targets of the ten largest emitters (based on 2015 emissions) and IEA member countries [1]

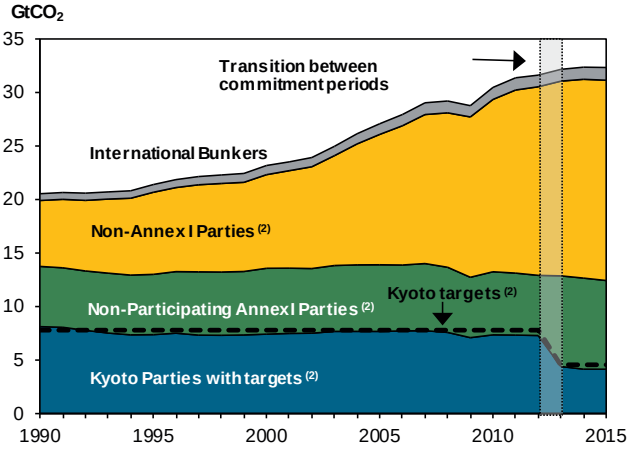
Ten highest emitting Parties (as per IEA estimates of CO_2 emissions from fuel combustion in 2015)							
	1990	**2005**	**2015**	**2020 GHG target**	**base year level**	**2015 level**	**change %**
	$MtCO_2$						
China (incl. Hong Kong, China)	2 109	5 399	9 084	Reduce CO_2 emissions per unit of GDP by 40-45% below 2005 levels.	0.72 $kgCO_2$ / 2010 USD PPP	0.49 $kgCO_2$ / 2010 USD PPP	-32%
United States[2]	4 802	5 702	4 998	In the range of a 17% emission reduction compared with 2005	5 702 Mt	4 997 Mt	-12%
European Union	4 028	3 921	3 201	20% averaged 2013-2020 reduction compared with 1990 under the Kyoto Protocol; 20% reduction in 2020.	4 028 Mt	3 160 Mt	-21%
India	530	1 080	2 066	Reduce the emissions intensity of GDP by 20-25% below 2005 levels.	0.30$kgCO_2$ / 2010 USD PPP	0.28 $kgCO_2$ / 2010 USD PPP	-6%
Russian Federation	2 163	1 482	1 469	15-25% below 1990.	2 16 Mt	1 469 Mt	-32%
Japan	1 042	1 178	1 142	3.8% below 2005.	1 18 Mt	1 142 Mt	-3%
Korea	232	458	585	*None* [3]		585 Mt	
Islamic Republic of Iran	171	418	552	*None*			
Canada	420	541	549	17% below 2005.	541 Mt	549 Mt	+2%
Saudi Arabia	151	298	531	*None*			
Other IEA member countries							
	1990	**2005**	**2015**	**2020 GHG target**	**base year level**	**2015 level**	**change %**
	$MtCO_2$						
Australia	260	372	381	5% reduction relative to 2000.	335 Mt	381 Mt	+14%
New Zealand	22	34	31	5% below 1990 levels.	22 Mt	31 Mt	+43%
Norway	27	34	37	Average 16% reduction 2013-2020 compared with 1990 under the Kyoto Protocol; 20% reduction in 2020.	27 Mt	37 Mt	+34%
Switzerland	41	44	37	Average 15.8% reduction 2013-2020 compared with 1990 under Kyoto Protocol; 20% reduction in 2020.	41 Mt	37 Mt	-8%
Turkey	127	217	317	*None*			

1. Voluntary targets under the Cancún Agreement, and (where indicated) second commitment period targets under the Kyoto Protocol.
2. The United States announced on 1 June 2017 its intention to withdraw from the Paris Agreement.
3. In 2016, Korea replaced its 2020 target of 30% below business-as-usual with a 2030 target as defined in its nationally-determined contribution (NDC).

Table 2. World CO_2 emissions from fuel combustion and Kyoto Protocol second commitment period targets [1,2]

	1990 $MtCO_2$	2015 $MtCO_2$	% change 90-15	Kyoto Target
KYOTO PARTIES WITH TARGETS [1,2]	**5,383.4**	**4,126.0**	**-23.4%**	**-19.3%** [2]
Annex I Europe	*3,118.9*	*2,648.9*	*-15.1%*	
Austria	56.3	62.1	10.4%	-20%
Belgium	106.2	92.5	-13.0%	-20%
Cyprus [3]	3.9	5.9	51.6%	-20%
Denmark	51.0	32.0	-37.3%	-20%
Finland	53.8	42.1	-21.8%	-20%
France [4]	345.5	290.5	-15.9%	-20%
Germany	940.3	729.8	-22.4%	-20%
Greece	69.9	64.6	-7.6%	-20%
Iceland	1.9	2.1	8.4%	-20%
Ireland	30.1	35.3	17.3%	-20%
Italy	389.3	330.7	-15.0%	-20%
Luxembourg	10.7	8.8	-18.0%	-20%
Malta	2.3	1.6	-28.9%	-20%
Netherlands	147.7	156.0	5.6%	-20%
Norway	27.5	36.7	33.7%	-16%
Portugal	37.9	47.0	24.2%	-20%
Spain	202.6	247.0	21.9%	-20%
Sweden	52.1	37.1	-28.8%	-20%
Switzerland	40.7	37.3	-8.4%	-15.8%
United Kingdom	549.3	389.8	-29.0%	-20%
Economies in Transition	*1,905.0*	*1,043.0*	*-45.2%*	
Belarus	99.8	53.2	-46.7%	-12%
Bulgaria	74.6	43.8	-41.3%	-20%
Croatia	20.3	15.5	-23.7%	-20%
Czech Republic	150.3	99.6	-33.8%	-20%
Estonia	36.0	15.5	-56.8%	-20%
Hungary	65.7	42.5	-35.3%	-20%
Kazakhstan	237.2	225.1	-5.1%	-5%
Latvia	18.8	6.8	-63.5%	-20%
Lithuania	32.2	10.5	-67.3%	-20%
Poland	344.8	282.4	-18.1%	-20%
Romania	168.3	69.5	-58.7%	-20%
Slovak Republic	54.8	29.4	-46.3%	-20%
Slovenia	13.5	12.8	-5.2%	-20%
Ukraine	688.4	189.4	-72.5%	-24%
Others				
Australia	259.7	380.9	46.7%	-0.5%
European Union	4,028.2	3,201.2	-20.5%	-20%

	1990 $MtCO_2$	2015 $MtCO_2$	% change 90-15	Kyoto Target
OTHER COUNTRIES	**99.8**	**53.2**	**-46.7%**	
Non-participating Annex I Parties [1]	*8,576.4*	*8,505.7*	*-0.8%*	
Canada	419.5	549.2	30.9%	none
Japan	1,042.0	1,141.6	9.6%	none
New Zealand	21.7	31.2	43.3%	none
Russian Federation	2,163.2	1,469.0	-32.1%	none
Turkey	127.5	317.2	148.9%	none
United States	4,802.5	4,997.5	4.1%	none
Other Regions	*6,027.6*	*18,523.4*	*207.3%*	none
Africa	529.0	1,140.4	115.6%	none
Middle East	535.9	1,739.7	224.6%	none
N-OECD Eur. & Eurasia [5]	602.3	511.3	-15.1%	none
Latin America [5]	810.1	1,574.8	94.4%	none
Asia (excl. China) [5]	1,441.1	4,472.7	210.4%	none
China (incl. Hong Kong)	2,109.2	9,084.6	330.7%	none
INTL. MARINE BUNKERS	**371.6**	**657.0**	**76.8%**	
INTL. AVIATION BUNKERS	**258.9**	**529.7**	**104.6%**	
WORLD	**20,509.0**	**32,294.2**	**57.5%**	



1. The country composition and specific reduction targets shown in the table refer to those agreed to under the second commitment period (CP) of the Kyoto Protocol (2013-2020), as per the Doha Amendment.

2. The respective targets, gases and participating Parties differ between the first and second commitment periods of the Kyoto Protocol (CP1: 2008-2012, CP2: 2013-2020). The actual country targets apply to a basket of several greenhouse gases and allow sinks and international credits to be used for compliance. The overall "Kyoto targets" for each CP are estimated for this publication by applying the country targets to IEA data for CO_2 emissions from fuel combustion for 1990, and are shown as an indication only. These do not represent the total targets for the multi-gas baskets, and assume that the reduction targets are spread equally across all gases. The EU, its 28 Member States, and Iceland have agreed to meet the aggregate target of -20% in CP2, through "joint fulfilment" under Article 4 of the Kyoto Protocol.

3. Please refer to the chapter *Geographical Coverage* in Part I.

4. Emissions from Monaco are included with France.

5. Composition of regions differs from elsewhere in this publication to take into account countries that are not Kyoto Parties.

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IEA (2015), *World Energy Outlook Special Briefing for COP21*, OECD/IEA, Paris.

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PART I

METHODOLOGY

1. UNDERSTANDING THE IEA CO_2 EMISSIONS ESTIMATES

The importance of estimating emissions

The ultimate objective of the UNFCCC (the Convention) is the stabilisation of GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. The Convention also calls for all Parties to commit themselves to the following objectives:

- to develop, update periodically, publish and make available to the Conference of the Parties (COP) their national inventories of anthropogenic emissions by sources and removals by sinks, of all greenhouse gases not controlled by the Montreal Protocol.
- to use comparable methodologies for inventories of GHG emissions and removals, to be agreed upon by the COP.

As a response to the objectives of the UNFCCC, the IEA Secretariat, together with the IPCC, the OECD and numerous international experts, has helped to develop and refine an internationally-agreed methodology for the calculation and reporting of national GHG emissions from fuel combustion. This methodology was published in 1995 in the *IPCC Guidelines for National Greenhouse Gas Inventories*. After the initial dissemination of the methodology, revisions were added to several chapters, and published as the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories* (*1996 GLs*). In April 2006, the IPCC approved the *2006 IPCC Guidelines for National Greenhouse Gas Inventories (2006 GLs)* at the 25th session of the IPCC in Mauritius. Until 2015, most Parties, as well as the IEA, still calculated their inventories using the *1996 GLs*. In December 2011, Parties adopted Decision 15/CP.17 to update their reporting tables so as to implement the *2006 GLs*. The new reporting tables have been mandatory since 15 April 2015.

The IEA estimates of CO_2 emissions from fuel combustion

Energy is at the core of the greenhouse gas estimation. It is estimated that for Annex I Parties energy accounts for 82%[1] of total GHG emissions, while for the world the share is about 60%, although shares vary greatly by country. Within energy, CO_2 from fuel combustion accounts for the largest fraction, 92% for Annex I countries, once again varying depending on the economic structure of the country.

Given its extensive work in global energy data collection and compilation, the IEA is able to produce comparable estimates of CO_2 emissions from fuel combustion across countries and regions, providing a reference database for countries with more and less advanced national systems.

The estimates of CO_2 emissions from fuel combustion presented in this publication are calculated using the IEA energy data[2] and the default methods and emission factors from the *2006 GLs*[3].

1. Based on data reported to the UNFCCC for 2012, excluding land-use, land-use change and forestry (LULUCF).
2. Published in *World Energy Statistics* and *World Energy Balances*, OECD/IEA, Paris, 2016.
3. See www.ipcc-nggip.iges.or.jp/public/2006gl/vol2.html.

Prior to the 2015 edition of this publication, the IEA used the methods and emission factors of the *Revised 1996 IPCC Guidelines*, in line with UNFCCC recommendations for the reporting under the Kyoto Protocol. The IEA implementation of the *2006 GLs* in this edition follows the decision of UNFCCC Parties to update their reporting tables and to implement the *2006 GLs* starting on 15 April 2015.

The implications of changes in methods and emissions factors on the IEA emissions estimates for this edition are discussed in the chapter *IEA estimates: Changes under the 2006 IPCC Guidelines*.

Data in this publication and its corresponding database may have been revised with respect to previous editions also because the IEA reviews its energy databases each year. In the light of new assessments, revisions may be made to the energy data time series for any individual country.

CO_2 emissions from fuel combustion: key concepts

The IEA uses the simplest (Tier 1) methodology to estimate CO_2 emissions from fuel combustion based on the *2006 GLs*. The computation follows the concept of conservation of carbon, from the fuel combusted into CO_2. While for the complete methodology the reader should refer to the full IPCC documents, a basic description follows.

Generally, the Tier 1 estimation of CO_2 emissions from fuel combustion for a given fuel can be summarised as follows:

CO_2 emissions from fuel combustion
CO_2 = Fuel consumption * Emission factor

where:

Fuel consumption = amount of fuel combusted;
Emission factor = default emission factor

Emissions are then summed across all fuels and all sectors of consumption to obtain national totals. A more detailed explanation of the step by step calculation is presented in the chapter *IEA estimates: Changes under the 2006 IPCC Guidelines*.

IEA estimates vs. UNFCCC submissions

Based on the IEA globally collected energy data, the IEA estimates of CO_2 emissions from fuel combustion are a global database obtained following harmonised definitions and comparable methodologies across countries. They do not represent an official source for national submissions, as national administrations should use the best available country-specific information to complete their emissions reporting.

The IEA CO_2 estimates can be compared with those reported by countries to the UNFCCC Secretariat to highlight possible problems in methods, input data or emission factors. Still, care should be used in interpreting the results of any comparison since the IEA estimates may differ from a country's official submission for many reasons.

For most Annex II countries, the two calculations are expected to be within 5-10%, depending on the coverage of the fuel combustion sector in the national inventory. For some EIT and non-Annex I countries, differences may be larger. If the underlying energy data are different, more work is needed on the collecting and reporting of energy statistics.

In case of systematic biases in the energy data or emission factors, emission trends will usually be more reliable than the absolute emission levels. By comparing trends in the IEA estimates with trends in emissions as reported to the UNFCCC, it should be possible to identify definition problems or methodological differences.

Some of the reasons for these differences are:

- **The IEA uses a Tier 1 method to compute emissions estimates.**

For the calculation of CO_2 emissions from fuel combustion, the IEA uses a Tier 1 method. Countries may be using a more sophisticated Tier 2 or Tier 3 method that takes into account more detailed country-specific information available (e.g. on different technologies or processes).

- **Energy activity data based on IEA energy balances may differ from those used for the UNFCCC calculations.**

Countries often have several "official" data sources such as a Ministry, a Central Bureau of Statistics, a nationalised electricity company, etc. Data can also be

collected from the energy suppliers, the energy consumers or customs statistics. The IEA Secretariat tries to collect the most accurate data, but does not necessarily have access to the complete data set that may be available to national experts calculating emission inventories for the UNFCCC. In addition to different sources, the methodology used by the national bodies providing the data to the IEA and to the UNFCCC may differ. For example, general surveys, specific surveys, questionnaires, estimations, combined methods and classifications of data used in national statistics and in their subsequent reclassification according to international standards may result in different series.

- **The IEA uses average net calorific values for oil products.**

To transform fuel consumption data from physical units to energy units, the IEA uses an average net calorific value (NCV) for each secondary oil product. These NCVs are region-specific and constant over time. Country-specific NCVs that can vary over time are used for NGL, refinery feedstocks and additives. Crude oil NCVs are further split into production, imports, exports and average. Different coal types have specific NCVs for production, imports, exports, inputs to main activity power plants and coal used in coke ovens, blast furnaces and industry, and can vary over time for each country.

Country experts may have more detailed data on calorific values available when calculating the energy content of the fuels. This in turn could produce different values than those of the IEA.

- **The IEA uses average carbon content values.**

The IEA uses the default carbon content values given in the *2006 GLs*. Country experts may have better information available, allowing them to use country-specific values.

- **The IEA cannot allocate emissions from autoproducers into the end-use sectors.**

The *2006 GLs* recommend that emissions from autoproduction should be included with emissions from other fuel use by end-consumers. At the same time, the emissions from the autoproduction of electricity and heat should be excluded from the energy transformation source category to avoid double counting. The IEA is not able to allocate the fuel use from autoproducers between industry and *other*. Therefore, this publication shows a category called "Unallocated autoproducers". However, this should not affect the total emissions for a country.

- **Military emissions may be treated differently.**

According to the *2006 GLs*, military emissions should be reported in Source/Sink Category 1 A 5, *Non-Specified*. Previously, the IEA questionnaires requested that warships be included in international marine bunkers and that the military use of aviation fuels be included in domestic air. All other military use should have been reported in *non-specified other*.

At the IEA/Eurostat/UNECE Energy Statistics Working Group meeting (Paris, November 2004), participants decided to harmonise the definitions used to collect energy data on the joint IEA/Eurostat/UNECE questionnaires with those used by the IPCC to report GHG inventories. As a result, starting in the 2006 edition of this publication, all military consumption should be reported in *non-specified other*. Sea-going versus coastal is no longer a criterion for splitting international and domestic navigation.

However, it is not clear whether countries are reporting on the new basis, and if they are, whether they will be able to revise their historical data. The IEA has found that in practice most countries consider information on military consumption as confidential and therefore either combine it with other information or do not include it at all.

- **The IEA estimates include all CO_2 emissions from fuel combustion. Countries may have included parts of these emissions in the IPCC category industrial processes and product use.**

Although emissions totals would not differ, the allocation to the various sub-totals of a national inventory could. National GHG inventories submitted to the UNFCCC divide emissions according to source categories. Two of these IPCC Source/Sink Categories are energy, and industrial processes and product use. Care must be taken not to double count emissions from fuel combustion that occur within certain industrial processes (e.g. iron and steel). The IEA estimates in this publication include all the CO_2 emissions from fuel combustion, while countries are asked to report some of them within the industrial processes and product use category under the *2006 GLs*. See a more detailed discussion in the chapter *IEA Estimates: Changes under the 2006 IPCC Guidelines*.

- **The units may be different.**

The *2006 GLs* ask that CO_2 emissions be reported in Gg of CO_2 (1 Gg = 1 kilotonne). A million tonnes of CO_2 is equal to 1 000 Gg of CO_2, so to compare the numbers in this publication with national inventories expressed in Gg, the IEA emissions must be multiplied by 1 000.

Inventory quality: identifying key categories

The *IPCC Guidelines* allow Parties to the UNFCCC to prepare and periodically update national inventories that are accurate, complete, comparable and transparent. Inventory quality is an important issue since countries are now implementing legally-binding commitments.

To reduce the overall inventory uncertainty in a cost-effective way, it is useful to identify those categories (key categories[4]) that have the greatest contribution to overall inventory uncertainty. By identifying key categories in the national inventory, inventory compilers can prioritise their efforts and improve their overall estimates. It is good practice for each country to identify its national key categories in a systematic and objective manner. Such a process will lead to improved inventory quality, as well as greater confidence in the estimates that are developed.

The *2006 GLs* identify a key category as one that is prioritised within the national inventory system because its estimate has a significant influence on a country's total inventory of greenhouse gases in terms of the absolute level, the trend, or the uncertainty in emissions and removals.

For a more complete description of the IPCC methodology for determining key categories, see Volume 1, Chapter 4 of the 2006 GLs.

The IEA has disaggregated the key category analysis to the same level of detail presented in the country tables of this publication. For each country, the nine largest categories are shown, split by the various fuel types: coal, oil, gas and other.

For the level assessment, the CO_2 emissions from fuel combustion as calculated by the IEA are supplemented, where possible, by the figures submitted by the Annex I Parties to the UNFCCC in their latest GHG inventory submissions for CO_2 (fugitive emissions), CH_4, N_2O, HFCs, PFCs and SF_6, not taking into account CO_2 emissions/removals from land use, land use change and forestry.[5]

For the non-Annex I Parties, CO_2 emissions from fuel combustion are taken from IEA estimates, and are supplemented by data for other sources and provided by JRC and PBL (see Part III for further information). As this database only covers emission to 2014, the 2015 level of GHG emissions was extrapolated based on the growth rate from 2012 to 2014 of each source and gas.

Notes on tables and graphs

This publication presents for each country and regional aggregate a set of six graphs and three tables with key indicators (Part II, Country Tables). A selection of key indicators is also presented in summary tables for country-to-country comparison (Part II, Summary Tables). An overall description of the various

Table 1: Key indicators

Row 1: CO_2 *fuel combustion* presents total CO_2 emissions from fuel combustion as calculated using the IEA energy balances and the methodologies outlined in the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. For notes on methods and sources, see the chapter *IEA estimates: Changes under the 2006 IPCC Guidelines.*

Row 2: Share of World CO_2 from fuel combustion presents national/regional CO_2 emissions from fuel combustion divided by World CO_2 emissions from fuel combustion, expressed as a percentage.

Row 3: TPES presents the Total Primary Energy Supply, calculated as production + imports - exports - international marine bunkers - international aviation bunkers ± stock changes.

Row 4: GDP presents the Gross Domestic Product in 2010 US dollars using exchange rates. For notes on methods and sources, please see the chapter on Indicator sources and methods.

Row 5: GDP PPP presents the Gross Domestic Product in 2010 US dollars using purchasing power parities. For notes on methods and sources, see the chapter on Indicator sources and methods.

Row 6: Population. For notes on sources see the chapter on Indicator sources and methods.

Row 7: CO_2/TPES presents the carbon intensity of the energy mix. For notes on methods see the chapter on Indicator sources and methods.

Row 8: CO_2/GDP presents the carbon intensity of the economy, using exchange rates. For notes on methods and sources, see the chapter on Indicator sources and methods.

4. In the *2000 IPCC Good Practice Guidance for National Greenhouse Gas Inventories*, the concept was named 'key source categories'.
5. As recommended in the IPCC *Good Practice Guidance*.

Row 9: CO_2/GDP PPP presents the carbon intensity of the economy, using purchasing power parities. For notes on methods and sources, see the chapter on Indicator sources and methods.

Row 10: CO_2/population presents the per capita CO_2 emissions, based on CO_2 fuel combustion. For notes on sources, see the chapter on Indicator sources and methods.

Row 11: Share of electricity output from fossil fuels presents electricity output from fossil fuels divided by total electricity output, expressed as a percentage. For notes on sources, see the chapter on Indicator sources and methods.

Row 12: CO_2/kWh of electricity presents CO_2 emissions from total fossil fuel inputs to electricity generation divided by total electricity output.

Row 13-17: CO_2 emissions and drivers - Kaya decomposition present indices of CO_2 emissions (CO_2 fuel combustion), population, GDP/population, TPES/GDP and CO_2/TPES, (based on GDP PPP time series). It represents the decomposition of CO_2 emissions into drivers (Kaya identity) explained in the chapter on Indicator sources and methods.

Table 2: CO_2 emissions by sector

Row 1: *CO_2 fuel combustion*: as in Row 1 of Table 1.

Row 2: Electricity and heat generation contains the sum of emissions from main activity producers and autoproducers of electricity and/or heat. Emissions from own on-site use of fuel are included.

Main activity producers are defined as those undertakings whose primary activity is to supply the public. They may be publicly or privately owned. This corresponds to IPCC Source/Sink Category 1 A 1 a.

Autoproducers are defined as undertakings that generate electricity and/or heat, wholly or partly for their own use as an activity which supports their primary activity. They may be privately or publicly owned. Under the *2006 IPCC Guidelines*, these emissions would normally be distributed between industry, transport and *other*.

Row 3: *Other energy industry own use* contains emissions from fuel combusted in oil refineries, for the manufacture of solid fuels, coal mining, oil and gas extraction and other energy-producing industries. This corresponds to the IPCC Source/Sink Categories 1 A 1 b and 1 A 1 c.

According to the *2006 IPCC Guidelines*, emissions from coke inputs to blast furnaces, may be reported under the source/sink category industrial processes and product use rather than energy. In the reduction of iron in a blast furnace through the combustion of coke, the primary purpose of the coke oxidation is to produce pig iron and the emissions can be considered as resulting from an industrial process. In the IEA estimations, emissions from energy industry own use in blast furnaces have been included in this category. Care must be taken not to double count these emissions in both energy, and industrial processes and product use.

Row 4: *Manufacturing industries and construction* contains the emissions from combustion of fuels in industry. The IPCC Source/Sink Category 1 A 2 includes these emissions. However, in the *2006 IPCC Guidelines*, the IPCC category also includes emissions from industry autoproducers that generate electricity and/or heat. The IEA data are not collected in a way that allows the energy consumption to be split by specific end-use and therefore, in this publication autoproducers are excluded from this category. See Row 2, *Electricity and heat generation*.

According to the 2006 IPCC GLs, emissions resulting from the combustion of certain fuels in specific sectors (see below) may be reported under industrial processes and product use rather than energy. However, in IEA estimates, these emissions have been included in this category. Care must be taken not to double count these emissions in both energy, and industrial processes and product use.

- Coke oven coke deliveries to the iron and steel and non-ferrous metals sectors.
- Coke oven gas, blast furnace gas and other recovered gases deliveries to iron and steel.

Similarly, under the 2006 IPCC GLs coal tar deliveries to the chemical and petrochemical, and construction sectors may be completely excluded from energy sector emissions calculations, as they are deemed to be destined for non-energy use. However, where these fuels have been reported under energy-use they have been included in IEA estimates.

Row 5: *Transport* contains emissions from the combustion of fuel for all transport activity, regardless of the sector, except for *international marine bunkers* and *international aviation bunkers*, which are not included in *transport* emissions at a national or regional level (except for World transport emissions). This includes domestic aviation, domestic navigation, road, rail and pipeline transport, and corresponds to IPCC Source/Sink Category 1 A 3. The IEA data are not collected in a way that allows the autoproducer consumption to be split by specific end-use and therefore, in this

publication autoproducers are excluded from this category. See Row 2, *Electricity and heat generation*.

Note: Starting in the 2006 edition, military consumption previously included in *domestic aviation* and in *road* should be reported under *non-specified other*. See the section *IEA estimates vs. UNFCCC submissions* earlier in the chapter, for further details.

Row 6: *Road* contains the emissions arising from fuel use in road vehicles, including the use of agricultural vehicles on highways. This corresponds to the IPCC Source/Sink Category 1 A 3 b.

Row 7: *Other* contains the emissions from commercial/institutional activities, agriculture/forestry, fishing, residential and other emissions not specified elsewhere that are included in the IPCC Source/Sink Categories 1 A 4 and 1 A 5. In the *2006 IPCC Guidelines,* the category also includes emissions from autoproducers in commercial/public services, residential and agriculture that generate electricity and/or heat. The IEA data are not collected in a way that allows the energy consumption to be split by specific end-use, and therefore, in this publication autoproducers are excluded from this category. See Row 2, *Electricity and heat generation*.

Row 8: *Residential* contains all emissions from fuel combustion in households. This corresponds to IPCC Source/Sink Category 1 A 4 b.

Row 9: *Services* (*i.e.* commercial and public services) contains emissions from all activities of ISIC Rev. 4 Divisions 33, 36-39, 45-47, 52, 53, 55-56, 58-66, 68-75, 77-82, 84 (excluding Class 8422), 85-88, 90-96 and 99.

Row 10: *International marine bunkers* contains emissions from fuels burned by ships of all flags that are engaged in international navigation. The international navigation may take place at sea, on inland lakes and waterways, and in coastal waters. Consumption by ships engaged in domestic navigation is excluded. The domestic/international split is determined on the basis of port of departure and port of arrival, and not by the flag or nationality of the ship. Consumption by fishing vessels and by military forces is also excluded. Emissions from international marine bunkers should be excluded from the national totals. This corresponds to IPCC Source/Sink Category 1 A 3 d i.

Row 11: *International aviation bunkers* contains emissions from fuels used by aircraft for international aviation. Fuels used by airlines for their road vehicles are excluded. The domestic/international split should be determined on the basis of departure and landing locations and not by the nationality of the airline. Emissions from international aviation should be excluded from the national totals. This corresponds to IPCC Source/Sink Category 1 A 3 a i.

Table 3: Key categories for CO_2 emissions from fuel combustion

See section *Inventory quality: identifying key categories* earlier in this chapter for methodological explanations. This table only shows the nine largest key sources of CO_2 from fuel combustion. As a result, in most cases the cumulative contribution will not be 95% as recommended in the *Good Practice Guidance.* Key categories from fugitive emissions; industrial processes and product use; agriculture, forestry and other land use; and waste are not shown. The percentage of CO_2 emissions from fuel combustion in total GHG emissions is included as a memo item at the bottom of the table.

Figure 1: CO_2 emissions by fuel

Based on CO_2 fuel combustion emissions. The product *coal* refers to the aggregate of coal, peat and oil shale. The product *gas* refers to natural gas. The product *other* includes industrial waste and non-renewable municipal waste.

Figure 2: CO_2 emissions by sector

Based on CO_2 fuel combustion emissions. The sector *other* includes emissions from commercial/public services, agriculture/forestry and fishing. Emissions from unallocated autoproducers are included in *Electricity and heat*.

Figure 3: Electricity generation by fuel

The product *other* includes geothermal, solar, wind, combustible renewables and waste, etc. Electricity generation includes both main activity producer and autoproducer electricity.

Figure 4: CO_2 from electricity generation: driving factors

Presents the change in CO_2 emissions from electricity generation over time, for four time periods, as the sum of the change in four driving factors: CO_2 intensity of the fossil fuel mix, fossil share of electricity, thermal efficiency of fossil fired generation, and total electricity output. For notes on methodologies and sources, see the chapter on Indicator sources and methods.

Figure 5: Changes in selected indicators

Presents average annual changes, computed as compounded annual growth rates, for three different periods, for the following variables: CO_2 emissions,

CO_2/TPES, CO_2/GDP PPP, CO_2/population. For notes on methodologies and sources, see the chapter on Indicator sources and methods.

Figure 6: Total CO_2 emissions and drivers

Presents indices of CO_2 emissions and of four drivers of emission trends, as identified in the Kaya identity: population, GDP/population, TPES/GDP, CO_2/TPES (1990=100 unless otherwise specified), based on GDP PPP time series. The quantitative impact of each driver on total CO_2 emissions over time is also presented. This has been calculated using the logarithmic mean divisia (LMDI) method as described in the section Drivers of electricity generation emissions trends earlier in the chapter. For methodology and notes on sources, see the chapter on Indicator sources and methods.

Note: in the tables and figures presented in this publication, peat and oil shale are aggregated with *coal*; the product *gas* refers to natural gas; and with the exception of figure 4, the product other includes industrial waste and non-renewable municipal waste.

Country notes

Detailed country notes and sources for the underlying energy data are available in the IEA World Energy balances publication[6].

Armenia

Data for Armenia are available starting in 1990. Prior to that, they are included in Former Soviet Union.

Azerbaijan

Data for Azerbaijan are available starting in 1990. Prior to that, they are included in Former Soviet Union.

Bangladesh

Data for Bangladesh are reported on a fiscal year basis. Data for 2015 are for 1 July 2015 – 30 June 2016.

Belarus

Data for Belarus are available starting in 1990. Prior to that, they are included in Former Soviet Union.

Bosnia and Herzegovina

Data for Bosnia and Herzegovina are available starting in 1990. Prior to that, they are included in Former Yugoslavia.

Botswana

Data for Botswana are available starting in 1995. Prior to that, they are included in Other Africa.

Bulgaria

According to the provisions of Article 4.6 of the Convention and Decisions 9/CP.2 and 11/CP.4, Bulgaria is allowed to use 1988 as the base year.

Cambodia

Data for Cambodia are available starting in 1995. Prior to that, they are included in Other Asia.

Chile

Data start in 1971.

Croatia

Data for Croatia are available starting in 1990. Prior to that, they are included in Former Yugoslavia.

Curaçao

The Netherlands Antilles was dissolved on 10 October 2010 resulting in two new "constituent countries" (Curaçao and Sint Maarten) with the other islands joining The Netherlands as 'special municipalities'. However, due to lack of detailed data the IEA Secretariat's data and estimates under the "Curaçao" still refer to the whole territory of the Netherlands Antilles as it was known prior to 10 October 2010 up to the end of 2011. Data refer only to the island of Curaçao from 2012. The other islands of the former Netherlands Antilles are added to Other Non-OECD Americas from 2012.

Czech Republic

Data start in 1971.

Democratic Republic of the Congo

For data in the GHG tables, The high GHG / GDP PPP ratio is due to high levels of forest fires and subsequent post-burn decay.

Egypt

Data for Egypt are reported on a fiscal year basis. Data for 2015 are for 1 July 2015 – 30 June 2016.

6. http://wds.iea.org/wds/pdf/WORLDBAL_Documentation.pdf

Eritrea

Data for Eritrea are available from 1992. Prior to that, they are included in Ethiopia.

Estonia

Data start in 1990. Prior to that, they are included within Former Soviet Union.

Note: Estonia joined the IEA in May 2014.

Ethiopia

Ethiopia energy data include Eritrea from 1971 to 1991. From 1992 onwards the two countries are reported separately.

Former Yugoslav Rep. of Macedonia

Data for Former Yugoslav Rep. of Macedonia are available starting in 1990. Prior to that, they are included in Former Yugoslavia.

Georgia

Data for Georgia are available starting in 1990. Prior to that, they are included in Former Soviet Union.

Hungary

Data start in 1965.

According to the provisions of Article 4.6 of the Convention and Decisions 9/CP.2 and 11/CP.4, Hungary is allowed to use average 1985-1987 as the base year.

India

Data are reported on a fiscal calendar year basis. Data for 2015 are for 1 April 2015 – 31 March 2016.

Islamic Republic of Iran

Data are reported according to the Iranian calendar year. Data for 2015 correspond to 20 March 2015 – 19 March 2016.

Kazakhstan

Data for Kazakhstan are available starting in 1990. Prior to that they are included in Former Soviet Union.

Korea

Data start in 1971.

Kosovo

Data for Kosovo are available starting in 2000. From 1990-1999, data for Kosovo are included in Serbia. Prior to 1990, they are included in Former Yugoslavia.

For data in the GHG tables, from 2000 onwards, all emissions other than CO_2 from fuel combustion are included in Serbia.

Kyrgyzstan

Data for Kyrgyzstan are available starting in 1990. Prior to that, they are included in Former Soviet Union.

Latvia

Data for Latvia are available starting in 1990. Prior to that, they are included in Former Soviet Union.

Latvia became an OECD Member in July 2016. Accordingly, Latvia appears in the list of OECD members and is not included in the non-OECD aggregates for data from 1990, starting with the 2017 edition.

Lithuania

Data for Lithuania area available starting in 1990. Prior to that, they are included in Former Soviet Union.

Malta

At its fifteenth session, the Conference of the Parties decided to amend Annex I to the Convention to include Malta (Decision 3/CP.15). The amendment entered into force on 26 October 2010.

Mexico

Data start in 1971.

Moldova

Data for the Republic of Moldova are available starting in 1990. Prior to that, they are included in Former Soviet Union.

Mongolia

Data for Mongolia are available starting in 1985. Prior to that, they are included in Other Asia.

For data in the GHG tables, the high GHG / GDP PPP ratio for Mongolia is due to high levels of peat decay.

Montenegro

Data for Montenegro are available starting in 2005. From 1990 to 2004, data for Montenegro are included in Serbia. Prior to 1990, data are included in Former Yugoslavia.

For data in the GHG tables, from 2005 onwards, all emissions other than CO_2 from fuel combustion are included in Serbia.

Namibia

Data for Namibia are available starting in 1991. Prior to that, they are included in Other Africa.

Nepal

Data for Nepal are reported on a fiscal year basis. Data for 2015 are for 16 July 2015 - 15 July 2016.

Niger

Data for Niger are available starting in 2000. Prior to that, they are included in Other Africa.

For data in the GHG tables, for 1990 and 1995, Other Africa includes Niger for all CO_2 emissions from fuel combustion.

Norway

Discrepancies between Reference and Sectoral Approach estimates (as presented in the database) and the difference in the resulting growth rates arise from statistical differences between supply and consumption data for oil and natural gas. For Norway, supply of these fuels is the residual of two very large and opposite terms, production and exports.

Poland

According to the provisions of Article 4.6 of the Convention and Decisions 9/CP.2 and 11/CP.4, Poland is allowed to use 1988 as the base year.

Romania

According to the provisions of Article 4.6 of the Convention and Decisions 9/CP.2 and 11/CP.4, Romania is allowed to use 1989 as the base year.

Russia

Data for Russian Federation are available starting in 1990. Prior to that, they are included in Former Soviet Union.

Serbia

Data for Serbia are available starting in 1990. Prior to that, they are included in Former Yugoslavia. Serbia includes Kosovo from 1990 to 1999 and Montenegro from 1990 to 2004.

For data in the GHG tables, Serbia includes Kosovo for all emissions other than CO_2 from fuel combustion from 2000 onwards, and Montenegro for all emissions other than CO_2 from fuel combustion from 2005 onwards.

Singapore

Due to Singapore's large trade volume in comparison to its final consumption, a slight misalignment of trade figures can have a significant impact on the Energy balance of Singapore. As a result, large discrepancies between the Reference and Sectoral Approach estimates (as presented in the database) arise from statistical differences between supply and consumption of oil and oil products.

The IEA Secretariat, the Energy Market Authority and the National Climate Change Secretariat (NCCS) are working closely together on improving data quality for Singapore. Efforts are continuing on this project, therefore breaks in time series between 2008 and 2009 and differences in trends when compared to previous publications may occur for some products.

Slovenia

Data for Slovenia are available from 1990. Prior to that, they are included in Former Yugoslavia in the full publication.

According to the provisions of Article 4.6 of the Convention and Decisions 9/CP.2 and 11/CP.4, Slovenia is allowed to use 1986 as the base year.

South Africa

Large differences between the Reference and Sectoral Approach estimates (as presented in the database) are due to losses associated with coal-to-liquid and to a lesser extent gas-to-liquid transformation.

South Sudan

South Sudan became an independent country on 9 July 2011. Data for South Sudan are available from 2012. Prior to 2012, they are included in Sudan.

For data in the GHG tables, data for South Sudan is included in Sudan for all years.

Sudan

South Sudan became an independent country on 9 July 2011. Data for South Sudan are available from 2012. Prior to 2012, they are included in Sudan.

For data in the GHG tables, data for South Sudan is included in Sudan for all years.

Suriname

Data for Suriname are available from 2000. Prior to 2000, data for Suriname are presented in Other non-OECD Americas.

For data in the GHG tables, for 1990 and 1995, Other non-OECD Americas includes Suriname for all CO_2 emissions from fuel combustion.

Tajikistan

Data for Tajikistan are available starting in 1990. Prior to that, they are included in Former Soviet Union.

Turkmenistan

Data for Turkmenistan are available starting in 1990. Prior to that, they are included in Former Soviet Union.

Ukraine

Data for Ukraine are available starting in 1990. Prior to that, they are included in Former Soviet Union.

United Kingdom

Shipments of coal and oil to the Channel Islands and the Isle of Man from the United Kingdom are not classed as exports. Supplies of coal and oil to these islands are, therefore, included as part of UK supply. Exports of natural gas to the Isle of Man are included with the exports to Ireland.

Uzbekistan

Data for Uzbekistan are available starting in 1990. Prior to that, data are included in Former Soviet Union.

Zambia

For data in the GHG tables, the high GHG / GDP PPP ratio is due to high levels of forest fires and subsequent post-burn decay.

2. INDICATOR SOURCES AND METHODS

CO_2 emissions

The estimates of CO_2 emissions in this publication are based on the *2006 IPCC Guidelines* and represent the total emissions from fuel combustion. This is in contrast to estimates presented prior to the 2015 edition of this publication which were based on the *Revised 1996 IPCC Guidelines.* For details on the impact of this change in methodologies see the chapter *IEA estimates: Changes under the 2006 IPCC Guidelines.*

National totals do not include emissions from international marine and aviation bunkers. See the Country Notes in the chapter *Understanding the IEA CO_2 emissions estimates* for further details.

Population

For OECD countries, the main source of these series for 1970 to 2016 when available is the OECD *National Accounts Statistics* database [ISSN: 2074-3947 (online)], last published in book format as *National Accounts of OECD Countries, Volume 2016 Issue 2: Main Aggregates*, OECD 2017. Data for 2016 for **Australia, Canada, Chile, Greece, Iceland, Israel, Japan, Korea, Mexico, New Zealand, the Slovak Republic, Switzerland, Turkey and the United States** were estimated using the growth rates from the population series in *OECD Economic Outlook No. 95*, long-term baseline projections. Data for 1960 to 1969 have been estimated using the growth rates from the population series published in the *OECD Factbook 2015* (online database version). Growth rates from the *OECD Factbook 2015* were also used to estimate data for **Chile** (prior to 1986), **Estonia** (prior to 1993), **Israel** (prior to 1995), the **Slovak Republic** (prior to 1990) and **Slovenia** (prior to 1995).

For non-OECD countries, the main source of the population data is *World Development Indicators*, the World Bank, Washington D.C., 2016.

Population data for **Former Soviet Union** (before 1990), **Chinese Taipei**, **Former Yugoslavia** (before 1990) and for a few countries within the regions[6] **Other Africa, Other non-OECD Americas** and **Other non-OECD Asia** are based on the CHELEM-CEPII online database, Bureau van Dijk, Paris, 2017. Population data for **Cyprus**[7] are taken from the Eurostat online database. Population data for **Gibraltar** are taken from the government of Gibraltar *Key Indicators* publication available online.

GDP and GDP PPP

GDP using exchanges rates: expressed in billion 2010 USD.

For OECD countries, the main source of these series for 1970 to 2016 is the OECD *National Accounts Statistics* database [ISSN: 2074-3947 (online)], last published in book format as *National Accounts of OECD Countries, Volume 2016 Issue 2: Main Aggregates*, OECD 2017. GDP data for **Australia**, **France**, **Greece, Korea**, **Sweden** and the **United Kingdom** for 1960 to 1969 and **Denmark** for 1966 to 1969 as well as for **Netherlands** for 1969 were taken from the same source. GDP data for 1960 to 1969 for the other countries have been estimated using the growth rates from the series in the *OECD Economic Outlook* No 98 and other data previously published by the OECD. Growth rates from these sources were also used to estimate data for the **Czech Republic** (prior to 1990), **Hungary** (prior to 1991) and **Poland** (prior to 1990) and the **Slovak Republic** (prior to 1992). Data

7. Please refer to the section on Geographical coverage.

for **Chile** (prior to 1986) and **Estonia** (prior to 1992) are IEA Secretariat estimates based on GDP growth rates from the World Bank.

The GDP data have been compiled for individual countries at market prices in local currency and annual rates. These data have been scaled up/down to the price levels of 2010 and then converted to US dollars using the yearly average 2010 exchange rates.

For non-OECD countries, the main source of the GDP data is *World Development Indicators*, The World Bank, Washington D.C., 2017. GDP figures for **Eritrea**, **Gibraltar**, **Myanmar**, **Democratic People's Republic of Korea**, **Former Soviet Union** (before 1990), **Syrian Arab Republic, Chinese Taipei**, **Former Yugoslavia** (before 1990) and a few countries within the regions[6] **Other Africa**, **Other non-OECD Americas** and **Other non-OECD Asia** are based on the CHELEM-CEPII online databases, Bureau van Dijk, 2017. For **Curaçao**, GDP figures are based on historical CHELEM-CEPII GDP data for Netherlands Antilles before the country's dissolution, and on Curaçao/Sint Maarten nominal GDP ratios calculated based on information received from Curaçao Central bank. For **South Sudan**, GDP figures are based on data from the International Monetary Fund.

The GDP data have been compiled for all individual countries at market prices in 2010 US dollars.

GDP using purchasing power parities*:* expressed in billion 2010 USD. Purchasing power parities are the rates of currency conversion that equalise the purchasing power of different currencies. A given sum of money, when converted into different currencies at the PPP rates, buys the same basket of goods and services in all countries. In other words, PPPs are the rates of currency conversion which eliminate the differences in price levels between different countries. The PPPs selected to convert the GDP from national currencies to US dollars were aggregated using the Èltetö, Köves and Szulc (EKS) Eurostat-OECD method and rebased on the United States. For a more detailed description of the methodology please see *Eurostat-OECD Methodological Manual on Purchasing Power Parities*, 2012 edition, European Union / OECD 2012.

For OECD countries, the GDP PPP data have been compiled for individual countries at market prices in local currency and annual rates. These data have been scaled up/down to the price levels of 2010 and then converted to US dollars using the yearly average 2010 purchasing power parities (PPPs). See *GDP using exchange rates* for sources.

For non-OECD *countries,* the main source of the GDP PPP data is *World Development Indicators*, The World Bank, Washington, D.C., 2017. However, this source is available for GDP PPP (constant 2011 US dollars scaled to the levels of 2010 using current PPP US dollars) only from 1990. Therefore, prior to 1990 GDP PPP data have been calculated based on the PPP conversion factor (GDP) to market exchange rate ratio.

GDP PPP figures for **Argentina**, **Cuba**, **Eritrea**, **Gibraltar**, **Libya**, **Myanmar**, **Democratic People's Republic of Korea, Serbia, Former Soviet Union** (before 1990), **Syrian Arab Republic**, **Chinese Taipei** (before 1990)**, Former Yugoslavia** (before 1990), and a few countries within the regions[8] **Other Africa**, **Other non-OECD Americas** and **Other non-OECD Asia** are based on the PPP conversion factor (GDP) to market exchange rate ratio.

For **Gibraltar**, GDP PPP figures are based on historical CHELEM-CEPII GDP PPP data and government of Gibraltar national accounts.

For **Curaçao**, GDP PPP figures are based on historical CHELEM-CEPII GDP data for Netherlands Antilles before its dissolving, and for 2012-2015 GDP PPP is calculated based on historical GDP PPP / GDP ratio.

For **South Sudan**, GDP PPP figures are based on International Monetary Fund data.

GDP PPP figures for **Bosnia and Herzegovina** (up to 1993) and **Croatia** (up to 1994) have been estimated based on the growth rates of the CHELEM-CEPII online database, Bureau van Dijk, 2017. The GDP PPP data have been converted from GDP using purchasing power parity rates. These data have been scaled to the price levels of 2010.

The GDP PPP reflect the changes to power purchasing parity rates based on the 2011 International Comparison Program (ICP), published in 2014. The ICP has worked for 6 years to better estimate the value of the PPP 'basket of goods' for all countries for which the World Bank calculates GDP PPP. For many countries, this value has significantly changed in comparison to previous ICP exercises. This leads to significant revisions to GDP PPP for many countries compared to previous publications.

Please note that the regional totals shown for OECD and other regions were calculated by summing

8. Due to lack of complete time series for Other non-OECD Americas, figures for population do not include British Virgin Islands, Falkland Islands (Malvinas), Martinique, and Saint Pierre and Miquelon. Figures for population and GDP of Other Asia do not include Cook Islands.

individual countries' GDP data. This calculation yields slightly different results to the GDP totals published by OECD in its national accounts which are derived from chained-linked indices. GDP data from the World Bank have also been summed rather than using chain-linked indices.

Electricity output

Total output (shown in the summary tables section) includes electricity generated using fossil fuels, nuclear, hydro (excluding pumped storage), geothermal, solar, biofuels, etc.

Both **main activity**[9] **producer** and **autoproducer**[10] **plants** have been included where available.

Data include the total amount of electricity in TWh generated by both **electricity plants** and **CHP plants**. Heat production from CHP plants is not included.

CO_2 / TPES

This ratio is expressed in tonnes of CO_2 per terajoule. It has been calculated using the CO_2 fuel combustion emissions and total primary energy supply (including biofuels and other non-fossil forms of energy).

CO_2 / TFC

This ratio is expressed in tonnes of CO_2 per terajoule. It has been calculated using the CO_2 fuel combustion emissions and total final consumption (including biofuels and other non-fossil forms of energy).

CO_2 / GDP

This ratio is expressed in kilogrammes of CO_2 per 2010 US dollar. It has been calculated using CO_2 fuel combustion emissions and is shown with both GDP calculated using exchange rates and GDP calculated using purchasing power parities.

9. Main activity producers generate electricity and/or heat for sale to third parties, *as their primary activity*. They may be privately or publicly owned. Note that the sale need not take place through the public grid.

10. Autoproducer undertakings generate electricity and/or heat, wholly or partly for their own use as an activity which supports their primary activity. They may be privately or publicly owned.

CO_2 / population

This ratio is expressed in tonnes of CO_2 per capita. It has been calculated using CO_2 fuel combustion emissions.

Per capita CO_2 emissions by sector

These ratios are expressed in kilogrammes of CO_2 per capita. They have been calculated in two different ways. In the first ratio, the emissions from electricity and heat production are shown separately. In the second ratio, the emissions from electricity and heat have been allocated to final consuming sectors in proportion to the electricity and heat consumed by those sectors.

Key categories

It is good practice for each inventory agency to identify its national key source categories in a systematic and objective manner, by performing a quantitative analysis of the relationships between the level and the trend of each source category's emissions and total national emissions.

In this publication, a **Tier 1 Level Assessment** based on CO_2 emissions from fuel combustion is presented in Table 3 for each country and region for the most recent year of data. The contribution of each category to the total national inventory level is calculated as follows:

Category Level Assessment =
Category Estimate / Total Estimate
$$\mathbf{L_x = E_x / E}$$

Where:

$\mathbf{L_x}$ is the Level Assessment for category x in the most recent year of data

$\mathbf{E_x}$ is the Category estimate - the CO_2 emissions estimate of category x in in the most recent year of data

E is the Total estimate - the total estimated inventory GHG in the most recent year of data.

The value of the source category Level Assessment is calculated separately for each category, and the cumulative sum of all the entries is calculated.

Macroeconomic drivers of CO_2 emissions trends

Tables and graphs for drivers refer to the decomposition of CO_2 emissions into four driving factors (Kaya identity)[11], which is generally presented in the form:

Kaya identity
C = P (G/P) (E/G) (C/E)

where:
C = CO_2 emissions;
P = population;
G = GDP;
E = primary energy consumption.

The identity expresses, for a given time, CO_2 emissions as the product of population, per capita economic output (G/P), energy intensity of the economy (E/G) and carbon intensity of the energy mix (C/E). Because of possible non-linear interactions between terms, the sum of the percentage changes of the four factors, e.g. $(P_y-P_x)/P_x$, will not generally add up to the percentage change of CO_2 emissions $(C_y-C_x)/C_x$. However, relative changes of CO_2 emissions in time can be obtained from relative changes of the four factors as follows:

Kaya identity: relative changes in time
$$C_y/C_x = P_y/P_x\ (G/P)_y/(G/P)_x\ (C/E)_y/(C/E)_x$$

where x and y represent for example two different years.

In this publication, the Kaya decomposition is presented as:

CO_2 emissions and drivers
CO_2 = P (GDP/P) (TPES/GDP) (CO_2/TPES)

where:
CO_2 = CO_2 emissions;
P = population;
GDP[12]/P = GDP/population;
TPES/GDP[12] = Total Primary Energy Supply per GDP;
CO_2/TPES = CO_2 emissions per unit TPES.

Indices of all terms (1990 = 100 unless otherwise specified) are shown for each country and regional aggregate in Part II, both in the Summary tables and in the individual country/region pages (Table 1, Key indicators, and Figure 6, CO_2 emissions and drivers). Note that in its index form, CO_2/TPES corresponds to the Energy Sector Carbon Intensity Index (ESCII)[13].

The Kaya identity can be used to discuss the primary driving forces of CO_2 emissions. For example, it shows that, globally, increases in population and GDP per capita have been driving upwards trends in CO_2 emissions, more than offsetting the reduction in energy intensity. In fact, the carbon intensity of the energy mix is almost unchanged, due to the continued dominance of fossil fuels - particularly coal - in the energy mix, and to the slow uptake of low-carbon technologies.

However, it should be noted that there are important caveats in the use of the Kaya identity. Most important, the four terms on the right-hand side of equation should be considered neither as fundamental driving forces in themselves, nor as generally independent from each other.

Drivers of electricity generation emissions trends

In this edition, new graphs present the change in CO_2 emissions from electricity generation over time decomposed into the respective changes of four driving factors[14]:

CO_2 emissions from electricity generation
C = (C/E) (E/ELF) (ELF/EL) (EL)

where:
C = CO_2 emissions;
E = fossil fuel inputs to thermal generation;
ELF = electricity output from fossil fuels;
EL = total electricity output;

11. Yamaji, K., Matsuhashi, R., Nagata, Y. Kaya, Y., *An integrated system for CO_2/Energy/GNP analysis: case studies on economic measures for CO_2 reduction in Japan*. Workshop on CO_2 reduction and removal: measures for the next century, March 19, 1991, International Institute for Applied Systems Analysis, Laxenburg, Austria.
12. GDP based on purchasing power parities (PPP).
13. See the IEA publication *Tracking Clean Energy Progress 2016*.
14. M. Zhang, X. Liu, W. Wang, M. Zhou. *Decomposition analysis of CO_2 emissions from electricity generation in China*. Energy Policy, 52 (2013), pp. 159–165.

This can be rewritten as:

CO_2 emissions from electricity generation
C = (CF) (EI) (EFS) (EL)

where:

C = CO_2 emissions;
CF = carbon intensity of the fossil fuel mix;
EI = the reciprocal of fossil fuel based electricity generation efficiency;
EFS = share of electricity from fossil fuels;
EL = total electricity output.

This decomposition expresses, for a given time, CO_2 emissions from electricity generation as the product of the carbon intensity of the fossil fuel mix (CF), the reciprocal of fossil fuel based thermal electricity generation efficiency (1/EF), the share of electricity from fossil fuels (EFS) and total electricity output (EL).

However, due to non-linear interactions between terms, if a simple decomposition is used, the sum of the percentage changes of the four factors, e.g. $(CF_y\text{-}CF_x)/CF_x$ may not perfectly match the percentage change of total CO_2 emissions $(C_y\text{-}C_x)/C_x$. To avoid this, a more complex decomposition method is required. In this case, the logarithmic mean divisia (LMDI) method proposed by Ang (2004)[15] has been used.

Using this method, the change in total CO_2 emissions from electricity generation (ΔC_{TOT})between year *t* and a base year *0*, can be computed as the sum of the changes in each of the individual factors as follows:

$$C_{TOT} = \Delta C_{CF} + \Delta C_{EI} + \Delta C_{EFS} + \Delta C_{EL}$$

where:

$$C_{CF} = L(C^t, C^0) ln\left(\frac{CF^t}{CF^0}\right)$$

$$C_{EI} = L(C^t, C^0) ln\left(\frac{EI^t}{EI^0}\right)$$

$$C_{EFS} = L(C^t, C^0) ln\left(\frac{EFS^t}{EFS^0}\right)$$

$$C_{EL} = L(C^t, C^0) ln\left(\frac{EL^t}{EL^0}\right)$$

and:

$$L(x, y) = (y - x)/(ln\, y - ln\, x)$$

This decomposition can be useful when analysing the trends in CO_2 emissions from electricity generation. For instance, it shows that globally, since 1990, the main driver of increased CO_2 emissions from electricity generation has been increased electricity output, with improvements in the overall thermal efficiency, and the CO_2 intensity of the electricity generation mix being offset by an increase in the share of electricity derived from fossil fuel sources.

However, as is the case with the Kaya decomposition, it should be noted that the four terms on the right-hand side of equation should be considered neither as fundamental driving forces in themselves, nor as generally independent from each other. For instance, substituting coal with gas as a source of electricity generation would likely affect both the CO_2 intensity of the electricity generation mix and the thermal efficiency of generation.

CO_2 emissions per kWh

The indicator: definition

In the total CO_2 emissions per kWh, the numerator presents the CO_2 emissions from fossil fuels consumed for electricity generation, while the denominator presents the total electricity generated, coming from fossil fuels, but also from nuclear, hydro, geothermal, solar, biofuels, etc. As a result, the emissions per kWh vary a lot across countries and from year to year, depending on the generation mix.

In the CO_2 emissions per kWh **by fuel**:

- Coal includes primary and secondary coal, and coal gases. Peat and oil shale have also been aggregated with coal, where applicable.
- Oil includes oil products (and crude oil for some countries).
- Gas represents natural gas.

Note: Emissions per kWh should be used with caution due to data quality problems relating to electricity efficiencies for some countries.

Methodological choices: electricity-only versus combined electricity and heat

In previous editions of this publication, the IEA had published a combined electricity and heat CO_2 emissions per kWh indicator. The indicator was useful as an overall carbon intensity measure of a country's electricity and heat generating sectors, and it was easy to calculate. However, there were a number of drawbacks. As the efficiency of heat generation is almost always higher than electricity generation, countries with large amounts of district heating (generally colder countries) tended to have a higher efficiency (therefore

15. B. W. Ang, *Decomposition analysis for policymaking in energy: which is the preferred method?*, Energy Policy, 32 (9) (2004), pp. 1131–1139.

Fixed-heat-efficiency approach

$$CO_2kWh = \frac{CO_{2\,ELE} + (CO_{2\,CHP} \times \%\ \text{from elec.}) + OWNUSE_{ELE}}{ELoutput_{ELE} + ELoutput_{CHP}}$$

where:

$$\%\ \text{from elec.} = \frac{CHPinputs - ((HEoutput_{CHP} \times 0.02388) \div EFF_{HEAT})}{CHPinputs}$$

and:

$$OWNUSE_{ELE} = OWNUSE \times \frac{ELoutput}{ELoutput + (HEoutput \div 3.6)}$$

$CO_{2\,ELE}$ = CO_2 emissions from electricity only plants in $ktCO_2$

$CO_{2\,CHP}$ = CO_2 emissions from CHP plants in $ktCO_2$

OWNUSE = CO_2 emissions from own use in electricity, CHP and heat plants in $ktCO_2$

ELoutput = total electricity output from electricity and CHP plants in GWh

$ELoutput_{ELE}$ = electricity output from electricity only plants in GWh

$ELoutput_{CHP}$ = electricity output from CHP plants in GWh

HEoutput = total heat output from CHP and heat plants in TJ

$HEoutput_{CHP}$ = heat output from CHP plants in TJ

CHPinputs = energy inputs to CHP plants in ktoe

EFF_{HEAT} = efficiency of heat generation - assumed to be 0.9 (*i.e.* 90%) except when the observed efficiency of CHP generation is higher than 90%, in which case emissions are allocated using the proportionality approach ($EFF_{HEAT} = EFF_{ELEC} = EFF_{CHP}$).

lower CO_2 intensity) than warmer countries with less district heating. Further, the applications of a combined indicator for electricity and heat are limited; many users have been searching for an electricity-only CO_2 emissions per kWh indicator.

Unfortunately, it is not possible to obtain such an electricity-only indicator directly from IEA energy balance data without any assumption. In fact, for combined heat and power (CHP) plants, there is only one combined input available. While various methods exist to split this input into separate amounts for electricity and heat generation, none has previously been used by the IEA for the purposes of calculating a CO_2 emissions per kWh indicator.

It would be possible to calculate an electricity-only indicator using data for electricity-only plants, which would not encounter the problem of assigning CHP inputs between electricity and heat. However, this would not allow a fair cross-country comparison; some countries get a majority of their electricity from CHP, while others from electricity-only plants. As non-thermal renewables are solely electricity-only plants, and over 99% of non-emitting global nuclear generation is from electricity-only plants, then calculating this electricity-only plants indicator would significantly understate the electricity carbon intensity for many countries.

Electricity-only indicator: allocation of emissions from CHP plants

To allocate the CHP input to electricity and heat separately, the simplest method would be a **proportionality approach,** allocating inputs based on the proportion of electricity and heat in the output, also used by the IEA electricity questionnaire. This is equivalent to fixing the efficiency of electricity and heat to be equal. With the advantage of simplicity and transparency, the proportionality approach however tends to overstate electricity efficiency and to understate heat

efficiency. For example, for CHP generation in OECD countries, total efficiency is around 60%. However, total electricity-only plant efficiency is around 41% in OECD countries. Similarly, 60% is quite low for heat generation (given typical heat-only plant efficiencies of 80-95%).

An alternative method to avoid unrealistic efficiencies is a **fixed-heat-efficiency approach,** fixing the efficiency of heat generation to compute the input to heat, and calculating the input to electricity as a residual from the total input. The standard heat efficiency was set to that of a typical heat boiler, 90%.

Implementation problems arise in two cases: i) when the observed efficiency is over 100% (i.e. there are problems in data quality), and ii) when the observed efficiency is between 90% and 100% (the total efficiency may be correct or it may be overstated).

In the first case, when the total efficiency is over 100% because the data are not reported correctly, it is not possible to use the fixed-heat-efficiency approach and by default the proportionality approach was used to allocate the inputs based on the output shares.

In the second case, where the total CHP efficiency was between 90% and 100% (which may or may not indicate a data quality problem), assuming a 90% efficiency for heat generation would incorrectly imply that the efficiency of power generation was equal to or higher than that of heat generation. However, as the real heat efficiency cannot be determined, the proportionality approach was used also here by default.

In general, the fixed-heat-efficiency approach attributes larger emissions to electricity than the proportionality approach, with values much closer to those of electricity-only plants. The IEA has used the fixed-heat-efficiency approach for several editions of its *World Energy Outlook*.

Comparison between electricity-only and combined electricity and heat ratios (2014 data, from the 2016 edition)

For the majority of OECD countries, the electricity-only indicator is not significantly different from the combined electricity and heat indicator, shown in previous editions of this publication and in the online database. For the OECD total in 2014, the electricity-only indicator is 4% higher, while 19 of the OECD's 34 countries saw a difference of 5% or less. Of the 15 countries with differences of more than 5%, 7 countries had large amounts of non-emitting electricity generation, giving them a small ratio to begin

Implied carbon emission factors from electricity generation (CO_2 / kWh) for selected products

Average implied carbon emission factors from electricity generation by product are presented below, for selected products. Those values are given as a complement of the CO_2 emissions per kWh from electricity generation by country presented in the Summary tables of Part II. The values below represent the average amount of CO_2 per kWh of electricity produced in OECD member countries between 2011 and 2015. As they are very sensitive to the quality of underlying data, including net calorific values, and of reported input/output efficiencies, they should be taken as indicative; actual values may vary considerably.

Product	**gCO_2 / kWh**
Anthracite*	860
Coking coal*	845
Other bituminous coal	870
Sub-bituminous coal	940
Lignite	1020
Gas works gas*	330
Coke oven gas*	390
Blast furnace gas*	2430
Other recovered gases*	1585
Oil shale*	1195
Peat*	765
Natural gas	400
Crude oil*	600
Refinery gas*	460
Liquefied petroleum gases*	540
Kerosene*	655
Gas/diesel oil*	700
Fuel oil	675
Petroleum coke*	940
Municipal waste (non-renew.)*	1195

* The electricity output from these products represents less than 1% of electricity output in the average of OECD member countries for the years 2011-2015. Values will be less reliable and should be used with caution.

with (thus more prone to change). In addition, non-emitting generation is generally electricity-only, and so when the heat-only and heat CHP emissions are removed from the calculation, greater weight is attached to the non-emitting generation, with a lower level for the final indicator.

The countries in the OECD with larger differences are generally coal-intensive countries with large amounts of heat generation. As mentioned, in general, heat plants are more efficient than electricity-only or CHP plants; therefore, excluding heat plants from the calculation increases CO_2 intensity. The same is true if we allocate a high efficiency to the heat part of CHP generation; this decreases the efficiency of the electricity part and thus increases electricity's carbon intensity. Further, CHP and heat plants are more likely to be powered by CO_2-light natural gas while electricity-only plants tend to be powered by CO_2-heavy coal, making the new ratio more CO_2 intensive for these countries.

Specific country examples

The country with the largest difference between the two ratios within the OECD was **Sweden**; in 2014, the electricity only indicator was 64% lower than the combined electricity and heat indicator. This is due to the high share of non-emitting sources such as hydro (42%) and nuclear (also 42%) in Sweden's electricity generation mix.

Similarly, the electricity only indicator for **Norway** in 2014 was 36% lower than the combined indicator, as the vast majority of the electricity output (96%) is from non-emitting hydroelectric generation.

Conversely, for **Estonia** in 2014 the electricity-only indicator was 36% higher than the combined electricity and heat indicator. This can be explained by the fact that the majority of electricity-only generation comes from oil shale, a fuel with a relatively high carbon emission factor, while heat plants (with a relatively large share of output) are largely fuelled by natural gas and primary solid biofuels.

Another OECD country with a higher electricity-only ratio was **Denmark** (25% higher in 2014). The majority of fossil generation in Denmark is from CHP and the output from these plants is approximately half electricity and half heat. In addition, CHP plants in Denmark have efficiencies of 60-70%. When the heat part of CHP is set to be 90%, the efficiency of the electricity generation is lowered and the indicator is increased.

In many non-member countries, heat data are either zero or not available, which leads to changes of less than 1% in almost 80% of the non-member countries in 2014. The majority of countries which do change are the European and former Soviet Union countries (where district heating is often present).

As **China** has no (reported) CHP generation, the current IEA energy balance shows electricity-only and heat-only plants, not CHP plants. Heat-only plants are in general much more efficient per unit of energy than electricity-only plants and this explains why the electricity-only ratio is 4% higher in 2014.

In the **Russian Federation**, a large amount (25-35% of total power output) comes from heat-only plants, whose relatively efficient generation is excluded from the new ratio. The large amount of heat output generated by CHP plants also explains why the electricity-only ratio is 19% higher in 2014.

The electricity-only indicators calculated for the following non-member countries are also lower than the combined electricity and heat indicator: **Croatia**, **Kyrgyzstan, Latvia** and **Tajikistan**. This is because their electricity production is mainly or exclusively clean hydro, while their CHP and heat-only production is fossil based. Implementing the electricity-only indicator using the fixed-heat-efficiency approach increased hydro's weight (therefore decreasing the carbon intensity).

3. IEA ESTIMATES: CHANGES UNDER THE 2006 IPCC GUIDELINES

The 2006 IPCC Guidelines methodology: key concepts

This section briefly presents the Tier 1 methodology to estimate CO_2 emissions from fuel combustion based on the *2006 GLs*, outlining the main differences with the *1996 GLs* - used for previous editions of this publication. The focus is on the key points relevant to the IEA estimation. For the complete methodology, the reader should refer to the full IPCC documents.[16]

Generally, the Tier 1 estimation of CO_2 emissions from fuel combustion for a given fuel can be summarised as follows:

CO_2 emissions from fuel combustion
CO_2 = AD * NCV * CC * COF

where:

CO_2 = CO_2 emissions from fuel combustion;
AD = Activity data;
NCV = Net calorific value;
CC = Carbon content;
COF = Carbon oxidation factor.

Emissions are then summed over all fuels.

While the basic concept of the calculation - the conservation of carbon - is unchanged, the *2006 GLs* differ from the 1996 *GLs* in the:

- default **net calorific values** by product;
- default **carbon content** by product;
- default **carbon oxidation factors**;
- treatment of fuels used for **non-energy** purposes;
- **allocation** of fuel combustion emissions across the Energy and IPPU categories.

2006 Guidelines: overview of changes

This section describes the key methodological changes *2006 GLs* for a Tier 1 estimation of CO_2 emissions from fuel combustion, with a short assessment of their impact on results.

Net calorific values

Net calorific values (NCVs) are used to convert the activity data for all the different fuels from "physical" units (e.g. tonnes) to "energy" units (e.g. Joules).

In the *1996 GLs*, country-specific net calorific values were given for primary oil (crude oil and NGL), for primary coal and for a few secondary coal products. These NCVs were based on the average 1990 values of the 1993 edition of the *IEA Energy Balances*.

In the *2006 GLs*, those country-specific NCVs were removed, and one default is provided for each fuel (with upper and lower limits, as done for the carbon content). Large differences were therefore observed for products whose quality varies a lot from country to country, such as primary oil and coal products. Replacing country-specific values with one default value would significantly affect emissions calculations if the default values were used.

16. Both the *1996 GLs* and the *2006 GLs* are available from the IPCC Greenhouse Gas Inventories Programme (www.ipcc-nggip.iges.or.jp).

The IEA CO_2 emissions from fuel combustion estimates are based on the IEA energy balances, computed using time-varying country-specific NCVs. Therefore, they are not affected by changes to the default net calorific values of the *2006 GLs*.

Carbon content

Carbon content is the quantity of carbon per unit of energy of a given fuel. Some of the fuel-specific default values for carbon content, called "carbon emission factors" in the *1996 GLs*, were revised in the *2006 GLs*. In addition, values were added for some fuels not directly mentioned in the *1996 GLs*.

As the carbon content may vary considerably for some fuels, the *2006 GLs* introduced ranges of values, *i.e.* providing for each fuel a default value with lower and upper limits. The IEA CO_2 emissions are calculated using the IPCC default values.

A summary of the default carbon content values in the two set of guidelines is shown in Table 1. Relative changes between the 200*6 GLs* and the 199*6 GLs* range between -13.7% (refinery gas) and + 7.3% (blast furnace gas), although for many fuels the variation is minimal, or zero. Such systematic changes are reflected in Tier 1 CO_2 emissions estimates.

Carbon oxidation factors

A small fraction of the carbon contained in fuels entering the combustion process (typically less than 1-2%) is not oxidised. Under the *1996 GLs*, this amount was subtracted from emissions in the calculations by multiplying the calculated carbon content of a fuel by a "fraction of carbon oxidised". The fraction of carbon oxidised had a value of less than 1.0, which had the effect of reducing the emissions estimate. However, in most instances, emissions inventory compilers had no "real" information as to whether this correction was actually applicable.

Therefore, in the *2006 GLs*, it was decided that all carbon is assumed to be emitted by default, unless more specific information is available. Therefore, under the *2006 GLs*, the default carbon oxidation factor is equal to 1 for all fuels.

A summary of the default carbon oxidation factors in the two set of guidelines is shown in Table 2. Relative changes from the *1996 GLs* and the *2006 GLs* are +0.5% for natural gas; +1% for oil, oil products and peat; and +2% for coal. Such changes are reflected in systematic increases in Tier 1 CO_2 emissions estimates.

Table 1. Comparison of default carbon content values*

Kilogrammes / gigajoule

Fuel Type	*1996 Guidelines*	*2006 Guidelines***	Percent Change
Anthracite	26.8	26.8	0.0%
Coking Coal	25.8	25.8	0.0%
Other Bituminous Coal	25.8	25.8	0.0%
Sub-Bituminous Coal	26.2	26.2	0.0%
Lignite	27.6	27.6	0.0%
Patent Fuel	25.8	26.6	+3.1%
Coke oven coke	29.5	29.2	-1.0%
Gas Coke	29.5	29.2	-1.0%
Coal Tar	..	22.0	x
BKB	25.8	26.6	+3.1%
Gas Works Gas	..	12.1	x
Coke Oven Gas	13.0	12.1	-6.9%
Blast Furnace Gas	66.0	70.8	+7.3%
Other recovered gases	..	49.6	x
Peat	28.9	28.9	0.0%
Oil shale	29.1	29.1	0.0%
Natural Gas	15.3	15.3	0.0%
Crude Oil	20.0	20.0	0.0%
Natural Gas Liquids	17.2	17.5	+1.7%
Refinery Feedstocks	20.0	20.0	0.0%
Orimulsion	22.0	21.0	-4.5%
Refinery Gas	18.2	15.7	-13.7%
Ethane	16.8	16.8	0.0%
Liquefied petroleum gases (LPG)	17.2	17.2	0.0%
Motor Gasoline excl. bio	18.9	18.9	0.0%
Aviation Gasoline		19.1	+1.1%
Gasoline type jet fuel		19.1	+1.1%
Kerosene type jet fuel excl. bio	19.5	19.5	0.0%
Other Kerosene	19.6	19.6	0.0%
Gas/Diesel Oil excl. bio	20.2	20.2	0.0%
Fuel Oil	21.1	21.1	0.0%
Naphtha	20.0	20.0	0.0%
Lubricants	20.0	20.0	0.0%
Bitumen	22.0	22.0	0.0%
Petroleum Coke	27.5	26.6	-3.3%
Non-specified oil products	20.0	20.0	0.0%
Other hydrocarbons			
White Spirit & SBP		20.0	0.0%
Paraffin Waxes		20.0	0.0%
Industrial Waste	..	39.0	x
Municipal Waste (non-renewable)	..	25.0	x

* "Carbon content" was referred to as the "carbon emission factor" in the *1996 GLs*.

** The *2006 GLs* also give the lower and upper limits of the 95 percent confidence intervals, assuming lognormal distributions.

Table 2. Comparison of default carbon oxidation factors*

Fuel Type	*1996 Guidelines*	*2006 Guidelines***	Percent Change
Coal	0.980	1.00	+2.0%
Oil and oil products	0.990	1.00	+1.0%
Natural gas	0.995	1.00	+0.5%
Peat **	0.990	1.00	+1.0%

* "Carbon oxidation factor" was referred to as "fraction of carbon oxidised" in the 1996 GLs.

** The 1996 GLs specified a carbon oxidation factor for peat used for electricity generation only.

Treatment of fuels used for non-energy purposes

Many hydrocarbons are used for non-energy purposes e.g. petrochemical feedstocks, lubricants, solvents, and bitumen. In some of these cases, the carbon in the fuel is quickly oxidised to CO_2, in other cases, it is stored (or sequestered) in the product, sometimes for as long as centuries.

In the *1996 IPCC GLs*, Tier 1 Sectoral Approach emissions included emissions from fuels used for non-energy purposes. The share of carbon assumed to be stored (not emitted) was estimated based on default "fractions of carbon stored" (shown for reference in Table 3).

Table 3. Fraction of carbon stored in the *1996 GLs*

Fuel Type	*1996 Guidelines*
Naphtha*	0.8
Lubricants	0.5
Bitumen	1.0
Coal Oils and Tars (from coking coal)	0.75
Natural Gas*	0.33
Gas/Diesel Oil*	0.5
LPG*	0.8
Ethane*	0.8
Other fuels for non-energy use	To be specified

* When used as feedstocks.

Note: this table is included only for reference. CO_2 emissions from fuel combustion in this publication do not include emissions from non-energy use of fuels.

In the *2006 GLs*, all deliveries for non-energy purposes are excluded. Numerically, excluding all non-energy use of fuel from energy sector emissions calculations is equivalent to applying a fraction of carbon stored equal to 1 to all quantities delivered for non-energy purposes.

In the case of a complete greenhouse gas inventory covering all IPCC Source/Sink categories, any emissions associated with non-energy use of fuels would be accounted in another Source/Sink category. However, as this publication only deals with CO_2 emissions from fuel combustion, emissions associated with non-energy use of fuels are not any longer included in the IEA CO_2 emissions estimates.

Within the IEA estimates, the effect of this change is mainly noticeable for countries whose petrochemical sectors are large in comparison to the size of their economies, e.g. the Netherlands.

Allocation of fuel combustion emissions across the Energy and the IPPU sectors

To avoid possible double counting, the *2006 GLs* state that combustion emissions from fuels obtained directly or indirectly from the feedstock for an Industrial Processes and Product Use (IPPU) process will be allocated to the source category in which the process occurs, unless the derived fuels are transferred for combustion in another source category.

In the case of a complete inventory, this reallocation would not affect total emissions. Still, the effect on individual source categories could be quite significant, especially in countries with large IPPU sectors (e.g. the iron and steel, and non-ferrous metals industries).

To provide continuity with previous editions of this publication and to fully account for fuel combustion emissions, the IEA CO_2 emissions from fuel combustion include all emissions from fuel combustion, irrespective of the category of reporting (Energy or IPPU) under the *2006 GLs.*

To ensure comparability with submissions from Parties, an additional online database provides a summary of CO_2 emissions calculated according to the IPCC Reference and Sectoral Approaches, and a breakdown of the fuel combustion emissions which would be reallocated to IPPU under the *2006 GLs*.[17]

Assessing the overall impact of methodological changes on IEA estimates

Table 4 shows IEA estimates of total CO_2 emissions from fuel combustion for OECD countries, for the 2014 data (from the 2016 edition). Emissions are calculated using: i) the *1996 GLs* Sectoral Approach, methodology as in previous publications, and ii) the *2006 GLs*[18] - which correspond to the data published in this edition.

17. Note that the data available to the IEA do not allow assessing whether fuels derived from IPPU processes are transferred for combustion in another source category.

18. Including the emissions which may be reallocated from Energy to IPPU under the *2006 GLs*.

The overall impact of the change in methodology on the IEA estimates of CO_2 emissions from fuel combustion varies from country to country, mainly depending on the underlying fuel mix and on the relative importance of non-energy use of fuels in the total.

Most countries show a decrease in CO_2 emissions levels under the new methodology, as the reductions due to the removal of non-energy use emissions are generally larger than the systematic increase due to changes in the oxidation factor.

For the year 2014, reductions of 1% or greater are observed for sixty-five countries, with thirteen showing a decrease of 5% or more. The largest relative decreases are observed in countries with high non-energy use of fuels (mainly oil products and natural gas) relative to their total energy consumption: Trinidad and Tobago (-39%), Gibraltar (-17%), Lithuania (-14%), and Singapore, the Netherlands, Belarus and Brunei Darussalam (all -11%). As emissions from non-energy use of fuels are not included in energy sector emissions under the 2006 GLs, emissions previously attributed to non-energy use of oil products and natural gas are no longer included in IEA CO_2 emissions from fuel combustion estimates for these countries. One country, Curaçao presented a large increase (27%) in 2014. This was due to the inclusion of emissions from reported energy use of bitumen, which had been excluded (considered carbon stored / non-energy use) under the 1996 GLs.

Within the IEA databases, these changes will also be reflected in all indicators derived from CO_2 emissions totals (e.g. CO_2/TPES, CO_2/GDP). Impacts on trends should be visible when the relative weight of the non-energy use of fuels changes in time.

However, as mentioned, most of the methodological changes would not have significant impact in the case of a complete inventory covering all IPCC source/sink categories; in particular, the reallocation of emissions between categories would not affect total emissions estimates, nor the overall trends.

Table 4. Comparison of IEA CO_2 emissions estimates (2014 data, 2016 edition)

$MtCO_2$

Country	*1996 GLs CO_2 Sectoral Approach*	*2006 GLs CO_2 Fuel Combustion*	Percent Change
World	**32903.3**	**32381.0**	**-1.6%**
Annex I Parties	**12852.2**	**12628.4**	**-2%**
Non-Annex I Parties	**18932.1**	**18622.2**	**-2%**
OECD			
Australia	375.2	373.8	-0.4%
Austria	60.8	60.8	0.0%
Belgium	95.0	87.4	-8.0%
Canada	574.6	554.8	-3.4%
Chile	76.4	75.8	-0.8%
Czech Republic	98.4	96.6	-1.8%
Denmark	34.7	34.5	-0.6%
Estonia	17.5	17.5	0.0%
Finland	46.4	45.3	-2.4%
France	295.8	285.7	-3.4%
Germany	734.6	723.3	-1.5%
Greece	66.4	65.9	-0.8%
Hungary	41.3	40.3	-2.4%
Iceland	2.0	2.0	0.0%
Ireland	33.7	33.9	0.6%
Israel	66.3	64.7	-2.4%
Italy	325.7	319.7	-1.8%
Japan	1193.3	1188.6	-0.4%
Korea	589.5	567.8	-3.7%
Luxembourg	9.2	9.2	0.0%
Mexico	432.1	430.9	-0.3%
Netherlands	166.6	148.3	-11.0%
New Zealand	33.2	31.2	-6.0%
Norway	36.9	35.3	-4.3%
Poland	281.3	279.0	-0.8%
Portugal	43.2	42.8	-0.9%
Slovak Republic	29.9	29.3	-2.0%
Slovenia	12.6	12.8	1.6%
Spain	234.8	232.0	-1.2%
Sweden	38.7	37.4	-3.4%
Switzerland	37.7	37.7	0.0%
Turkey	304.8	307.1	0.8%
United Kingdom	409.0	407.8	-0.3%
United States	5235.9	5176.2	-1.1%
OECD Total	**12033.5**	**11855.6**	**-1.5%**

Country	*1996 GLs CO_2 Sectoral Approach*	*2006 GLs CO_2 Fuel Combustion*	Percent Change
Non-OECD Europe and Eurasia			
Albania	4.3	4.1	-4.7%
Armenia	5.2	5.2	0.0%
Azerbaijan	31.3	30.8	-1.6%
Belarus	64.3	57.4	-10.7%
Bosnia and Herzegovina	21.2	21.6	1.9%
Albania	42.2	42.1	-0.2%
Croatia	15.8	15.1	-4.4%
Cyprus[19]	5.7	5.8	1.8%
Georgia	8.0	7.7	-3.8%
Gibraltar	0.6	0.5	-16.7%
Kazakhstan	220.3	223.7	1.5%
Kosovo	7.3	7.4	1.4%
Kyrgyzstan	8.3	8.4	1.2%
Latvia	6.7	6.7	0.0%
Lithuania	12.0	10.3	-14.2%
FYR of Macedonia	7.3	7.4	1.4%
Malta	2.3	2.3	0.0%
Republic of Moldova	7.2	7.2	0.0%
Montenegro	2.2	2.2	0.0%
Romania	69.0	68.2	-1.2%
Russian Federation	1525.3	1467.6	-3.8%
Serbia	37.9	38.1	0.5%
Tajikistan	4.6	4.7	2.2%
Turkmenistan	66.6	67.0	0.6%
Ukraine	239.6	236.5	-1.3%
Uzbekistan	101.0	97.9	-3.1%
Non-OECD Europe and Eurasia	**2516.4**	**2446.1**	**-2.8%**

19. Please refer to the chapter *Geographical coverage* in Part I.

Table 4. Comparison of IEA CO_2 emissions estimates for Non-OECD Countries (2014 data, 2016 edition)

$MtCO_2$

Country	*1996 GLs CO_2 Sectoral Approach*	*2006 GLs CO_2 Fuel Combustion*	Percent Change
Africa			
Algeria	126.4	122.9	-2.8%
Angola	19.5	19.3	-1.0%
Benin	5.7	5.7	0.0%
Botswana	6.8	6.9	1.5%
Cameroon	6.0	6.0	0.0%
Congo	2.7	2.6	-3.7%
Cote d'Ivoire	4.6	4.7	2.2%
Dem. Rep. of Congo	9.3	9.4	1.1%
Egypt	181.1	173.3	-4.3%
Eritrea	0.6	0.6	0.0%
Ethiopia	9.2	9.1	-1.1%
Gabon	3.5	3.5	0.0%
Ghana	13.3	13.1	-1.5%
Kenya	12.3	12.4	0.8%
Libya	48.1	47.9	-0.4%
Mauritius	3.9	4.0	2.6%
Morocco	53.0	53.1	0.2%
Mozambique	3.8	3.9	2.6%
Namibia	3.6	3.6	0.0%
Niger	2.0	2.0	0.0%
Nigeria	61.9	60.2	-2.7%
Senegal	6.4	6.3	-1.6%
South Africa	442.3	437.4	-1.1%
South Sudan	13.9	13.3	-4.3%
Sudan	1.5	1.5	0.0%
United Rep. of Tanzania	10.4	10.4	0.0%
Togo	1.7	1.7	0.0%
Tunisia	25.0	25.0	0.0%
Zambia	3.3	3.2	-3.0%
Zimbabwe	11.4	11.5	0.9%
Other Africa	32.3	31.0	-4.0%
Africa	**1125.6**	**1105.3**	**-1.8%**
Asia (excl. China)			
Bangladesh	63.9	62.3	-2.5%
Brunei Darussalam	7.5	6.7	-10.7%
Cambodia	6.0	6.1	1.7%
DPR of Korea	37.0	37.8	2.2%
India	2038.9	2019.7	-0.9%
Indonesia	442.3	436.5	-1.3%
Malaysia	227.5	220.5	-3.1%
Mongolia	17.8	18.2	2.2%
Myanmar	19.6	19.6	0.0%
Nepal	5.8	5.9	1.7%
Pakistan	141.0	137.4	-2.6%
Philippines	94.5	95.7	1.3%
Singapore	50.9	45.3	-11.0%
Sri Lanka	16.5	16.7	1.2%
Chinese Taipei	260.9	249.7	-4.3%
Thailand	263.1	243.5	-7.4%
Viet Nam	143.7	143.3	-0.3%
Other Asia	41.7	42.1	1.0%
Asia (excl. China)	**3878.8**	**3807.0**	**-1.9%**

Country	*1996 GLs CO_2 Sectoral Approach*	*2006 GLs CO_2 Fuel Combustion*	Percent Change
China			
People's Republic of China	9199.1	9087.0	-1.2%
Hong Kong (China)	47.3	47.9	1.3%
China (incl. Hong Kong)	**9246.4**	**9134.9**	**-1.2%**
Non-OECD Americas			
Argentina	195.3	192.4	-1.5%
Bolivia	18.2	18.3	0.5%
Brazil	492.6	476.0	-3.4%
Colombia	73.0	72.5	-0.7%
Costa Rica	7.1	7.2	1.4%
Cuba	29.6	29.4	-0.7%
Curaçao	3.7	4.7	27.0%
Dominican Republic	19.5	19.3	-1.0%
Ecuador	38.7	38.7	0.0%
El Salvador	5.9	5.9	0.0%
Guatemala	16.1	16.1	0.0%
Haiti	2.7	2.8	3.7%
Honduras	8.7	8.7	0.0%
Jamaica	7.1	7.2	1.4%
Nicaragua	4.5	4.5	0.0%
Panama	10.6	10.6	0.0%
Paraguay	5.2	5.2	0.0%
Peru	48.4	47.8	-1.2%
Suriname	2.0	2.0	0.0%
Trinidad and Tobago	38.0	23.2	-38.9%
Uruguay	6.5	6.3	-3.1%
Venezuela	155.5	155.0	-0.3%
Other Non-OECD Americas	19.9	20.1	1.0%
Non-OECD Americas	**1209.0**	**1173.9**	**-2.9%**
Middle East			
Bahrain	31.8	29.7	-6.6%
Islamic Republic of Iran	576.1	556.1	-3.5%
Iraq	140.2	141.0	0.6%
Jordan	23.9	24.1	0.8%
Kuwait	88.4	86.1	-2.6%
Lebanon	22.1	22.4	1.4%
Oman	63.1	59.9	-5.1%
Qatar	82.7	77.6	-6.2%
Saudi Arabia	521.4	506.6	-2.8%
Syrian Arab Republic	28.1	27.6	-1.8%
United Arab Emirates	175.8	175.4	-0.2%
Yemen	21.1	21.3	0.9%
Middle East	**1774.7**	**1727.8**	**-2.6%**

4. UNITS AND CONVERSIONS

General conversion factors for energy

To:	TJ	Gcal	Mtoe	MBtu	GWh
From:	multiply by:				
terajoule (TJ)	1	$2.388x10^{2}$	$2.388x10^{-5}$	$9.478x10^{2}$	$2.778x10^{-1}$
gigacalorie (Gcal)	$4.187x10^{-3}$	1	$1.000x10^{-7}$	3.968	$1.163x10^{-3}$
million tonnes of oil equivalent (Mtoe)	$4.187x10^{4}$	$1.000x10^{7}$	1	$3.968x10^{7}$	$1.163x10^{4}$
million British thermal units (MBtu)	$1.055x10^{-3}$	$2.520x10^{-1}$	$2.520x10^{-8}$	1	$2.931x10^{-4}$
gigawatt hour (GWh)	3.600	$8.598x10^{2}$	$8.598x10^{-5}$	$3.412x10^{3}$	1

Conversion factors for mass

To:	kg	t	lt	st	lb
From:	multiply by:				
kilogramme (kg)	1	$1.000x10^{-3}$	$9.842x10^{-4}$	$1.102x10^{-3}$	2.205
tonne (t)	$1.000x10^{3}$	1	$9.842x10^{-1}$	1.102	$2.205x10^{3}$
long ton (lt)	$1.016x10^{3}$	1.016	1	1.120	$2.240x10^{3}$
short ton (st)	$9.072x10^{2}$	$9.072x10^{-1}$	$8.929x10^{-1}$	1	$2.000x10^{3}$
pound (lb)	$4.536x10^{-1}$	$4.536x10^{-4}$	$4.464x10^{-4}$	$5.000x10^{-4}$	1

Conversion factors for volume

To:	gal U.S.	gal U.K.	bbl	ft^3	l	m^3
From:	multiply by:					
U.S. gallon (gal U.S.)	1	$8.327x10^{-1}$	$2.381x10^{-2}$	$1.337x10^{-1}$	3.785	$3.785x10^{-3}$
U.K. gallon (gal U.K.)	1.201	1	$2.859x10^{-2}$	$1.605x10^{-1}$	4.546	$4.546x10^{-3}$
barrel (bbl)	$4.200x10^{1}$	$3.497x10^{1}$	1	5.615	$1.590x10^{2}$	$1.590x10^{-1}$
cubic foot (ft^3)	7.481	6.229	$1.781x10^{-1}$	1	$2.832x10^{1}$	$2.832x10^{-2}$
litre (l)	$2.642x10^{-1}$	$2.200x10^{-1}$	$6.290x10^{-3}$	$3.531x10^{-2}$	1	$1.000x10^{-3}$
cubic metre (m^3)	$2.642x10^{2}$	$2.200x10^{2}$	6.290	$3.531x10^{1}$	$1.000x10^{3}$	1

Decimal prefixes

10^{1}	deca (da)	10^{-1}	deci (d)
10^{2}	hecto (h)	10^{-2}	centi (c)
10^{3}	kilo (k)	10^{-3}	milli (m)
10^{6}	mega (M)	10^{-6}	micro (μ)
10^{9}	giga (G)	10^{-9}	nano (n)
10^{12}	tera (T)	10^{-12}	pico (p)
10^{15}	peta (P)	10^{-15}	femto (f)
10^{18}	exa (E)	10^{-18}	atto (a)

Tonne of CO_2

The *2006 GLs* and the UNFCCC *Reporting Guidelines on Annual Inventories* both ask that CO_2 emissions be reported in Gg (gigagrammes) of CO_2. A million tonnes of CO_2 is equal to 1 000 Gg of CO_2, so to compare the numbers in this publication with national inventories expressed in Gg, multiply the IEA emissions by 1 000.

Other organisations may present CO_2 emissions in tonnes of carbon instead of tonnes of CO_2. To convert from tonnes of carbon, multiply by 44/12, which is the molecular weight ratio of CO_2 to C.

5. GEOGRAPHICAL COVERAGE

In this publication:

World includes OECD Total; Africa; Non-OECD Americas; Non-OECD Asia (excluding China); China (People's Republic of China and Hong Kong, China); Non-OECD Europe and Eurasia; Middle East; World aviation bunkers and World marine bunkers. It is also the sum of Africa, Americas, Asia, Europe, Oceania, World aviation bunkers and World marine bunkers.

Africa includes Algeria; Angola; Benin; Botswana; Burkina Faso; Burundi; Cabo Verde; Cameroon; Central African Republic; Chad; Comoros; the Republic of the Congo (Congo); Côte d'Ivoire; the Democratic Republic of the Congo; Djibouti; Egypt; Equatorial Guinea; Eritrea; Ethiopia; Gabon; Gambia; Ghana; Guinea; Guinea-Bissau; Kenya; Lesotho; Liberia; Libya; Madagascar; Malawi; Mali; Mauritania; Mauritius; Morocco; Mozambique; Namibia; Niger; Nigeria; Réunion; Rwanda; Sao Tome and Principe; Senegal; the Seychelles; Sierra Leone; Somalia; South Africa; South Sudan (from 2012); Sudan; Swaziland; the United Republic of Tanzania (Tanzania); Togo; Tunisia; Uganda; Zambia; Zimbabwe.

Americas includes Antigua and Barbuda; Argentina; Aruba; the Bahamas; Barbados; Belize; Bermuda; the Plurinational State of Bolivia (Bolivia); Bonaire (from 2012); the British Virgin Islands; Brazil; Canada; the Cayman Islands; Chile; Colombia; Costa Rica; Cuba; Curaçao[20]; Dominica; the Dominican Republic; Ecuador; El Salvador; the Falkland Islands (Malvinas); Guatemala; French Guiana; Grenada; Guadeloupe; Guyana; Haiti; Honduras; Jamaica; Martinique; Mexico; Montserrat; Nicaragua; Panama; Paraguay; Peru; Puerto Rico (for natural gas and electricity) [21]; Saba (from 2012); Saint Kitts and Nevis; Saint Lucia; Saint Pierre and Miquelon; Saint Vincent and the Grenadines; Sint Eustatius (from 2012); Sint Maarten (from 2012); Suriname; Trinidad and Tobago; the Turks and Caicos Islands; the United States; Uruguay; the Bolivarian Republic of Venezuela (Venezuela).

Asia (from 1990) includes Afghanistan; Armenia; Azerbaijan; Bahrain; Bangladesh; Bhutan; Brunei Darussalam; Cambodia; the People's Republic of China; Cyprus[22]; Georgia; Hong Kong, China; India; Indonesia; the Islamic Republic of Iran; Iraq; Israel[23]; Japan; Jordan; the Democratic People's Republic of Korea; Korea; Kazakhstan; Kuwait; Kyrgyzstan; Lao People's Democratic Republic; Lebanon; Macau, China; Malaysia; the Maldives; Mongolia; Myanmar; Nepal;

20. The Netherlands Antilles was dissolved on 10 October 2010 resulting in two new 'constituent countries' (Curaçao and Sint Maarten) with the other islands joining The Netherlands as "special municipalities'. However, due to lack of detailed data the IEA Secretariat's data and estimates under the "Netherlands Antilles" still refer to the whole territory of the Netherlands Antilles as it was known prior to 10 October 2010 up to the end of 2011. Data refer only to the island of Curaçao from 2012. The other islands of the former Netherlands Antilles are added to Other non-OECD Americas from 2012.

21. Natural gas and electricity data for Puerto Rico are included under Other Non-OECD Americas. Oil statistics as well as coal trade statistics for Puerto Rico are included under the United States.

22. **Note by Turkey:**
The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".
Note by all the European Union member states of the OECD and the European Union:
The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

23. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Oman; Pakistan; the Philippines; Qatar; Saudi Arabia; Singapore; Sri Lanka; the Syrian Arab Republic; Tajikistan; Chinese Taipei; Thailand; Timor-Leste; Turkey; Turkmenistan; the United Arab Emirates; Uzbekistan; Viet Nam; and Yemen.

Europe (from 1990) includes Albania; Austria; Belarus; Belgium; Bosnia and Herzegovina; Bulgaria; Croatia; the Czech Republic; Denmark; Estonia; Finland; the Former Yugoslav Republic of Macedonia; France; Germany; Gibraltar; Greece; Hungary; Iceland; Ireland; Italy; Kosovo[24]; Latvia; Lithuania; Luxembourg; Malta; the Republic of Moldova (Moldova); Montenegro; the Netherlands; Norway; Poland; Portugal; Romania; the Russian Federation; Serbia[25]; the Slovak Republic; Slovenia; Spain; Sweden; Switzerland; Ukraine; the United Kingdom.

Oceania includes Australia; New Zealand; Cook Islands; Fiji; French Polynesia; Kiribati; New Caledonia; Palau; Papua New Guinea; Samoa; the Solomon Islands; Tonga; Vanuatu.

The **International Energy Agency (IEA)** includes Australia; Austria; Belgium; Canada; the Czech Republic; Denmark; Estonia[26]; Finland; France; Germany; Greece; Hungary; Ireland; Italy; Japan; Korea; Luxembourg; the Netherlands; New Zealand; Norway; Poland; Portugal; the Slovak Republic; Spain; Sweden; Switzerland; Turkey; the United Kingdom; the United States.

The **IEA and Accession/Association countries** includes: IEA member countries: Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Estonia[25], Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Korea, Luxembourg, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States; Accession countries: Chile and Mexico; Association countries: the People's Republic of China; India; Indonesia; Morocco; Singapore; Thailand.

The **Organisation for Economic Co-Operation and Development (OECD)** includes Australia; Austria; Belgium; Canada; Chile; the Czech Republic; Denmark; Estonia; Finland; France; Germany; Greece; Hungary; Iceland; Ireland; Israel[27]; Italy; Japan; Korea; Latvia[28]; Luxembourg; Mexico; the Netherlands; New Zealand; Norway; Poland; Portugal; the Slovak Republic; Slovenia; Spain; Sweden; Switzerland; Turkey; the United Kingdom; the United States.

OECD Americas includes Canada; Chile; Mexico; the United States.

OECD Asia Oceania includes Australia; Israel; Japan; Korea; New Zealand.

OECD Europe includes Austria; Belgium; the Czech Republic; Denmark; Estonia; Finland; France; Germany; Greece; Hungary; Iceland; Ireland; Italy; Latvia[28]; Luxembourg; the Netherlands; Norway; Poland; Portugal; the Slovak Republic; Slovenia; Spain; Sweden; Switzerland; Turkey; the United Kingdom.

Estonia, Latvia and Slovenia are included starting in 1990. Prior to 1990, Estonia and Latvia are included in Former Soviet Union and Slovenia is included in Former Yugoslavia.

Within the **OECD**:

- **Australia** excludes the overseas territories;
- **Denmark** excludes Greenland and the Faroe Islands, except prior to 1990, where data on oil for Greenland were included with the Danish statistics. The administration is planning to revise the series back to 1974 to exclude these amounts;
- **France** includes Monaco and excludes the following overseas departments: Guadeloupe; French Guiana; Martinique; Mayotte; and Réunion; and collectivities: New Caledonia; French Polynesia; Saint Barthélemy; Saint Martin; Saint Pierre and Miquelon; and Wallis and Futuna;
- **Germany** includes the new federal states of Germany from 1970 onwards;

24. This designation is without prejudice to positions on status, and is in line with United Nations Security Council Resolution 1244/99 and the Advisory Opinion of the International Court of Justice on Kosovo's declaration of independence.

25. Serbia includes Montenegro until 2004 and Kosovo until 1999.

26. Estonia is included starting in 1990. Prior to 1990, data for Estonia are included in Former Soviet Union.

27. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

28. Latvia became an OECD member in July 2016. Accordingly, Latvia appears in the list of OECD members and is included in the zone aggregates for data from 1990, starting with the 2017 edition. Prior to 1990, data for Latvia are included in Former Soviet Union.

- The statistical data for **Israel** are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law;
- **Italy** includes San Marino and the Holy See;
- **Japan** includes Okinawa;
- **Netherlands** excludes Suriname, Aruba and the other former Netherlands Antilles (Bonaire, Curaçao, Saba, Saint Eustatius and Sint Maarten);
- **Portugal** includes the Azores and Madeira;
- **Spain** includes the Canary Islands;
- **Switzerland** includes Liechtenstein for oil data; data for other fuels do not include Liechtenstein;
- Shipments of coal and oil to the Channel Islands and the Isle of Man from the **United Kingdom** are not classed as exports. Supplies of coal and oil to these islands are, therefore, included as part of UK supply. Exports of natural gas to the Isle of Man are included with the exports to Ireland;
- **United States** includes the 50 states and the District of Columbia but generally excludes all territories, and all trade between the U.S. and its territories. Oil statistics include Guam, Puerto Rico[21] and the United States Virgin Islands; trade statistics for coal include international trade to and from Puerto Rico and the United States Virgin Islands.

Non-OECD Europe and Eurasia includes Albania; Armenia; Azerbaijan; Belarus; Bosnia and Herzegovina; Bulgaria; Croatia; Cyprus[29]; the Former Yugoslav Republic of Macedonia; Georgia; Gibraltar; Kazakhstan; Kosovo[24]; Kyrgyzstan; Lithuania; Malta; the Republic of Moldova (Moldova); Montenegro; Romania; the Russian Federation; Serbia[25]; Tajikistan; Turkmenistan; Ukraine; Uzbekistan; the Former Soviet Union; the Former Yugoslavia.[28]

Non-OECD Asia excluding China includes Bangladesh; Brunei Darussalam; Cambodia (from 1995); India; Indonesia; the Democratic People's Republic of Korea; Malaysia; Mongolia (from 1985); Myanmar; Nepal; Pakistan; the Philippines; Singapore; Sri Lanka; Chinese Taipei; Thailand; Viet Nam; **Other non-OECD Asia**.

29. Refer to the country note for Cyprus earlier in this chapter.

China includes the (People's Republic of) China; Hong Kong, China.

Non-OECD Americas includes Argentina; the Plurinational State of Bolivia (Bolivia); Brazil; Colombia; Costa Rica; Cuba; Curaçao[20]; the Dominican Republic; Ecuador; El Salvador; Guatemala; Haiti; Honduras; Jamaica; Nicaragua; Panama; Paraguay; Peru; Suriname (from 2000), Trinidad and Tobago; Uruguay; the Bolivarian Republic of Venezuela (Venezuela); **Other non-OECD Americas**.

Middle East includes Bahrain; the Islamic Republic of Iran; Iraq; Jordan; Kuwait; Lebanon; Oman; Qatar; Saudi Arabia; the Syrian Arab Republic; the United Arab Emirates; Yemen.

Other Africa includes Botswana (until 1980); Burkina Faso; Burundi; Cabo Verde; Central African Republic; Chad; Comoros; Djibouti; Equatorial Guinea; Gambia; Guinea; Guinea-Bissau; Lesotho; Liberia; Madagascar; Malawi; Mali; Mauritania; Namibia (until 1990); Niger (until 1999); Réunion; Rwanda; Sao Tome and Principe; the Seychelles; Sierra Leone; Somalia; Swaziland; Uganda.

Other non-OECD Americas includes Antigua and Barbuda; Aruba; the Bahamas; Barbados; Belize; Bermuda; Bonaire (from 2012); the British Virgin Islands; the Cayman Islands; Dominica; the Falkland Islands (Malvinas); the French Guiana; Grenada; Guadeloupe; Guyana; Martinique; Montserrat; Puerto Rico (for natural gas and electricity) [9]; Saba (from 2012); Saint Eustatius (from 2012); Saint Kitts and Nevis; Saint Lucia; Saint Pierre and Miquelon; Saint Vincent and the Grenadines; Sint Maarten (from 2012); Suriname (until 1999); the Turks and Caicos Islands.

Other non-OECD Asia includes Afghanistan; Bhutan; Cambodia (until 1994); Cook Islands; Fiji; French Polynesia; Kiribati; Lao People's Democratic Republic; Macau, China; the Maldives; Mongolia (until 1984); New Caledonia; Palau (from 1994); Papua New Guinea; Samoa; the Solomon Islands; Timor-Leste; Tonga; Vanuatu.

The **European Union - 28 (EU-28)** (from 1990) includes Austria; Belgium; Bulgaria; Croatia; Cyprus[31]; the Czech Republic; Denmark; Estonia; Finland; France; Germany; Greece; Hungary; Ireland; Italy; Latvia; Lithuania; Luxembourg; Malta; the Netherlands; Poland; Portugal; Romania; the Slovak Republic; Slovenia; Spain; Sweden; the United Kingdom.

Please note that in the interest of having comparable data, all these countries are included since 1990 despite different entry dates into the European Union.

G20 includes Argentina; Australia; Brazil; Canada; China (including Hong Kong, China); India; Indonesia; Japan; Korea; Mexico; the Russian Federation; Saudi Arabia; South Africa; Turkey; the United States; the European Union – 28.

Annex I Parties[30] includes Australia, Austria, Belarus, Belgium, Bulgaria, Canada, Croatia, Cyprus[31], the Czech Republic[32,33], Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Latvia, Liechtenstein (not available in this publication)[34], Lithuania, Luxembourg, Malta, Monaco (included with France), the Netherlands, New Zealand, Norway, Poland, Portugal, Romania, the Russian Federation, the Slovak Republic[33,35], Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom and the United States.

The countries that are listed above are included in Annex I of the United Nations Framework Convention on Climate Change as amended on 11 December 1997 by the 12th Plenary meeting of the Third Conference of the Parties in Decision 4/CP.3. This includes the countries that were members of the OECD at the time of the signing of the Convention, the EEC, and fourteen countries in Central and Eastern Europe and the Former Soviet Union that were undergoing the process of transition to market economies. During subsequent sessions, the Conference of the Parties agreed to amend Annex I to the Convention to include Malta (Decision 3/CP.15, effective from 26 October 2010) and Cyprus[36] (Decision 10/CP.17, effective from 9 January 2013).

Annex II Parties includes Australia, Austria, Belgium, Canada, Denmark, Finland, France[37], Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland[38], the United Kingdom and the United States.

According to Decision 26/CP.7 in document FCCC/CP/2001/13/Add.4, Turkey has been deleted from the list of Annex II countries to the Convention. This amendment entered into force on 28 June 2002.

Annex II North America includes Canada and the United States.

Annex II Europe includes Austria, Belgium, Denmark, Finland, France[37], Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland[38] and the United Kingdom.

Annex II Asia Oceania includes Australia, Japan and New Zealand.

Annex I: Economies in Transition (EIT) are those countries in Annex I that were undergoing the process of transition to a market economy. This includes Belarus, Bulgaria, Croatia, the Czech Republic[32,33], Estonia, Hungary, Latvia, Lithuania, Poland, Romania, the Russian Federation, the Slovak Republic[33,35], Slovenia and Ukraine.

Annex B Kyoto Parties[30] includes Australia, Austria, Belarus, Belgium, Bulgaria, Croatia, Cyprus[36], the Czech Republic[32,33], Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Kazakhstan, Latvia, Liechtenstein (not available in this publication) Lithuania, Luxembourg, Malta, Monaco (included with France), the Netherlands, Norway, Poland, Portugal, Romania, the Slovak Republic[33,35], Slovenia, Spain, Sweden, Switzerland, Ukraine and the United Kingdom.

Refers to countries with emissions targets under the second commitment period (CP) of the Kyoto Protocol (2013-2020) as per the Doha Amendment. This differs from the list of countries with targets under the first CP (2008-2012). Please note that the Doha Amendment has not yet entered into force. Membership of Annex B in the second CP of the Kyoto Protocol differs from that in Annex I. In particular, Annex B excludes, or does not contain targets for Canada, Japan, New Zealand, the Russian Federation, Turkey and the United States (all Annex I member states), but includes Kazakhstan (a non-Annex I Party under the Convention, but an Annex I Party under the Kyoto Protocol (as per decision 9/CMP.8).

30. The European Union is also an Annex I Party in its own right. The EU was assigned an overall reduction target under the Kyoto Protocol, which by agreement, was used to determine the individual targets of the fifteen states that were EU members in 1997 when the Kyoto Protocol was adopted.
31. Refer to the country note for Cyprus earlier in this chapter.
32. Czechia in official UN documents.
33. Czechoslovakia was in the original list of Annex I countries.
34. Oil data for Liechtenstein are included under Switzerland.
35. Slovakia in official UN documents.
36. Refer to the country note for Cyprus earlier in this chapter.
37. In IEA data, France also includes Monaco, which is not in the list of Annex II Parties.
38. In IEA data, Switzerland includes Oil data for Liechtenstein, which is not in the list of Annex II Parties.

Please note that the following countries have not been considered:

- **Non-OECD Europe and Eurasia**: Andorra; Faroe Islands (after 1990); Liechtenstein (except for oil data); the Palestinian Authority; Svalbard; Jan Mayen Islands;
- **Africa:** British Indian Ocean Territory; French Southern and Antarctic Lands; Mayotte; Saint Helena; Western Sahara;
- **Non-OECD Americas**: Anguilla; Bouvet Island; Saint Barthélemy; Greenland (after 1990); Saint Martin (French Part); South Georgia and the South Sandwich Islands;
- Antarctica;
- **Non-OECD Asia excluding China:** American Samoa; Cocos (Keeling) Islands; Christmas Island; Heard Island and McDonald Islands; Marshall Islands; Micronesia (Federated States of); Nauru; Niue; Norfolk Island; Northern Mariana Islands; Pitcairn; Tokelau; Tuvalu; United States Minor Outlying Islands; Wallis and Futuna Islands.

PART II

CO_2 EMISSIONS STATISTICS AND INDICATORS

CO_2 EMISSIONS STATISTICS AND INDICATORS

SUMMARY TABLES

CO_2 emissions from fuel combustion

million tonnes of CO_2

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
World [1]	**13 942.2**	**15 484.1**	**17 706.3**	**18 246.5**	**20 509.0**	**21 365.0**	**23 144.3**	**27 045.0**	**30 434.4**	**32 324.7**	**32 294.2**	**57.5%**
Annex I Parties	*..*	*..*	*..*	*..*	*13 722.6*	*12 981.1*	*13 548.3*	*13 875.9*	*13 222.9*	*12 631.8*	*12 406.5*	*-9.6%*
Annex II Parties	*8 578.7*	*8 843.1*	*9 417.5*	*9 071.6*	*9 658.1*	*10 029.2*	*10 825.1*	*11 100.7*	*10 398.5*	*9 917.9*	*9 741.7*	*0.9%*
North America	*4 628.2*	*4 732.0*	*5 017.1*	*4 907.5*	*5 222.0*	*5 522.1*	*6 158.8*	*6 243.5*	*5 875.5*	*5 722.5*	*5 546.7*	*6.2%*
Europe	*3 043.0*	*3 065.7*	*3 307.0*	*3 059.3*	*3 112.7*	*3 087.9*	*3 161.3*	*3 273.9*	*2 991.7*	*2 606.4*	*2 641.3*	*-15.1%*
Asia Oceania	*907.5*	*1 045.4*	*1 093.4*	*1 104.9*	*1 323.4*	*1 419.2*	*1 504.9*	*1 583.3*	*1 531.3*	*1 588.9*	*1 553.7*	*17.4%*
Annex I EIT	*..*	*..*	*..*	*..*	*3 930.8*	*2 792.3*	*2 513.3*	*2 548.8*	*2 548.7*	*2 399.2*	*2 340.1*	*-40.5%*
Non-Annex I Parties	*..*	*..*	*..*	*..*	*6 155.8*	*7 665.0*	*8 741.9*	*12 174.4*	*16 090.9*	*18 560.7*	*18 700.9*	*203.8%*
Annex B Kyoto Parties	*..*	*..*	*..*	*..*	*5 383.4*	*4 795.5*	*4 655.6*	*4 879.7*	*4 631.6*	*4 130.0*	*4 126.0*	*-23.4%*
Intl. aviation bunkers	**169.2**	**173.9**	**202.1**	**224.9**	**258.9**	**290.3**	**355.8**	**422.8**	**457.7**	**504.5**	**529.7**	**104.6%**
Intl. marine bunkers	**353.8**	**341.1**	**357.3**	**306.8**	**371.6**	**428.5**	**498.4**	**571.9**	**662.9**	**627.7**	**657.0**	**76.8%**
Non-OECD Total	**4 077.2**	**5 213.4**	**6 564.8**	**7 375.1**	**8 858.0**	**9 141.4**	**9 832.3**	**13 203.3**	**16 977.3**	**19 344.2**	**19 387.3**	**118.9%**
OECD Total	**9 342.0**	**9 755.8**	**10 582.0**	**10 339.8**	**11 020.3**	**11 504.8**	**12 457.9**	**12 847.0**	**12 336.4**	**11 848.2**	**11 720.2**	**6.4%**
Canada	340.1	377.0	422.2	393.8	419.5	448.9	516.2	541.2	528.4	554.4	549.2	30.9%
Chile	21.0	17.1	21.4	19.6	29.4	37.1	48.6	54.4	68.6	75.8	81.6	177.5%
Mexico	93.7	134.5	204.5	241.1	256.9	291.2	359.6	412.3	440.3	434.1	442.3	72.2%
United States	4 288.1	4 355.0	4 594.9	4 513.7	4 802.5	5 073.2	5 642.6	5 702.3	5 347.0	5 168.1	4 997.5	4.1%
OECD Americas	**4 743.0**	**4 883.6**	**5 243.0**	**5 168.2**	**5 508.3**	**5 850.4**	**6 567.0**	**6 710.2**	**6 384.4**	**6 232.4**	**6 070.7**	**10.2%**
Australia	143.4	179.5	206.7	220.2	259.7	285.4	334.7	371.9	389.1	373.3	380.9	46.7%
Israel [2]	13.8	16.4	18.8	24.3	32.8	44.9	54.8	58.8	68.4	61.3	62.3	89.8%
Japan	750.7	849.5	870.2	865.9	1 042.0	1 110.0	1 141.2	1 177.7	1 111.8	1 184.4	1 141.6	9.6%
Korea	52.9	77.7	125.6	155.7	231.7	357.1	431.7	457.5	550.7	567.8	586.0	152.9%
New Zealand	13.5	16.4	16.5	18.9	21.7	23.9	29.0	33.7	30.3	31.2	31.2	43.3%
OECD Asia Oceania	**974.2**	**1 139.6**	**1 237.9**	**1 284.9**	**1 588.0**	**1 821.2**	**1 991.5**	**2 099.6**	**2 150.4**	**2 218.0**	**2 201.9**	**38.7%**
Austria	48.6	49.5	54.3	52.6	56.3	59.6	61.9	74.1	68.7	60.6	62.1	10.4%
Belgium	117.9	115.5	125.5	101.0	106.2	111.4	113.7	107.3	103.6	87.3	92.5	-13.0%
Czech Republic	153.6	155.1	168.1	175.4	150.3	123.3	121.3	118.5	112.6	98.4	99.6	-33.8%
Denmark	55.4	52.6	63.0	61.0	51.0	58.4	50.8	48.4	47.2	34.4	32.0	-37.3%
Estonia	..	..	..	..	36.0	16.0	14.5	16.8	18.7	18.6	15.5	-56.8%
Finland	39.8	44.2	54.8	48.3	53.8	55.7	54.6	54.9	62.0	45.5	42.1	-21.8%
France	423.2	422.9	455.1	351.7	345.5	343.5	364.5	371.8	340.8	284.0	290.5	-15.9%
Germany	978.2	973.4	1 048.4	1 004.6	940.3	856.7	812.4	786.8	758.9	723.3	729.8	-22.4%
Greece	25.1	34.1	45.2	54.5	69.9	76.5	88.0	95.2	83.4	65.8	64.6	-7.6%
Hungary	60.3	70.2	82.6	79.8	65.7	56.3	53.3	54.7	47.1	40.0	42.5	-35.3%
Iceland	1.4	1.6	1.7	1.6	1.9	2.0	2.2	2.2	1.9	2.0	2.1	8.4%
Ireland	21.6	21.1	25.9	26.4	30.1	32.6	40.8	44.2	39.3	33.9	35.3	17.3%
Italy	289.3	316.9	355.2	341.9	389.3	401.0	420.3	456.3	391.9	319.7	330.7	-15.0%
Latvia	..	..	..	..	18.8	8.9	6.8	7.6	8.1	6.7	6.8	-63.5%
Luxembourg	16.5	12.7	12.4	10.3	10.7	8.2	8.1	11.5	10.6	9.3	8.8	-18.0%
Netherlands	127.6	131.9	145.4	138.3	147.7	163.5	161.5	167.0	170.0	148.5	156.0	5.6%
Norway	23.0	23.6	27.2	26.4	27.5	31.4	31.9	34.5	37.5	35.4	36.7	33.7%
Poland	287.4	338.9	416.0	422.4	344.8	333.4	289.7	296.5	307.6	279.1	282.4	-18.1%
Portugal	14.4	18.0	23.7	23.9	37.9	47.2	57.8	61.4	47.5	42.8	47.0	24.2%
Slovak Republic	38.9	43.2	55.8	54.4	54.8	41.2	36.9	37.3	34.6	29.2	29.4	-46.3%
Slovenia	..	..	..	..	13.5	14.1	14.1	15.4	15.5	12.8	12.8	-5.2%
Spain	119.0	155.8	186.2	173.0	202.6	228.2	278.5	333.6	262.0	232.0	247.0	21.9%
Sweden	82.0	79.0	73.1	58.4	52.1	56.9	52.0	49.1	46.0	37.3	37.1	-28.8%
Switzerland	38.9	36.7	39.2	41.8	40.7	41.4	42.0	44.0	43.2	37.9	37.3	-8.4%
Turkey	41.7	59.6	71.5	95.4	127.5	152.2	201.5	216.5	265.8	306.6	317.2	148.9%
United Kingdom	621.0	575.9	570.5	543.4	549.3	513.7	520.4	531.5	477.0	406.8	389.8	-29.0%
OECD Europe [2]	**3 624.8**	**3 732.6**	**4 101.1**	**3 886.7**	**3 924.1**	**3 833.2**	**3 899.4**	**4 037.2**	**3 801.6**	**3 397.8**	**3 447.6**	**-12.1%**
IEA/Accession/Association	*10 342.1*	*11 061.3*	*12 314.9*	*12 474.2*	*13 823.1*	*15 437.5*	*16 836.4*	*19 796.0*	*22 233.7*	*23 598.3*	*23 531.8*	*70.2%*
European Union - 28	*..*	*..*	*..*	*..*	*4 028.2*	*3 812.2*	*3 785.8*	*3 921.2*	*3 612.6*	*3 159.4*	*3 201.2*	*-20.5%*
G20	*..*	*..*	*..*	*..*	*16 783.2*	*17 709.9*	*19 107.1*	*22 209.6*	*24 864.0*	*26 375.0*	*26 278.7*	*56.6%*
Africa	*249.0*	*323.9*	*397.6*	*465.6*	*529.0*	*576.2*	*658.1*	*857.3*	*996.1*	*1 121.8*	*1 140.4*	*115.6%*
Americas	*5 080.4*	*5 292.0*	*5 749.4*	*5 652.3*	*6 061.5*	*6 502.8*	*7 347.8*	*7 566.2*	*7 407.2*	*7 398.7*	*7 203.2*	*18.8%*
Asia	*..*	*..*	*..*	*..*	*5 824.2*	*7 299.0*	*8 156.1*	*11 290.2*	*14 839.5*	*17 157.6*	*17 258.6*	*196.3%*
Europe	*..*	*..*	*..*	*..*	*7 176.7*	*5 952.8*	*5 757.1*	*5 920.4*	*5 641.3*	*5 096.7*	*5 080.0*	*-29.2%*
Oceania	*161.1*	*201.1*	*228.4*	*244.6*	*287.0*	*315.3*	*371.0*	*416.2*	*429.7*	*417.7*	*425.4*	*48.2%*

1. Total world includes non-OECD total, OECD total as well as international marine bunkers and international aviation bunkers.
2. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions from fuel combustion

million tonnes of CO_2

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Non-OECD Total	**4 077.2**	**5 213.4**	**6 564.8**	**7 375.1**	**8 858.0**	**9 141.4**	**9 832.3**	**13 203.3**	**16 977.3**	**19 344.2**	**19 387.3**	**118.9%**
Albania	3.9	4.3	6.8	6.9	5.7	1.8	3.1	3.8	3.9	4.1	3.8	-32.6%
Armenia	..	..	..	..	19.8	3.4	3.4	4.1	4.0	5.2	4.7	-76.3%
Azerbaijan	..	..	..	..	53.5	32.4	27.3	29.0	23.5	30.8	30.8	-42.4%
Belarus	..	..	..	..	99.8	56.9	52.1	55.0	59.9	57.4	53.2	-46.7%
Bosnia and Herzegovina	..	..	..	..	24.0	3.3	13.7	15.9	20.5	21.6	22.2	-7.3%
Bulgaria	63.8	73.3	85.0	82.2	74.6	52.7	42.2	46.5	44.4	41.6	43.8	-41.3%
Croatia	..	..	..	..	20.3	14.8	16.8	19.9	18.2	15.1	15.5	-23.7%
Cyprus [1]	1.7	1.7	2.6	2.8	3.9	5.0	6.3	7.0	7.3	5.8	5.9	51.6%
FYR of Macedonia	..	..	..	..	8.6	8.3	8.5	8.9	8.3	7.4	7.2	-15.8%
Georgia	..	..	..	..	33.5	8.1	4.6	4.1	5.0	7.7	8.4	-75.0%
Gibraltar	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.4	0.5	0.5	0.6	302.1%
Kazakhstan	..	..	..	..	237.2	170.5	112.0	156.9	221.1	229.8	225.1	-5.1%
Kosovo	..	..	..	..	..	..	5.1	6.6	8.7	7.4	8.6	..
Kyrgyzstan	..	..	..	..	22.8	4.5	4.5	4.9	6.0	9.0	9.9	-56.6%
Lithuania	..	..	..	..	32.2	13.4	10.2	12.4	12.3	10.5	10.5	-67.3%
Malta	0.7	0.7	1.0	1.2	2.3	2.4	2.1	2.7	2.6	2.4	1.6	-28.9%
Republic of Moldova	..	..	..	..	30.5	11.9	6.5	7.7	7.9	7.2	7.6	-75.2%
Montenegro	..	..	..	..	..	..	..	2.0	2.6	2.2	2.4	..
Romania	114.6	140.6	177.3	174.9	168.3	117.6	86.2	92.7	74.8	68.2	69.5	-58.7%
Russian Federation	..	..	..	..	2 163.2	1 548.0	1 474.2	1 481.7	1 528.9	1 486.9	1 469.0	-32.1%
Serbia	..	..	..	..	62.0	44.6	43.0	49.6	45.9	38.1	44.5	-28.2%
Tajikistan	..	..	..	..	11.0	2.5	2.2	2.3	2.3	4.1	4.3	-60.8%
Turkmenistan	..	..	..	..	44.6	33.2	36.7	48.1	56.9	67.0	69.1	54.8%
Ukraine	..	..	..	..	688.4	395.7	295.0	293.9	266.2	234.7	189.4	-72.5%
Uzbekistan	..	..	..	..	114.9	94.5	114.0	107.1	97.1	97.9	95.6	-16.8%
Former Soviet Union [1]	1 941.6	2 480.6	2 935.6	3 078.1	..	..	..	..	..	..	..	..
Former Yugoslavia [1]	61.8	73.5	84.2	119.7	..	..	..	..	..	..	..	..
Non-OECD Europe and Eurasia [1]	**2 188.3**	**2 774.7**	**3 292.7**	**3 465.8**	**3 921.3**	**2 625.9**	**2 370.1**	**2 463.4**	**2 528.7**	**2 462.8**	**2 403.4**	**-38.7%**
Algeria	8.6	13.5	27.7	42.1	51.2	55.3	61.5	77.4	95.5	123.1	130.4	154.8%
Angola	1.6	2.0	2.7	2.8	3.9	3.9	4.6	6.1	15.1	19.3	20.4	420.7%
Benin	0.3	0.5	0.4	0.5	0.3	0.2	1.4	2.7	4.6	4.8	5.3	+
Botswana	..	..	..	1.5	2.8	3.2	4.0	4.3	3.3	7.0	7.1	151.2%
Cameroon	0.7	1.0	1.7	2.4	2.6	2.5	2.8	2.9	5.0	5.6	6.0	127.6%
Congo	0.6	0.6	0.7	0.8	0.6	0.5	0.5	0.8	1.8	2.6	2.7	323.1%
Côte d'Ivoire	2.4	3.0	3.4	3.0	2.7	3.3	6.3	5.8	6.2	8.9	9.7	257.1%
Dem. Rep. of the Congo	2.6	2.6	3.2	3.3	3.0	1.1	0.9	1.3	1.9	4.7	2.7	-8.5%
Egypt	20.0	25.6	40.7	64.4	77.8	81.6	99.7	144.6	176.4	193.3	198.6	155.2%
Eritrea	..	..	..	..	..	0.8	0.6	0.6	0.5	0.6	0.6	..
Ethiopia	1.3	1.2	1.4	1.4	2.2	2.3	3.2	4.5	6.0	10.1	10.2	369.9%
Gabon	0.5	0.8	1.3	1.7	0.9	1.3	1.5	1.7	2.6	3.3	3.2	256.7%
Ghana	1.9	2.3	2.2	2.1	2.5	3.2	5.0	6.4	10.4	13.2	14.0	453.4%
Kenya	3.2	3.5	4.4	4.6	5.5	5.7	7.8	7.5	11.2	12.4	14.1	156.4%
Libya	3.7	8.7	17.6	21.2	25.8	32.9	36.8	43.0	48.1	47.9	45.3	75.4%
Mauritius	0.3	0.4	0.6	0.6	1.2	1.6	2.4	3.0	3.7	4.0	4.0	240.9%
Morocco	6.6	9.7	13.7	16.3	19.6	26.1	29.5	39.2	46.4	53.5	54.9	179.6%
Mozambique	2.9	2.4	2.3	1.5	1.1	1.1	1.3	1.5	2.4	3.9	5.0	365.4%
Namibia	..	..	..	..	..	1.8	1.9	2.5	3.1	3.6	3.8	..
Niger	..	..	..	..	..	..	0.6	0.7	1.4	2.0	2.0	..
Nigeria	5.7	10.8	25.3	31.8	28.1	32.8	43.8	56.4	55.8	60.1	64.4	129.7%
Senegal	1.2	1.6	2.0	2.1	2.1	2.5	3.5	4.6	5.5	6.3	6.6	211.8%
South Africa	157.1	203.0	208.4	222.9	243.8	259.8	280.5	372.3	406.7	434.6	427.6	75.4%
South Sudan	..	..	..	..	..	..	..	..	..	1.5	1.1	..
Sudan	3.2	3.2	3.7	4.0	5.3	4.3	5.5	9.9	15.0	13.4	15.4	190.8%
United Rep. of Tanzania	1.4	1.4	1.5	1.5	1.7	2.5	2.6	5.1	6.1	10.4	11.6	595.6%
Togo	0.3	0.3	0.4	0.3	0.6	0.6	0.9	1.0	2.1	1.8	1.9	225.4%
Tunisia	3.7	4.8	7.9	9.7	12.2	14.0	17.6	19.5	23.3	25.0	25.6	110.1%
Zambia	3.4	4.3	3.3	2.7	2.6	2.0	1.7	2.1	1.6	3.2	3.3	28.9%
Zimbabwe	7.2	7.2	8.0	9.7	16.2	15.1	13.3	10.3	9.2	11.5	11.8	-27.5%
Other Africa	8.4	9.6	13.3	10.9	12.6	14.2	16.4	19.6	25.3	30.3	30.9	145.0%
Africa	**249.0**	**323.9**	**397.6**	**465.6**	**529.0**	**576.2**	**658.1**	**857.3**	**996.1**	**1 121.8**	**1 140.4**	**115.6%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions from fuel combustion

million tonnes of CO_2

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Bangladesh	2.9	4.4	6.6	7.7	11.4	16.5	20.9	32.0	49.9	62.9	70.5	517.1%
Brunei Darussalam	0.4	1.4	2.6	2.9	3.3	4.5	4.4	4.8	6.9	6.7	6.0	83.3%
Cambodia	..	..	..	..	..	1.5	2.0	2.6	4.6	6.1	8.0	..
DPR of Korea	69.2	78.6	108.1	129.4	116.8	76.5	70.0	75.3	49.3	28.7	22.5	-80.7%
India	181.0	217.1	262.0	375.8	530.4	707.7	890.4	1 079.6	1 594.3	2 018.8	2 066.0	289.5%
Indonesia	25.2	37.8	67.6	83.9	133.9	204.1	255.3	318.5	376.2	434.9	441.9	230.0%
Malaysia	12.8	16.2	23.7	32.9	49.6	79.6	115.0	155.8	189.8	220.5	220.4	344.5%
Mongolia	..	..	..	11.8	12.9	10.2	9.0	11.0	14.2	17.9	17.2	33.5%
Myanmar	4.5	3.9	5.1	5.7	3.9	6.7	9.3	10.6	7.9	20.0	24.4	523.0%
Nepal	0.2	0.3	0.5	0.6	0.9	1.8	3.1	3.1	4.1	5.8	5.6	525.5%
Pakistan	15.9	20.0	24.3	36.5	56.0	79.2	94.4	115.0	129.6	141.6	146.0	161.0%
Philippines	23.0	28.9	33.3	28.5	38.0	57.2	68.1	71.5	77.1	95.7	103.9	173.1%
Singapore	6.1	8.4	12.7	16.6	29.0	37.6	42.1	37.9	44.3	45.3	44.4	53.4%
Sri Lanka	2.8	2.6	3.6	3.5	3.7	5.5	10.5	13.4	12.4	16.7	19.5	430.3%
Chinese Taipei	29.8	40.7	71.4	69.1	111.1	154.0	214.3	253.6	256.2	249.7	249.4	124.5%
Thailand	16.2	21.1	33.7	42.1	80.9	139.9	152.3	200.2	223.4	243.9	247.5	206.0%
Viet Nam	16.3	17.0	14.9	17.4	17.4	27.5	44.2	79.1	126.1	143.4	168.3	868.1%
Other non-OECD Asia	10.6	12.8	16.7	10.2	10.3	9.4	11.4	15.5	22.1	26.6	25.3	144.7%
Asia (excl. China)	**416.8**	**511.4**	**686.8**	**874.6**	**1 209.4**	**1 619.4**	**2 016.7**	**2 479.4**	**3 188.3**	**3 785.2**	**3 886.8**	**221.4%**
People's Rep. of China	780.2	1 029.3	1 363.8	1 625.7	2 075.9	2 887.1	3 086.7	5 357.7	7 706.7	9 036.5	9 040.7	335.5%
Hong Kong, China	9.2	10.9	14.6	22.3	33.3	36.5	40.3	41.3	42.0	47.9	43.9	31.8%
China	**789.4**	**1 040.2**	**1 378.4**	**1 648.0**	**2 109.2**	**2 923.6**	**3 127.1**	**5 399.0**	**7 748.6**	**9 084.4**	**9 084.6**	**330.7%**
Argentina	82.5	85.2	95.2	87.7	99.4	117.3	139.3	149.4	173.7	185.8	191.4	92.6%
Bolivia	2.2	3.2	4.2	4.3	5.2	6.9	7.1	9.1	13.7	18.3	18.3	254.7%
Brazil	87.5	129.6	167.7	156.2	184.3	227.7	292.3	310.5	370.5	474.9	450.8	144.7%
Colombia	26.7	28.3	34.8	39.5	45.8	54.5	54.2	53.6	60.2	72.7	72.3	58.0%
Costa Rica	1.3	1.7	2.2	1.9	2.6	4.4	4.5	5.4	6.6	7.3	6.9	166.3%
Cuba	20.8	24.2	30.5	32.2	34.1	22.4	27.3	25.0	32.7	29.4	29.9	-12.4%
Curaçao [1]	14.5	10.2	8.7	4.5	2.7	2.6	5.6	6.0	4.4	4.7	4.9	82.2%
Dominican Republic	3.5	5.2	6.3	6.2	7.4	11.2	18.4	18.2	19.6	20.1	21.4	188.6%
Ecuador	3.5	5.9	10.4	11.7	13.3	16.7	18.1	23.9	32.0	38.7	37.6	182.1%
El Salvador	1.3	1.9	1.6	1.6	2.1	4.6	5.2	6.3	5.8	5.9	6.5	206.8%
Guatemala	2.3	3.0	4.2	3.2	3.2	5.9	8.6	10.6	10.3	16.1	15.1	372.1%
Haiti	0.4	0.4	0.6	0.8	0.9	0.9	1.4	2.0	2.1	2.8	3.2	243.5%
Honduras	1.1	1.3	1.7	1.7	2.2	3.6	4.5	7.2	7.3	8.7	9.2	324.3%
Jamaica	5.5	7.4	6.5	4.7	7.2	8.4	9.8	10.3	6.9	7.1	7.0	-3.4%
Nicaragua	1.5	1.8	1.8	1.8	1.8	2.5	3.5	4.0	4.3	4.5	5.1	179.7%
Panama	2.5	3.1	2.9	2.7	2.6	4.1	4.9	6.8	8.8	10.6	10.7	316.8%
Paraguay	0.6	0.7	1.3	1.4	1.9	3.5	3.3	3.5	4.7	5.2	5.7	194.5%
Peru	15.4	18.2	20.4	18.0	19.1	23.3	26.4	28.6	41.1	48.1	49.1	156.7%
Suriname	..	..	..	..	..	..	1.5	1.7	1.7	2.0	2.1	..
Trinidad and Tobago	5.4	4.6	6.4	6.7	7.9	8.2	10.1	17.5	22.3	23.2	22.8	188.5%
Uruguay	5.1	5.3	5.3	3.0	3.6	4.4	5.1	5.2	6.0	6.3	6.4	77.3%
Venezuela	45.9	56.1	83.3	85.1	93.6	106.1	116.2	137.1	171.5	154.8	136.8	46.3%
Other non-OECD Americas	8.2	10.9	10.3	9.2	12.4	13.3	13.6	14.2	16.4	19.0	19.4	56.6%
Non-OECD Americas	**337.4**	**408.4**	**506.4**	**484.1**	**553.2**	**652.4**	**780.8**	**856.0**	**1 022.8**	**1 166.2**	**1 132.5**	**104.7%**
Bahrain	2.9	5.2	7.2	9.1	10.7	13.5	15.8	20.6	25.5	29.7	30.1	181.6%
Islamic Republic of Iran	38.9	68.0	88.5	145.0	171.2	244.5	312.2	417.6	498.4	556.5	552.4	222.7%
Iraq	10.3	15.5	26.2	38.0	52.4	95.1	70.5	73.2	103.5	141.0	132.1	152.1%
Jordan	1.4	2.2	4.3	7.5	9.3	12.3	14.2	17.9	18.8	24.0	23.8	155.6%
Kuwait	14.0	15.1	26.4	36.7	27.8	32.3	46.3	64.7	77.0	79.0	85.4	207.1%
Lebanon	4.6	5.7	6.7	6.6	5.5	12.8	14.0	14.5	18.2	22.4	22.7	311.7%
Oman	0.3	0.7	2.2	5.6	10.2	14.7	20.4	25.2	42.4	59.9	64.3	532.9%
Qatar	2.2	4.9	7.0	10.7	12.4	16.8	21.3	33.2	57.1	78.4	79.9	543.2%
Saudi Arabia	12.7	22.5	99.4	117.8	151.1	191.6	234.6	298.0	419.1	506.6	531.5	251.8%
Syrian Arab Republic	5.4	8.3	12.3	19.5	27.2	31.1	37.0	53.4	55.9	27.6	26.2	-3.6%
United Arab Emirates	2.5	4.9	19.2	35.6	51.9	69.6	79.8	111.1	154.5	176.3	180.2	247.4%
Yemen	1.2	1.8	3.5	4.9	6.3	9.4	13.3	18.8	22.4	22.4	11.1	77.1%
Middle East	**96.3**	**154.8**	**303.0**	**437.0**	**535.9**	**743.8**	**879.4**	**1 148.2**	**1 492.8**	**1 723.8**	**1 739.7**	**224.6%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions from fuel combustion - coal

million tonnes of CO_2

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
World [1]	**5 229.3**	**5 648.0**	**6 600.8**	**7 394.2**	**8 286.2**	**8 505.9**	**8 962.6**	**11 453.7**	**13 725.6**	**14 834.2**	**14 512.7**	**75.1%**
Annex I Parties	*..*	*..*	*..*	*..*	*5 223.0*	*4 685.3*	*4 803.0*	*4 843.4*	*4 495.8*	*4 063.6*	*3 801.1*	*-27.2%*
Annex II Parties	*2 704.3*	*2 668.0*	*3 033.8*	*3 393.1*	*3 559.3*	*3 470.9*	*3 729.4*	*3 806.4*	*3 435.4*	*3 122.4*	*2 863.3*	*-19.6%*
North America	*1 169.6*	*1 285.1*	*1 515.5*	*1 762.8*	*1 933.3*	*2 039.2*	*2 297.7*	*2 290.5*	*2 074.7*	*1 774.2*	*1 539.6*	*-20.4%*
Europe	*1 254.1*	*1 080.5*	*1 209.5*	*1 251.9*	*1 184.1*	*950.4*	*865.7*	*867.1*	*723.8*	*707.7*	*687.5*	*-41.9%*
Asia Oceania	*280.6*	*302.4*	*308.9*	*378.4*	*441.9*	*481.2*	*565.9*	*648.8*	*636.9*	*640.4*	*636.2*	*44.0%*
Annex I EIT	*..*	*..*	*..*	*..*	*1 602.9*	*1 151.5*	*981.7*	*947.8*	*936.9*	*809.3*	*804.8*	*-49.8%*
Non-Annex I Parties	*..*	*..*	*..*	*..*	*3 063.2*	*3 820.7*	*4 159.5*	*6 610.3*	*9 229.8*	*10 770.6*	*10 711.6*	*249.7%*
Annex B Kyoto Parties	*..*	*..*	*..*	*..*	*2 380.2*	*1 889.1*	*1 669.3*	*1 712.2*	*1 595.5*	*1 502.3*	*1 440.6*	*-39.5%*
Intl. aviation bunkers	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**
Intl. marine bunkers	**0.1**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**
Non-OECD Total	**2 029.1**	**2 441.3**	**2 917.2**	**3 271.8**	**4 043.9**	**4 396.1**	**4 540.9**	**6 929.3**	**9 447.3**	**10 876.6**	**10 798.7**	**167.0%**
OECD Total	**3 200.1**	**3 206.7**	**3 683.6**	**4 122.3**	**4 242.3**	**4 109.8**	**4 421.7**	**4 524.5**	**4 278.3**	**3 957.6**	**3 714.0**	**-12.5%**
Canada	63.9	59.0	82.1	100.8	96.2	100.7	125.9	111.3	92.6	75.6	74.5	-22.5%
Chile	5.1	3.6	4.8	5.0	9.8	8.9	11.7	10.3	17.5	24.6	28.2	188.1%
Mexico	5.2	6.7	7.3	11.7	15.1	21.8	26.4	48.1	53.6	50.1	55.0	263.6%
United States	1 105.7	1 226.1	1 433.4	1 662.0	1 837.2	1 938.5	2 171.8	2 179.2	1 982.0	1 698.7	1 465.1	-20.3%
OECD Americas	**1 179.9**	**1 295.4**	**1 527.7**	**1 779.5**	**1 958.2**	**2 069.9**	**2 335.8**	**2 348.8**	**2 145.8**	**1 848.9**	**1 622.8**	**-17.1%**
Australia	75.3	92.9	106.7	119.4	140.9	156.5	190.2	208.2	202.1	167.4	172.9	22.7%
Israel [2]	0.0	0.0	0.0	7.3	9.5	16.5	25.6	29.5	29.3	26.0	25.4	168.4%
Japan	201.4	205.3	198.3	255.0	297.6	321.4	371.2	431.6	429.3	467.4	457.8	53.8%
Korea	22.2	32.1	50.5	84.0	90.7	106.5	180.4	200.0	284.2	303.8	315.4	247.5%
New Zealand	4.0	4.3	3.9	4.0	3.4	3.4	4.5	9.0	5.6	5.7	5.5	62.0%
OECD Asia Oceania	**302.9**	**334.5**	**359.4**	**469.7**	**542.1**	**604.2**	**771.9**	**878.3**	**950.5**	**970.3**	**977.0**	**80.2%**
Austria	16.3	13.9	14.2	17.4	16.6	14.4	15.1	16.3	14.4	13.3	12.8	-23.0%
Belgium	44.2	38.6	41.8	39.2	40.4	34.7	30.2	20.6	14.0	12.1	11.7	-71.1%
Czech Republic	132.2	124.3	132.3	139.1	116.7	91.5	86.4	78.1	74.2	63.6	63.0	-46.0%
Denmark	6.1	8.1	24.2	29.0	24.2	25.8	15.7	14.7	15.5	10.2	7.3	-70.0%
Estonia	..	..	..	..	24.5	11.4	10.5	12.1	14.3	14.3	11.2	-54.2%
Finland	8.7	9.6	20.1	20.3	21.7	23.8	21.6	20.8	28.8	18.7	16.2	-25.3%
France	140.1	108.2	125.5	94.4	75.9	59.2	59.6	55.9	45.8	31.3	31.9	-58.0%
Germany	558.2	499.7	561.6	592.0	516.6	380.6	346.1	334.8	314.5	317.4	316.2	-38.8%
Greece	6.7	10.9	13.2	24.9	33.6	37.2	38.4	38.6	33.6	27.5	23.7	-29.5%
Hungary	35.9	33.8	37.4	35.6	24.6	17.6	15.6	12.6	10.7	9.0	9.2	-62.5%
Iceland	0.0	-	0.1	0.3	0.3	0.2	0.4	0.4	0.4	0.4	0.4	44.0%
Ireland	8.9	7.2	8.1	10.7	14.7	12.5	10.6	11.0	8.2	8.3	9.0	-38.5%
Italy	32.6	31.3	44.4	59.8	56.5	45.4	43.9	63.8	52.4	51.8	49.1	-13.2%
Latvia	..	..	..	..	2.8	1.1	0.5	0.3	0.4	0.2	0.2	-93.4%
Luxembourg	12.3	8.1	8.4	6.7	5.2	2.1	0.4	0.3	0.3	0.2	0.2	-96.2%
Netherlands	15.2	12.4	14.4	24.0	29.9	33.7	29.7	31.0	29.0	35.1	43.2	44.7%
Norway	3.8	4.0	4.0	4.5	3.5	3.9	4.0	2.9	2.6	3.0	2.9	-17.2%
Poland	254.6	292.7	356.9	366.0	291.2	273.6	221.5	215.8	214.7	194.6	193.5	-33.6%
Portugal	2.5	1.7	1.7	2.9	10.8	14.2	15.0	13.4	6.5	10.6	12.9	19.5%
Slovak Republic	24.2	24.2	32.8	34.2	31.4	21.6	16.4	16.0	14.5	12.7	12.1	-61.6%
Slovenia	..	..	..	..	6.7	5.8	5.6	6.3	6.0	4.4	4.5	-32.8%
Spain	38.2	38.8	49.0	70.7	75.2	72.9	83.4	81.9	32.4	47.4	53.2	-29.2%
Sweden	5.5	7.0	5.5	10.7	10.5	9.6	8.3	10.0	9.2	6.8	6.9	-34.3%
Switzerland	1.9	1.0	1.4	2.0	1.4	0.8	0.6	0.6	0.6	0.6	0.5	-62.4%
Turkey	16.4	21.2	27.6	46.4	59.9	62.7	91.8	89.1	123.4	131.8	133.0	122.0%
United Kingdom	352.9	280.0	271.9	242.4	247.1	179.5	142.6	150.0	115.7	112.9	89.3	-63.8%
OECD Europe [2]	**1 717.3**	**1 576.8**	**1 796.6**	**1 873.2**	**1 742.0**	**1 435.8**	**1 314.0**	**1 297.4**	**1 182.1**	**1 138.4**	**1 114.2**	**-36.0%**
IEA/Accession/Association	*3 988.9*	*4 184.9*	*4 969.3*	*5 774.6*	*6 406.2*	*7 091.0*	*7 581.8*	*9 871.5*	*12 018.1*	*13 138.1*	*12 808.7*	*99.9%*
European Union - 28	*..*	*..*	*..*	*..*	*1 773.0*	*1 441.6*	*1 275.2*	*1 273.0*	*1 117.1*	*1 056.7*	*1 033.2*	*-41.7%*
G20	*..*	*..*	*..*	*..*	*7 436.4*	*7 874.2*	*8 325.2*	*10 670.2*	*12 816.3*	*13 866.4*	*13 543.3*	*82.1%*
Africa	*143.7*	*183.3*	*190.0*	*205.2*	*228.4*	*238.6*	*261.8*	*346.4*	*369.7*	*399.3*	*392.5*	*71.9%*
Americas	*1 197.2*	*1 314.6*	*1 556.7*	*1 822.7*	*2 005.2*	*2 123.7*	*2 403.6*	*2 418.5*	*2 226.3*	*1 947.7*	*1 724.9*	*-14.0%*
Asia	*..*	*..*	*..*	*..*	*3 044.5*	*3 834.4*	*4 198.2*	*6 597.2*	*9 196.6*	*10 739.6*	*10 660.2*	*250.2%*
Europe	*..*	*..*	*..*	*..*	*2 863.5*	*2 148.9*	*1 903.6*	*1 873.9*	*1 723.8*	*1 573.1*	*1 555.3*	*-45.7%*
Oceania	*80.2*	*97.4*	*110.9*	*123.9*	*144.7*	*160.3*	*195.4*	*217.8*	*209.1*	*174.5*	*179.8*	*24.3%*

1. Total world includes non-OECD total, OECD total as well as international marine bunkers and international aviation bunkers.
2. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions from fuel combustion - coal

million tonnes of CO_2

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Non-OECD Total	**2 029.1**	**2 441.3**	**2 917.2**	**3 271.8**	**4 043.9**	**4 396.1**	**4 540.9**	**6 929.3**	**9 447.3**	**10 876.6**	**10 798.7**	**167.0%**
Albania	1.2	1.6	2.5	3.8	2.4	0.1	0.1	0.1	0.5	0.4	0.4	-84.2%
Armenia	..	..	..	..	1.0	0.0	-	-	0.0	-	-	-100.0%
Azerbaijan	..	..	..	..	0.4	0.0	-	-	-	-	-	-100.0%
Belarus	..	..	..	..	9.6	5.5	3.8	2.4	2.2	3.3	3.0	-69.1%
Bosnia and Herzegovina	..	..	..	..	17.7	1.5	10.1	12.0	15.6	17.1	17.4	-1.4%
Bulgaria	34.1	36.0	38.8	43.4	37.7	30.3	26.1	28.7	28.7	26.1	27.0	-28.4%
Croatia	..	..	..	..	3.4	0.7	1.7	2.7	2.7	2.6	2.4	-28.9%
Cyprus [1]	-	-	-	0.2	0.3	0.1	0.1	0.1	0.1	0.0	0.0	-94.3%
FYR of Macedonia	..	..	..	..	5.6	6.0	5.7	6.2	5.5	4.6	4.1	-26.5%
Georgia	..	..	..	..	3.5	0.1	0.0	0.0	0.1	1.2	1.2	-67.4%
Gibraltar	-	-	-	-	-	-	-	-	-	-	-	-
Kazakhstan	..	..	..	..	158.7	114.3	74.7	102.7	137.6	136.3	121.2	-23.6%
Kosovo	..	..	..	..	..	..	4.1	5.3	7.1	5.8	6.6	..
Kyrgyzstan	..	..	..	..	10.2	1.3	1.9	2.2	2.8	4.2	4.5	-55.6%
Lithuania	..	..	..	..	3.2	1.0	0.4	0.8	0.8	0.9	0.7	-76.9%
Malta	-	-	-	0.5	0.7	0.1	-	-	-	-	-	-100.0%
Republic of Moldova	..	..	..	..	7.9	2.3	0.5	0.3	0.4	0.4	0.4	-95.0%
Montenegro	..	..	..	..	..	..	..	1.2	1.8	1.5	1.6	..
Romania	32.5	39.5	50.8	59.7	50.8	41.3	29.5	36.3	29.7	24.5	25.6	-49.6%
Russian Federation	..	..	..	..	707.3	483.7	443.2	413.7	405.0	318.4	345.9	-51.1%
Serbia	..	..	..	..	42.2	36.9	35.7	34.1	32.4	26.5	32.4	-23.2%
Tajikistan	..	..	..	..	2.5	0.1	0.0	0.2	0.4	1.5	1.8	-27.4%
Turkmenistan	..	..	..	..	1.2	-	-	-	-	-	-	-100.0%
Ukraine	..	..	..	..	292.8	166.3	120.5	122.0	132.9	134.6	106.5	-63.6%
Uzbekistan	..	..	..	..	14.0	4.5	5.2	4.7	5.5	6.5	5.9	-58.2%
Former Soviet Union [1]	884.8	1 039.7	1 138.2	987.0	..	..	..	..	..	..	..	..
Former Yugoslavia [1]	36.7	41.5	43.7	74.1	..	..	..	..	..	..	..	..
Non-OECD Europe and Eurasia [1]	**989.3**	**1 158.3**	**1 274.0**	**1 168.6**	**1 373.2**	**896.2**	**763.3**	**775.6**	**811.6**	**716.3**	**708.7**	**-48.4%**
Algeria	0.4	0.3	0.2	1.0	1.3	1.4	0.7	1.1	0.8	0.2	0.3	-79.5%
Angola	-	-	-	-	-	-	-	-	-	-	-	-
Benin	-	-	-	-	-	-	-	-	-	0.2	0.1	x
Botswana	..	..	..	1.0	1.8	2.0	2.3	2.3	0.7	3.9	3.9	113.4%
Cameroon	-	-	-	-	-	-	-	-	-	-	-	-
Congo	-	-	-	-	-	-	-	-	-	-	-	-
Côte d'Ivoire	-	-	-	-	-	-	-	-	-	-	-	-
Dem. Rep. of the Congo	1.0	0.8	0.9	0.8	0.9	-	-	-	-	-	-	-100.0%
Egypt	1.4	2.3	2.2	2.9	2.9	3.2	3.1	3.4	1.8	1.6	1.5	-48.2%
Eritrea	..	..	..	..	..	-	-	-	-	-	-	..
Ethiopia	-	-	-	-	-	-	-	-	0.1	1.0	1.0	x
Gabon	-	-	-	-	-	-	-	-	-	-	-	-
Ghana	-	-	-	-	-	-	-	-	-	-	-	-
Kenya	0.2	0.1	0.0	0.2	0.4	0.4	0.3	0.4	0.7	1.3	1.4	274.8%
Libya	-	-	-	-	-	-	-	-	-	-	-	-
Mauritius	-	-	-	0.1	0.1	0.2	0.6	0.9	1.6	1.8	1.8	+
Morocco	1.2	1.7	1.6	2.7	4.2	6.9	10.5	12.4	11.1	16.0	17.6	317.4%
Mozambique	1.5	1.2	0.7	0.3	0.1	0.1	-	-	0.0	0.0	0.0	-75.9%
Namibia	..	..	..	..	..	0.0	0.0	0.0	0.0	-	0.0	..
Niger	..	..	..	..	..	..	0.2	0.2	0.3	0.3	0.3	..
Nigeria	0.5	0.6	0.5	0.3	0.2	0.0	0.0	0.0	0.1	0.1	0.1	-38.5%
Senegal	-	-	-	-	-	-	-	0.4	0.7	0.9	1.0	x
South Africa	129.3	168.6	174.5	186.0	200.7	211.5	231.4	314.9	342.2	361.0	352.3	75.6%
South Sudan	..	..	..	..	..	..	..	..	..	-	-	..
Sudan	-	-	0.0	-	-	-	-	-	-	-	-	-
United Rep. of Tanzania	-	-	0.0	0.0	0.0	0.1	0.2	0.1	-	0.6	0.6	+
Togo	-	-	-	-	-	-	-	-	-	-	-	-
Tunisia	0.3	0.4	0.3	0.3	0.3	0.3	0.3	-	-	-	-	-100.0%
Zambia	2.0	1.9	1.4	1.1	0.9	0.3	0.3	0.3	0.0	0.4	0.4	-57.6%
Zimbabwe	5.8	5.2	6.2	7.7	13.7	11.5	10.3	8.2	7.4	7.7	8.1	-40.7%
Other Africa	0.1	0.2	1.6	0.6	0.9	0.5	1.5	1.7	2.3	2.2	2.2	160.7%
Africa	**143.7**	**183.3**	**190.0**	**205.2**	**228.4**	**238.6**	**261.8**	**346.4**	**369.7**	**399.3**	**392.5**	**71.9%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions from fuel combustion - coal

million tonnes of CO_2

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Bangladesh	0.4	0.5	0.5	0.2	1.1	1.3	1.3	1.9	3.2	3.7	9.0	707.0%
Brunei Darussalam	-	-	-	-	-	-	-	-	-	-	-	-
Cambodia	..	..	..	..	..	-	-	-	0.1	1.0	2.4	..
DPR of Korea	66.6	74.3	100.0	122.0	108.9	72.6	66.8	72.5	46.7	26.1	19.5	-82.0%
India	127.2	157.0	180.3	261.1	366.2	481.4	577.3	717.5	1 102.0	1 492.2	1 495.1	308.3%
Indonesia	0.5	0.5	0.6	4.8	18.2	26.5	52.5	87.6	107.7	149.7	164.9	806.6%
Malaysia	0.0	0.0	0.2	1.4	5.3	6.6	9.8	27.3	58.5	60.8	68.9	+
Mongolia	..	..	..	9.6	10.4	9.2	7.7	9.3	11.7	14.4	13.7	31.4%
Myanmar	0.6	0.6	0.6	0.6	0.3	0.1	1.3	1.4	1.6	1.6	1.8	555.0%
Nepal	0.0	0.1	0.2	0.0	0.2	0.3	1.0	1.0	1.2	1.9	2.2	+
Pakistan	2.6	2.2	2.7	5.0	7.3	8.0	6.9	14.6	16.4	18.8	19.5	166.7%
Philippines	0.1	0.2	1.5	5.6	5.1	6.9	19.9	22.7	29.8	45.4	49.4	872.2%
Singapore	0.0	0.0	0.0	0.1	0.1	0.1	-	0.0	0.0	1.6	1.6	+
Sri Lanka	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	4.1	5.5	+
Chinese Taipei	10.2	8.6	14.9	26.6	42.7	64.4	111.3	147.6	155.0	153.2	148.4	247.8%
Thailand	0.5	0.6	1.9	6.7	16.4	30.0	32.1	47.8	65.5	64.7	68.2	315.9%
Viet Nam	5.7	10.2	9.4	11.5	9.1	13.7	18.0	34.0	60.2	81.8	102.4	+
Other non-OECD Asia	4.5	4.9	7.8	1.0	0.8	0.6	1.4	1.7	4.4	5.5	5.2	520.3%
Asia (excl. China)	**218.9**	**259.8**	**320.6**	**456.2**	**592.1**	**721.6**	**907.3**	**1 187.1**	**1 664.3**	**2 126.5**	**2 177.7**	**267.8%**
People's Rep. of China	659.4	818.3	1 101.4	1 384.4	1 778.0	2 459.9	2 519.8	4 518.3	6 489.5	7 487.3	7 377.7	314.9%
Hong Kong, China	0.1	0.0	0.0	12.6	24.1	23.7	16.8	26.4	25.2	33.7	27.3	13.1%
China	**659.5**	**818.4**	**1 101.5**	**1 397.1**	**1 802.1**	**2 483.6**	**2 536.6**	**4 544.7**	**6 514.7**	**7 521.0**	**7 405.0**	**310.9%**
Argentina	3.3	3.4	3.2	3.6	3.6	4.9	4.8	5.9	6.1	5.5	5.2	42.9%
Bolivia	-	-	-	0.3	-	-	-	-	-	-	-	-
Brazil	6.0	6.9	15.0	26.4	27.7	32.8	46.4	45.6	54.1	67.1	68.0	145.7%
Colombia	6.1	6.7	8.8	10.2	12.2	13.9	12.1	10.5	10.8	13.6	14.7	20.2%
Costa Rica	0.0	0.0	0.0	0.0	-	-	0.0	0.1	0.3	0.4	0.3	x
Cuba	0.4	0.3	0.4	0.5	0.6	0.3	0.1	0.1	0.1	0.0	0.0	-98.2%
Curaçao [1]	-	-	-	-	-	-	-	-	-	-	-	-
Dominican Republic	-	-	-	0.5	0.0	0.2	0.2	2.0	3.0	4.0	4.2	+
Ecuador	-	-	-	-	-	-	-	-	-	-	-	-
El Salvador	-	-	0.0	-	-	0.0	0.0	0.0	-	-	-	-
Guatemala	-	-	0.1	-	-	-	0.5	1.0	1.2	1.8	3.7	x
Haiti	-	-	-	0.1	0.0	-	-	-	-	-	-	-100.0%
Honduras	-	-	-	-	0.0	0.0	0.3	0.6	0.5	0.5	0.3	+
Jamaica	-	-	-	-	0.1	0.1	0.1	0.1	0.1	0.2	0.2	86.5%
Nicaragua	-	-	-	-	-	-	-	-	-	-	-	-
Panama	0.0	0.0	-	0.1	0.1	0.1	0.1	-	-	0.8	0.8	959.4%
Paraguay	-	-	-	-	-	-	-	-	-	-	-	-
Peru	0.6	0.6	0.7	0.7	0.6	1.4	2.5	3.6	3.6	3.6	3.5	489.6%
Suriname	..	..	..	..	..	..	-	-	-	-	-	..
Trinidad and Tobago	-	-	-	-	-	-	-	-	-	-	-	-
Uruguay	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-	-	-	-100.0%
Venezuela	0.6	1.1	0.7	0.8	1.9	0.0	0.5	0.1	0.8	0.8	0.5	-71.4%
Other non-OECD Americas	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	+
Non-OECD Americas	**17.3**	**19.2**	**29.0**	**43.2**	**46.9**	**53.8**	**67.8**	**69.7**	**80.6**	**98.7**	**102.1**	**117.6%**
Bahrain	-	-	-	-	-	-	-	-	-	-	-	-
Islamic Republic of Iran	0.4	2.1	2.0	1.6	1.2	1.9	3.4	4.7	2.7	4.3	4.1	239.9%
Iraq	-	-	-	-	-	-	-	-	-	-	-	-
Jordan	-	-	-	-	-	-	-	-	-	1.5	0.7	x
Kuwait	-	-	-	-	-	-	-	-	-	-	-	-
Lebanon	0.0	0.0	0.0	-	-	0.5	0.5	0.5	0.6	0.7	0.7	x
Oman	-	-	-	-	-	-	-	-	-	-	-	-
Qatar	-	-	-	-	-	-	-	-	-	-	-	-
Saudi Arabia	-	-	-	-	-	-	-	-	-	-	-	-
Syrian Arab Republic	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	x
United Arab Emirates	-	-	-	-	-	-	-	0.6	2.6	7.8	6.8	x
Yemen	-	-	-	-	-	-	-	-	0.4	0.5	0.3	x
Middle East	**0.5**	**2.2**	**2.0**	**1.7**	**1.2**	**2.3**	**3.9**	**5.8**	**6.3**	**14.7**	**12.6**	**939.4%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions from fuel combustion - oil

million tonnes of CO_2

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
World [1]	**6 668.1**	**7 581.5**	**8 389.8**	**7 772.9**	**8 499.2**	**8 792.1**	**9 531.7**	**10 286.0**	**10 535.2**	**10 958.0**	**11 169.1**	**31.4%**
Annex I Parties	*..*	*..*	*..*	*..*	*5 458.8*	*5 100.8*	*5 252.4*	*5 377.2*	*4 831.1*	*4 685.5*	*4 722.5*	*-13.5%*
Annex II Parties	*4 431.3*	*4 671.6*	*4 727.3*	*4 071.9*	*4 301.6*	*4 413.0*	*4 640.0*	*4 772.5*	*4 225.8*	*4 049.9*	*4 078.6*	*-5.2%*
North America	*2 194.9*	*2 297.7*	*2 320.0*	*2 087.1*	*2 155.2*	*2 164.4*	*2 423.8*	*2 578.3*	*2 318.0*	*2 299.2*	*2 323.7*	*7.8%*
Europe	*1 622.3*	*1 659.4*	*1 692.4*	*1 369.6*	*1 420.9*	*1 495.3*	*1 497.5*	*1 497.1*	*1 309.8*	*1 154.2*	*1 177.9*	*-17.1%*
Asia Oceania	*614.1*	*714.5*	*715.0*	*615.2*	*725.5*	*753.4*	*718.7*	*697.1*	*598.0*	*596.5*	*577.0*	*-20.5%*
Annex I EIT	*..*	*..*	*..*	*..*	*1 090.7*	*603.2*	*523.4*	*520.2*	*526.7*	*546.3*	*544.0*	*-50.1%*
Non-Annex I Parties	*..*	*..*	*..*	*..*	*2 409.9*	*2 972.4*	*3 425.2*	*3 914.1*	*4 583.5*	*5 140.3*	*5 259.8*	*118.3%*
Annex B Kyoto Parties	*..*	*..*	*..*	*..*	*2 037.4*	*1 887.9*	*1 833.0*	*1 867.7*	*1 698.3*	*1 537.7*	*1 574.8*	*-22.7%*
Intl. aviation bunkers	**169.2**	**173.9**	**202.1**	**224.9**	**258.9**	**290.3**	**355.8**	**422.8**	**457.7**	**504.5**	**529.7**	**104.6%**
Intl. marine bunkers	**353.7**	**341.1**	**357.3**	**306.8**	**371.6**	**428.5**	**498.4**	**571.9**	**662.9**	**627.7**	**657.0**	**76.8%**
Non-OECD Total	**1 489.3**	**2 077.1**	**2 674.7**	**2 735.1**	**3 024.0**	**2 990.3**	**3 338.6**	**3 827.7**	**4 510.5**	**5 123.0**	**5 222.2**	**72.7%**
OECD Total	**4 655.9**	**4 989.4**	**5 155.7**	**4 506.1**	**4 844.7**	**5 082.9**	**5 339.0**	**5 463.6**	**4 904.0**	**4 702.7**	**4 760.2**	**-1.7%**
Canada	208.0	230.2	243.5	184.4	203.9	204.2	227.2	262.2	262.8	263.4	261.6	28.3%
Chile	14.6	12.4	15.1	13.1	18.7	27.2	30.3	33.6	42.3	43.5	45.2	141.5%
Mexico	69.0	103.4	156.8	178.9	193.4	213.1	251.3	255.1	251.6	245.4	243.0	25.7%
United States	1 986.9	2 067.5	2 076.4	1 902.7	1 951.2	1 960.1	2 196.6	2 316.1	2 055.2	2 035.8	2 062.0	5.7%
OECD Americas	**2 278.5**	**2 413.5**	**2 491.9**	**2 279.0**	**2 367.2**	**2 404.7**	**2 705.3**	**2 867.0**	**2 611.9**	**2 588.2**	**2 611.8**	**10.3%**
Australia	64.1	77.9	83.8	77.0	85.5	90.4	99.8	109.1	119.9	131.8	132.8	55.4%
Israel [2]	13.7	16.4	18.8	17.0	23.3	28.4	29.3	26.1	28.9	19.4	20.1	-13.9%
Japan	540.7	625.0	620.5	528.6	628.3	648.9	603.1	570.2	460.9	446.7	425.7	-32.2%
Korea	30.7	45.6	75.0	71.7	132.9	226.5	205.3	185.3	163.0	151.0	162.4	22.2%
New Zealand	9.3	11.5	10.7	9.6	11.8	14.1	15.7	17.8	17.3	18.0	18.5	57.4%
OECD Asia Oceania	**658.5**	**776.5**	**808.8**	**703.9**	**881.8**	**1 008.3**	**953.3**	**908.5**	**789.9**	**766.8**	**759.5**	**-13.9%**
Austria	26.9	28.5	31.9	25.4	27.2	29.5	30.8	37.6	32.5	29.8	30.3	11.4%
Belgium	62.4	59.5	64.0	44.8	46.1	51.3	51.7	52.4	49.3	44.1	47.2	2.5%
Czech Republic	19.6	27.6	30.2	27.1	22.0	17.0	17.4	21.5	19.9	19.4	20.3	-8.1%
Denmark	49.3	44.3	38.6	30.3	22.0	24.3	23.4	21.7	19.8	16.0	16.4	-25.5%
Estonia	..	..	..	..	9.0	3.5	2.7	3.1	3.0	3.0	3.1	-65.2%
Finland	31.2	33.1	33.0	26.0	27.0	25.3	24.7	25.2	24.2	20.4	20.2	-25.2%
France	265.4	284.0	285.4	206.2	214.1	218.7	223.5	220.4	195.7	174.1	175.4	-18.1%
Germany	381.5	386.6	372.0	308.9	303.6	323.8	301.8	276.5	249.3	239.3	242.4	-20.2%
Greece	18.3	23.3	31.9	29.6	36.2	39.1	45.5	51.2	42.9	33.1	35.0	-3.4%
Hungary	18.4	26.7	29.0	26.1	21.9	18.8	16.4	15.2	14.7	15.0	16.1	-26.5%
Iceland	1.4	1.6	1.7	1.4	1.6	1.7	1.7	1.8	1.6	1.7	1.7	2.4%
Ireland	12.7	13.9	16.1	11.2	12.1	15.8	23.1	25.3	20.3	16.9	17.6	45.1%
Italy	232.6	244.6	264.5	225.1	244.7	253.0	242.4	227.2	177.6	145.6	148.7	-39.2%
Latvia	..	..	..	..	10.4	5.5	3.8	4.0	4.1	3.7	3.9	-62.7%
Luxembourg	4.1	3.8	3.0	2.9	4.5	4.8	5.9	8.2	7.4	6.9	6.6	48.7%
Netherlands	65.2	50.4	63.9	42.0	48.0	51.8	52.6	54.9	51.1	47.2	47.5	-1.0%
Norway	19.2	19.2	21.2	19.0	19.1	19.2	20.2	22.0	23.1	20.6	21.6	13.4%
Poland	21.4	32.8	41.6	37.8	33.4	39.4	49.7	56.6	65.3	56.5	59.9	79.0%
Portugal	11.9	16.4	22.1	21.0	27.1	33.0	37.9	38.7	29.8	23.7	24.4	-10.1%
Slovak Republic	12.0	14.4	17.9	13.8	11.6	6.6	5.4	8.4	9.1	8.0	8.7	-25.3%
Slovenia	..	..	..	..	5.1	6.8	6.8	7.2	7.5	6.6	6.6	29.1%
Spain	80.2	115.1	134.0	97.7	117.1	137.3	160.1	184.2	157.3	129.7	136.4	16.5%
Sweden	76.5	72.0	67.3	46.9	39.5	44.8	40.7	35.4	31.8	26.4	26.0	-34.2%
Switzerland	37.0	34.8	36.0	35.9	33.2	32.9	32.6	33.5	32.1	27.2	26.5	-20.3%
Turkey	25.3	38.4	43.9	48.8	61.2	77.3	80.7	74.9	68.9	81.3	92.4	50.9%
United Kingdom	246.4	228.3	205.8	195.3	197.8	188.9	178.7	181.0	164.0	151.4	154.1	-22.1%
OECD Europe [2]	**1 718.9**	**1 799.4**	**1 855.0**	**1 523.2**	**1 595.7**	**1 669.9**	**1 680.4**	**1 688.2**	**1 502.2**	**1 347.7**	**1 388.9**	**-13.0%**
IEA/Accession/Association	*4 858.6*	*5 297.3*	*5 567.3*	*4 951.4*	*5 421.5*	*5 915.1*	*6 400.0*	*6 821.0*	*6 605.0*	*6 684.1*	*6 877.1*	*26.8%*
European Union - 28	*..*	*..*	*..*	*..*	*1 593.7*	*1 610.9*	*1 607.4*	*1 624.3*	*1 436.5*	*1 274.4*	*1 305.7*	*-18.1%*
G20	*..*	*..*	*..*	*..*	*6 352.0*	*6 548.6*	*7 082.1*	*7 503.3*	*7 422.6*	*7 674.2*	*7 866.1*	*23.8%*
Africa	*100.1*	*131.5*	*182.0*	*216.2*	*241.9*	*263.2*	*298.3*	*361.7*	*446.9*	*509.2*	*524.5*	*116.9%*
Americas	*2 562.8*	*2 758.0*	*2 908.1*	*2 640.4*	*2 770.9*	*2 878.7*	*3 254.2*	*3 446.2*	*3 296.4*	*3 362.6*	*3 352.0*	*21.0%*
Asia	*..*	*..*	*..*	*..*	*2 200.7*	*2 707.0*	*2 964.4*	*3 301.4*	*3 661.6*	*4 066.1*	*4 194.5*	*90.6%*
Europe	*..*	*..*	*..*	*..*	*2 553.1*	*2 114.4*	*2 038.6*	*2 045.6*	*1 864.3*	*1 726.7*	*1 748.4*	*-31.5%*
Oceania	*76.7*	*94.4*	*99.3*	*91.7*	*102.1*	*109.9*	*122.0*	*136.4*	*145.4*	*161.2*	*162.9*	*59.5%*

1. Total world includes non-OECD total, OECD total as well as international marine bunkers and international aviation bunkers.
2. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions from fuel combustion - oil

million tonnes of CO_2

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Non-OECD Total	**1 489.3**	**2 077.1**	**2 674.7**	**2 735.1**	**3 024.0**	**2 990.3**	**3 338.6**	**3 827.7**	**4 510.5**	**5 123.0**	**5 222.2**	**72.7%**
Albania	2.4	2.2	3.5	2.4	2.8	1.7	3.0	3.7	3.4	3.7	3.4	22.4%
Armenia	..	..	..	..	10.5	0.7	0.8	1.0	1.0	0.9	0.8	-92.1%
Azerbaijan	..	..	..	..	20.9	16.8	16.9	11.9	7.4	10.0	10.5	-50.0%
Belarus	..	..	..	..	65.6	27.7	17.3	15.7	18.1	17.6	16.3	-75.2%
Bosnia and Herzegovina	..	..	..	..	5.4	1.5	3.2	3.2	4.5	4.2	4.4	-18.4%
Bulgaria	29.2	35.1	38.7	28.0	25.8	13.3	10.1	11.8	10.9	10.4	11.5	-55.6%
Croatia	..	..	..	..	12.7	10.6	11.0	12.6	10.4	8.9	9.3	-26.7%
Cyprus [1]	1.7	1.7	2.6	2.6	3.6	5.0	6.2	6.9	7.1	5.7	5.8	60.2%
FYR of Macedonia	..	..	..	..	3.0	2.3	2.7	2.6	2.6	2.6	2.8	-4.5%
Georgia	..	..	..	..	19.3	5.9	2.4	2.1	2.8	2.9	3.3	-82.9%
Gibraltar	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.4	0.5	0.5	0.6	302.1%
Kazakhstan	..	..	..	..	53.6	32.6	22.0	25.6	29.7	33.4	42.0	-21.7%
Kosovo	..	..	..	..	..	..	1.0	1.4	1.6	1.6	2.0	..
Kyrgyzstan	..	..	..	..	9.0	1.4	1.2	1.4	2.7	4.4	4.8	-46.1%
Lithuania	..	..	..	..	19.7	8.9	6.4	7.1	6.8	6.7	7.1	-64.0%
Malta	0.7	0.7	1.0	0.7	1.6	2.3	2.1	2.7	2.6	2.4	1.6	4.0%
Republic of Moldova	..	..	..	..	15.0	3.1	1.2	1.9	2.2	2.2	2.3	-84.6%
Montenegro	..	..	..	..	..	..	..	0.8	0.8	0.7	0.8	..
Romania	29.8	38.1	50.5	40.2	49.8	32.0	26.6	27.1	22.3	23.4	23.6	-52.5%
Russian Federation	..	..	..	..	618.5	340.8	318.0	293.9	297.5	336.0	329.4	-46.7%
Serbia	..	..	..	..	13.7	4.8	4.1	11.5	9.6	8.4	8.6	-37.4%
Tajikistan	..	..	..	..	5.2	1.2	0.7	0.9	1.6	2.5	2.5	-52.6%
Turkmenistan	..	..	..	..	14.7	6.9	11.1	14.6	16.2	18.8	19.0	29.1%
Ukraine	..	..	..	..	185.1	72.5	31.9	35.8	37.3	31.0	28.3	-84.7%
Uzbekistan	..	..	..	..	24.9	18.5	17.8	13.3	10.2	7.4	7.2	-71.2%
Former Soviet Union [1]	635.5	937.1	1 119.7	1 102.5	..	..	..	..	..	..	..	..
Former Yugoslavia [1]	23.8	29.9	35.6	34.5	..	..	..	..	..	..	..	..
Non-OECD Europe and Eurasia [1]	**723.1**	**1 044.7**	**1 251.7**	**1 211.1**	**1 180.4**	**610.8**	**517.8**	**510.0**	**509.7**	**546.3**	**547.8**	**-53.6%**
Algeria	5.8	8.6	14.1	19.2	23.7	22.7	24.9	31.4	43.4	54.2	57.5	142.9%
Angola	1.5	1.8	2.5	2.6	2.9	2.8	3.5	4.9	13.7	18.7	18.9	556.5%
Benin	0.3	0.5	0.4	0.5	0.3	0.2	1.4	2.7	4.6	4.6	5.2	+
Botswana	..	..	..	0.5	1.0	1.2	1.7	2.0	2.6	3.1	3.2	220.9%
Cameroon	0.7	1.0	1.7	2.4	2.6	2.5	2.8	2.9	4.6	5.2	5.5	106.6%
Congo	0.6	0.6	0.7	0.8	0.6	0.5	0.5	0.8	1.6	2.2	2.2	248.8%
Côte d'Ivoire	2.4	3.0	3.4	3.0	2.7	3.2	3.4	2.9	3.1	5.1	5.7	109.4%
Dem. Rep. of the Congo	1.6	1.8	2.3	2.4	2.1	1.1	0.9	1.3	1.8	4.7	2.7	31.1%
Egypt	18.5	23.2	35.8	54.9	61.6	57.7	66.8	78.5	100.8	116.7	119.9	94.8%
Eritrea	..	..	..	..	..	0.8	0.6	0.6	0.5	0.6	0.6	..
Ethiopia	1.3	1.2	1.4	1.4	2.2	2.3	3.2	4.5	5.9	9.1	9.2	323.6%
Gabon	0.5	0.8	1.3	1.6	0.7	1.1	1.2	1.4	2.0	2.6	2.5	260.3%
Ghana	1.9	2.3	2.2	2.1	2.5	3.2	5.0	6.4	9.6	11.9	11.5	355.0%
Kenya	3.0	3.3	4.4	4.4	5.1	5.3	7.5	7.1	10.6	11.0	12.8	147.9%
Libya	1.6	6.2	12.3	15.0	17.7	26.0	29.9	34.6	37.9	36.7	34.2	92.6%
Mauritius	0.3	0.4	0.6	0.5	1.0	1.4	1.8	2.1	2.0	2.1	2.2	115.1%
Morocco	5.3	7.8	11.9	13.4	15.3	19.2	18.9	25.6	33.6	34.8	34.5	125.2%
Mozambique	1.5	1.2	1.7	1.3	0.9	1.0	1.3	1.5	2.2	2.9	3.5	267.7%
Namibia	..	..	..	..	..	1.8	1.9	2.4	3.0	3.6	3.8	..
Niger	..	..	..	..	..	..	0.5	0.5	1.1	1.6	1.7	..
Nigeria	4.8	9.1	22.0	24.6	21.0	23.5	29.1	37.7	36.4	31.7	34.6	65.2%
Senegal	1.2	1.6	2.0	2.1	2.1	2.4	3.5	4.2	4.7	5.3	5.6	164.7%
South Africa	27.8	34.4	33.9	36.9	43.1	48.2	49.1	57.4	62.6	69.6	71.2	65.0%
South Sudan	..	..	..	..	..	..	..	..	..	1.5	1.1	..
Sudan	3.2	3.2	3.7	4.0	5.3	4.3	5.5	9.9	15.0	13.4	15.4	190.8%
United Rep. of Tanzania	1.4	1.4	1.5	1.4	1.7	2.4	2.4	4.2	4.6	8.0	9.3	458.7%
Togo	0.3	0.3	0.4	0.3	0.6	0.6	0.9	1.0	2.1	1.8	1.9	225.4%
Tunisia	3.4	4.0	6.8	7.2	9.0	9.1	10.9	11.7	11.4	12.7	13.8	52.8%
Zambia	1.4	2.4	1.8	1.6	1.7	1.7	1.4	1.8	1.6	2.8	2.9	73.9%
Zimbabwe	1.5	2.0	1.7	2.0	2.6	3.6	3.0	2.1	1.9	3.8	3.7	42.8%
Other Africa	8.3	9.4	11.7	10.2	11.8	13.6	14.9	17.8	22.1	27.2	27.7	135.6%
Africa	**100.1**	**131.5**	**182.0**	**216.2**	**241.9**	**263.2**	**298.3**	**361.7**	**446.9**	**509.2**	**524.5**	**116.9%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions from fuel combustion - oil

million tonnes of CO_2

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Bangladesh	2.2	3.3	4.6	4.4	4.9	7.1	7.9	11.0	10.9	16.2	15.7	219.2%
Brunei Darussalam	0.2	0.2	0.5	0.6	0.7	1.1	1.2	1.3	1.7	1.9	1.9	160.4%
Cambodia	..	..	..	..	..	1.5	2.0	2.6	4.6	5.1	5.7	..
DPR of Korea	2.6	4.3	8.1	7.5	8.0	4.0	3.1	2.9	2.6	2.6	3.0	-62.3%
India	52.8	58.9	80.0	109.9	151.1	201.3	276.9	307.7	395.9	468.0	515.9	241.4%
Indonesia	24.6	36.8	61.6	70.4	91.4	130.3	157.4	180.1	197.2	207.1	199.2	118.0%
Malaysia	12.7	16.1	23.3	26.9	37.6	48.8	56.7	64.6	68.2	86.9	80.9	115.4%
Mongolia	..	..	..	2.2	2.4	1.1	1.3	1.7	2.5	3.5	3.5	42.7%
Myanmar	3.8	3.0	3.9	3.5	2.1	4.0	5.4	6.2	3.3	12.8	16.0	678.3%
Nepal	0.2	0.2	0.3	0.5	0.7	1.5	2.1	2.1	2.9	3.9	3.4	365.3%
Pakistan	8.4	10.5	12.7	20.7	30.7	45.6	56.6	47.7	60.7	72.0	75.4	145.4%
Philippines	22.9	28.8	31.8	22.9	33.0	50.3	48.2	42.1	40.1	43.1	47.7	44.8%
Singapore	6.0	8.4	12.5	16.4	28.6	34.0	38.9	23.8	26.5	20.5	19.5	-31.6%
Sri Lanka	2.8	2.6	3.6	3.5	3.7	5.4	10.5	13.1	12.1	12.7	14.0	284.0%
Chinese Taipei	18.0	30.0	53.2	41.1	65.4	82.2	89.3	83.3	68.7	59.9	61.8	-5.4%
Thailand	15.8	20.6	31.8	28.5	52.8	89.5	79.4	91.5	83.2	96.0	94.6	79.3%
Viet Nam	10.6	6.7	5.5	5.8	8.2	13.3	23.6	34.1	46.8	40.6	43.9	433.2%
Other non-OECD Asia	5.6	7.4	8.6	8.0	8.9	8.3	9.5	13.3	16.9	20.4	19.4	117.4%
Asia (excl. China)	**189.2**	**237.6**	**342.1**	**372.8**	**530.1**	**729.2**	**869.9**	**929.1**	**1 044.7**	**1 173.2**	**1 221.5**	**130.4%**
People's Rep. of China	113.4	193.5	234.2	225.0	278.1	400.4	531.1	768.0	1 006.8	1 186.4	1 285.5	362.2%
Hong Kong, China	9.1	10.8	14.4	9.3	8.4	11.6	16.5	8.4	8.8	8.7	9.7	15.4%
China	**122.5**	**204.3**	**248.6**	**234.3**	**286.5**	**412.0**	**547.6**	**776.4**	**1 015.7**	**1 195.2**	**1 295.2**	**352.0%**
Argentina	67.0	64.6	70.3	53.7	52.4	60.2	64.4	66.4	80.3	84.5	88.4	68.7%
Bolivia	2.0	2.9	3.7	3.3	3.7	4.5	4.7	5.7	8.0	10.8	11.4	208.3%
Brazil	80.9	121.6	151.1	126.1	150.9	187.4	229.5	227.8	266.5	330.1	306.2	102.9%
Colombia	18.0	18.4	20.2	21.9	26.0	32.1	29.2	28.7	30.9	39.4	38.4	47.8%
Costa Rica	1.3	1.7	2.2	1.9	2.6	4.4	4.5	5.3	6.3	6.9	6.6	153.3%
Cuba	20.3	23.6	29.9	31.5	33.4	22.0	26.1	23.5	30.6	27.1	27.5	-17.6%
Curaçao [1]	14.5	10.2	8.7	4.5	2.7	2.6	5.6	6.0	4.4	4.7	4.9	82.2%
Dominican Republic	3.5	5.2	6.3	5.7	7.4	11.0	18.1	15.8	15.1	14.0	15.0	104.3%
Ecuador	3.5	5.9	10.4	11.7	13.3	16.7	18.1	23.3	31.1	37.3	36.3	172.3%
El Salvador	1.3	1.9	1.6	1.6	2.1	4.6	5.2	6.2	5.8	5.9	6.5	206.8%
Guatemala	2.3	3.0	4.2	3.2	3.2	5.9	8.1	9.6	9.1	14.4	11.4	255.8%
Haiti	0.4	0.4	0.6	0.6	0.9	0.9	1.4	2.0	2.1	2.8	3.2	254.6%
Honduras	1.1	1.3	1.7	1.7	2.2	3.6	4.2	6.6	6.9	8.3	9.0	312.1%
Jamaica	5.5	7.4	6.5	4.7	7.1	8.3	9.7	10.1	6.8	6.9	6.8	-5.0%
Nicaragua	1.5	1.8	1.8	1.8	1.8	2.5	3.5	4.0	4.3	4.5	5.1	179.7%
Panama	2.5	3.1	2.9	2.6	2.5	4.0	4.7	6.8	8.8	9.8	9.9	296.6%
Paraguay	0.6	0.7	1.3	1.4	1.9	3.5	3.3	3.5	4.7	5.2	5.7	194.5%
Peru	14.2	16.8	18.7	16.0	17.5	21.3	22.8	21.1	24.6	26.1	27.7	58.1%
Suriname	..	..	..	..	..	..	1.5	1.7	1.7	2.0	2.1	..
Trinidad and Tobago	2.6	2.3	2.5	2.2	2.1	2.2	2.6	3.9	4.8	4.4	4.8	131.1%
Uruguay	5.0	5.3	5.3	3.0	3.6	4.4	5.0	5.0	5.8	6.2	6.3	75.2%
Venezuela	28.4	35.3	56.2	53.1	54.1	58.7	63.9	83.4	111.0	106.2	90.1	66.5%
Other non-OECD Americas	8.1	10.8	10.1	9.2	12.3	13.2	12.9	12.8	14.9	17.0	17.3	40.4%
Non-OECD Americas	**284.4**	**344.5**	**416.2**	**361.4**	**403.6**	**474.0**	**548.9**	**579.2**	**684.5**	**774.4**	**740.2**	**83.4%**
Bahrain	1.1	1.1	1.5	1.6	2.0	2.3	2.4	3.5	3.8	4.0	4.4	123.1%
Islamic Republic of Iran	33.0	57.8	77.9	126.5	136.2	166.4	190.8	223.3	221.5	233.0	205.8	51.1%
Iraq	8.5	12.4	23.8	36.3	48.6	89.1	64.4	69.7	93.7	128.6	119.3	145.4%
Jordan	1.4	2.2	4.3	7.5	9.1	11.8	13.7	14.7	13.4	21.8	18.5	104.0%
Kuwait	4.1	5.2	13.2	27.0	16.2	14.5	27.9	41.1	49.1	43.8	45.3	178.8%
Lebanon	4.6	5.7	6.6	6.6	5.5	12.3	13.5	13.9	17.1	21.7	22.0	299.7%
Oman	0.3	0.7	1.5	3.5	5.2	7.9	8.7	10.4	11.3	17.6	18.4	252.6%
Qatar	0.3	0.7	1.4	1.6	1.9	2.4	2.8	6.6	14.1	17.9	17.2	805.4%
Saudi Arabia	10.0	17.1	78.5	89.0	107.9	137.0	167.8	196.5	288.2	354.0	375.1	247.7%
Syrian Arab Republic	5.4	8.2	12.2	19.2	24.0	27.1	29.6	44.5	40.2	19.3	18.9	-21.1%
United Arab Emirates	0.4	1.6	9.5	15.7	18.6	20.9	21.0	28.3	36.5	42.9	39.2	110.8%
Yemen	1.2	1.8	3.5	4.9	6.3	9.4	13.3	18.8	20.0	20.1	8.9	41.4%
Middle East	**70.1**	**114.4**	**234.0**	**339.3**	**381.4**	**501.0**	**555.9**	**671.3**	**809.1**	**924.7**	**893.0**	**134.1%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions from fuel combustion - natural gas

million tonnes of CO_2

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
World [1]	**2 043.6**	**2 249.4**	**2 709.2**	**3 070.1**	**3 679.9**	**3 984.6**	**4 550.2**	**5 206.4**	**6 026.0**	**6 358.3**	**6 437.0**	**74.9%**
Annex I Parties	*..*	*..*	*..*	*..*	*2 999.0*	*3 117.7*	*3 400.2*	*3 567.6*	*3 787.8*	*3 761.1*	*3 757.0*	*25.3%*
Annex II Parties	*1 443.2*	*1 500.2*	*1 652.2*	*1 600.4*	*1 760.2*	*2 090.6*	*2 384.9*	*2 458.4*	*2 657.7*	*2 657.3*	*2 710.6*	*54.0%*
North America	*1 263.7*	*1 149.2*	*1 181.6*	*1 057.5*	*1 113.6*	*1 287.1*	*1 396.3*	*1 347.2*	*1 458.8*	*1 626.4*	*1 662.0*	*49.2%*
Europe	*166.6*	*322.5*	*401.0*	*431.9*	*491.7*	*620.0*	*770.4*	*875.7*	*908.5*	*689.8*	*719.7*	*46.4%*
Asia Oceania	*12.8*	*28.6*	*69.6*	*110.9*	*154.9*	*183.4*	*218.1*	*235.4*	*290.5*	*341.1*	*329.0*	*112.4%*
Annex I EIT	*..*	*..*	*..*	*..*	*1 232.5*	*1 015.0*	*986.4*	*1 056.9*	*1 056.8*	*1 010.6*	*954.9*	*-22.5%*
Non-Annex I Parties	*..*	*..*	*..*	*..*	*680.9*	*866.9*	*1 150.0*	*1 638.8*	*2 238.3*	*2 597.2*	*2 680.0*	*293.6%*
Annex B Kyoto Parties	*..*	*..*	*..*	*..*	*943.9*	*986.6*	*1 120.6*	*1 261.7*	*1 283.1*	*1 027.5*	*1 046.0*	*10.8%*
Intl. aviation bunkers	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**
Intl. marine bunkers	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**
Non-OECD Total	**558.7**	**695.0**	**973.0**	**1 368.2**	**1 790.0**	**1 738.5**	**1 932.9**	**2 421.8**	**2 968.2**	**3 278.7**	**3 302.4**	**84.5%**
OECD Total	**1 484.9**	**1 554.5**	**1 736.2**	**1 701.9**	**1 889.9**	**2 246.1**	**2 617.3**	**2 784.6**	**3 057.8**	**3 079.6**	**3 134.6**	**65.9%**
Canada	68.2	87.8	96.5	108.6	119.1	143.3	162.5	167.0	172.1	214.4	212.0	78.1%
Chile	1.3	1.1	1.4	1.6	0.9	1.0	6.7	10.6	8.7	7.7	8.3	782.6%
Mexico	19.6	24.5	40.4	50.5	48.4	56.3	82.0	109.1	135.1	138.4	144.2	198.1%
United States	1 195.5	1 061.4	1 085.1	949.0	994.6	1 143.8	1 233.8	1 180.2	1 286.6	1 412.0	1 449.9	45.8%
OECD Americas	**1 284.6**	**1 174.7**	**1 223.5**	**1 109.7**	**1 163.0**	**1 344.4**	**1 485.0**	**1 466.9**	**1 602.6**	**1 772.6**	**1 814.5**	**56.0%**
Australia	4.0	8.6	16.3	23.8	32.3	37.4	43.6	54.0	66.6	73.6	74.7	131.4%
Israel [2]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	10.2	15.9	16.8	+
Japan	8.6	19.3	51.5	81.9	116.1	139.6	165.8	174.5	216.4	260.0	247.2	113.0%
Korea	-	-	-	-	6.4	19.5	40.1	64.1	91.2	99.8	93.3	+
New Zealand	0.2	0.6	1.9	5.3	6.6	6.4	8.7	6.9	7.5	7.5	7.1	8.3%
OECD Asia Oceania	**12.9**	**28.6**	**69.6**	**110.9**	**161.3**	**202.9**	**258.3**	**302.7**	**391.9**	**456.8**	**439.1**	**172.2%**
Austria	5.4	7.1	8.3	9.5	11.4	14.4	14.6	18.1	18.1	14.0	15.3	34.5%
Belgium	11.3	17.4	19.6	16.2	18.3	23.3	29.5	31.9	36.8	27.8	30.3	65.0%
Czech Republic	1.9	3.1	5.6	9.2	11.5	14.6	17.1	17.9	17.3	14.0	14.7	27.9%
Denmark	-	0.0	0.0	1.5	4.2	7.4	10.4	10.5	10.3	6.6	6.7	60.4%
Estonia	..	..	..	..	2.4	1.1	1.3	1.6	1.3	1.0	0.9	-62.4%
Finland	-	1.5	1.7	1.9	5.1	6.6	8.0	8.4	8.3	5.4	4.6	-8.5%
France	17.7	30.7	44.2	51.1	53.3	62.8	77.9	91.5	94.8	73.7	77.8	45.8%
Germany	38.4	84.1	111.2	101.1	115.2	144.9	155.8	168.4	176.6	147.4	152.1	32.1%
Greece	-	-	-	0.0	0.1	0.1	3.7	5.2	6.7	5.0	5.4	+
Hungary	6.0	9.7	16.2	18.0	19.0	19.8	21.2	26.6	21.4	15.4	16.4	-13.6%
Iceland	-	-	-	-	-	-	-	-	-	-	-	-
Ireland	-	-	1.7	4.5	3.3	4.4	7.1	8.0	10.8	8.4	8.5	156.4%
Italy	24.1	41.0	46.3	57.0	87.0	101.8	133.1	162.4	157.3	117.2	127.9	46.9%
Latvia	..	..	..	..	5.6	2.3	2.5	3.2	3.4	2.5	2.6	-54.1%
Luxembourg	0.0	0.8	1.0	0.7	1.0	1.3	1.6	2.8	2.8	2.0	1.8	80.1%
Netherlands	47.3	69.1	67.0	72.3	68.9	76.7	77.0	78.3	87.1	63.0	62.2	-9.8%
Norway	-	0.4	2.0	2.8	4.6	8.1	7.4	9.3	11.2	10.9	11.2	141.9%
Poland	10.3	11.5	15.2	15.6	15.5	15.4	17.8	23.2	25.5	25.2	26.1	68.1%
Portugal	-	-	-	-	-	-	4.6	8.7	10.5	7.6	9.1	x
Slovak Republic	2.7	4.4	4.9	6.4	11.7	11.8	13.2	12.6	10.9	7.6	7.6	-35.2%
Slovenia	..	..	..	..	1.8	1.5	1.6	1.9	1.8	1.5	1.5	-14.1%
Spain	0.7	1.8	3.1	4.5	10.0	16.9	34.1	66.8	71.6	54.1	56.4	463.6%
Sweden	-	-	-	0.2	1.3	1.6	1.6	1.7	3.0	1.7	1.8	41.2%
Switzerland	0.0	1.0	1.9	2.9	3.8	5.1	5.7	6.5	7.1	6.3	6.7	77.2%
Turkey	-	-	-	0.1	6.3	12.2	28.9	52.3	73.3	93.2	91.4	+
United Kingdom	21.7	67.5	92.8	105.7	104.1	144.5	198.3	197.2	195.4	138.7	141.9	36.3%
OECD Europe [2]	**187.4**	**351.2**	**443.0**	**481.3**	**565.6**	**698.8**	**874.1**	**1 015.0**	**1 063.4**	**850.3**	**881.1**	**55.8%**
IEA/Accession/Association	*1 493.5*	*1 573.9*	*1 771.7*	*1 738.7*	*1 951.7*	*2 365.1*	*2 774.3*	*3 028.1*	*3 489.8*	*3 631.9*	*3 703.2*	*89.7%*
European Union - 28	*..*	*..*	*..*	*..*	*643.2*	*731.8*	*875.1*	*990.4*	*1 009.0*	*771.1*	*803.0*	*24.8%*
G20	*..*	*..*	*..*	*..*	*2 953.9*	*3 208.0*	*3 604.7*	*3 944.1*	*4 485.5*	*4 669.4*	*4 703.0*	*59.2%*
Africa	*5.3*	*9.0*	*25.6*	*44.3*	*58.8*	*74.4*	*98.0*	*148.9*	*179.0*	*212.9*	*222.9*	*279.3%*
Americas	*1 320.4*	*1 219.4*	*1 284.6*	*1 189.2*	*1 265.6*	*1 469.0*	*1 649.0*	*1 674.0*	*1 860.4*	*2 065.7*	*2 104.6*	*66.3%*
Asia	*..*	*..*	*..*	*..*	*577.2*	*752.5*	*985.2*	*1 379.1*	*1 937.0*	*2 289.4*	*2 343.6*	*306.0%*
Europe	*..*	*..*	*..*	*..*	*1 739.3*	*1 644.7*	*1 765.4*	*1 942.9*	*1 975.1*	*1 709.1*	*1 683.8*	*-3.2%*
Oceania	*4.2*	*9.3*	*18.1*	*29.1*	*39.0*	*44.0*	*52.6*	*61.4*	*74.6*	*81.4*	*82.1*	*110.4%*

1. Total world includes non-OECD total, OECD total as well as international marine bunkers and international aviation bunkers.
2. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions from fuel combustion - natural gas

million tonnes of CO_2

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Non-OECD Total	**558.7**	**695.0**	**973.0**	**1 368.2**	**1 790.0**	**1 738.5**	**1 932.9**	**2 421.8**	**2 968.2**	**3 278.7**	**3 302.4**	**84.5%**
Albania	0.2	0.6	0.8	0.8	0.5	0.1	0.0	0.0	0.0	0.1	0.1	-86.5%
Armenia	..	..	..	..	8.4	2.7	2.6	3.1	3.0	4.3	3.9	-53.8%
Azerbaijan	..	..	..	..	32.2	15.5	10.4	17.1	16.1	20.7	20.2	-37.3%
Belarus	..	..	..	..	24.7	23.7	30.9	36.8	39.4	36.3	33.8	37.1%
Bosnia and Herzegovina	..	..	..	..	0.9	0.3	0.5	0.7	0.5	0.4	0.4	-55.7%
Bulgaria	0.6	2.3	7.5	10.8	11.0	9.2	6.0	5.7	4.8	4.9	5.1	-53.4%
Croatia	..	..	..	..	4.2	3.4	4.0	4.5	5.1	3.5	3.7	-11.5%
Cyprus [1]	-	-	-	-	-	-	-	-	-	-	-	-
FYR of Macedonia	..	..	..	..	-	-	0.1	0.1	0.2	0.3	0.3	x
Georgia	..	..	..	..	10.7	2.2	2.2	1.9	2.1	3.6	3.9	-63.1%
Gibraltar	-	-	-	-	-	-	-	-	-	-	-	-
Kazakhstan	..	..	..	..	24.9	23.6	15.3	28.6	53.8	60.1	61.9	148.4%
Kosovo	..	..	..	..	..	..	-	-	-	-	-	..
Kyrgyzstan	..	..	..	..	3.6	1.7	1.3	1.2	0.5	0.5	0.5	-85.9%
Lithuania	..	..	..	..	9.4	3.5	3.5	4.6	4.7	2.8	2.6	-71.8%
Malta	-	-	-	-	-	-	-	-	-	-	-	-
Republic of Moldova	..	..	..	..	7.6	6.5	4.8	5.5	5.3	4.7	4.9	-36.1%
Montenegro	..	..	..	..	..	..	..	-	-	-	-	..
Romania	52.3	62.9	76.0	75.0	67.7	42.3	29.5	28.7	22.6	19.9	19.8	-70.7%
Russian Federation	..	..	..	..	837.4	709.4	695.1	753.6	802.5	806.6	765.2	-8.6%
Serbia	..	..	..	..	6.1	2.8	3.2	4.0	3.8	3.3	3.5	-41.8%
Tajikistan	..	..	..	..	3.3	1.2	1.5	1.3	0.4	0.0	0.0	-99.8%
Turkmenistan	..	..	..	..	28.8	26.3	25.6	33.5	40.7	48.2	50.1	74.2%
Ukraine	..	..	..	..	210.4	156.9	142.7	136.1	96.0	69.2	54.6	-74.0%
Uzbekistan	..	..	..	..	75.9	71.6	90.9	89.2	81.4	84.0	82.5	8.7%
Former Soviet Union [1]	421.4	503.7	677.7	988.6	..	..	..	..	..	..	..	..
Former Yugoslavia [1]	1.3	2.1	4.9	11.0	..	..	..	..	..	..	..	..
Non-OECD Europe and Eurasia [1]	**475.8**	**571.6**	**766.9**	**1 086.2**	**1 367.7**	**1 102.9**	**1 070.2**	**1 156.2**	**1 182.9**	**1 173.3**	**1 117.3**	**-18.3%**
Algeria	2.4	4.6	13.5	21.8	26.2	31.2	35.9	44.9	51.3	68.7	72.6	177.1%
Angola	0.1	0.1	0.2	0.2	1.0	1.1	1.1	1.2	1.4	0.6	1.5	42.6%
Benin	-	-	-	-	-	-	-	-	-	-	-	-
Botswana	..	..	..	-	-	-	-	-	-	-	-	-
Cameroon	-	-	-	-	-	-	-	-	0.5	0.5	0.6	x
Congo	0.0	0.0	-	0.0	-	-	-	0.0	0.2	0.5	0.5	x
Côte d'Ivoire	-	-	-	-	-	0.1	3.0	2.9	3.1	3.9	4.0	x
Dem. Rep. of the Congo	-	-	-	-	-	-	-	-	0.0	0.0	0.0	x
Egypt	0.2	0.1	2.8	6.6	13.4	20.8	29.8	62.8	73.8	74.9	77.2	476.5%
Eritrea	..	..	..	..	..	-	-	-	-	-	-	..
Ethiopia	-	-	-	-	-	-	-	-	-	-	-	-
Gabon	-	-	0.0	0.1	0.2	0.3	0.2	0.3	0.6	0.7	0.7	244.7%
Ghana	-	-	-	-	-	-	-	-	0.8	1.3	2.5	x
Kenya	-	-	-	-	-	-	-	-	-	-	-	-
Libya	2.1	2.5	5.3	6.2	8.1	7.0	6.9	8.4	10.2	11.2	11.1	37.6%
Mauritius	-	-	-	-	-	-	-	-	-	-	-	-
Morocco	0.1	0.1	0.1	0.2	0.1	0.0	0.1	0.9	1.3	2.4	2.4	+
Mozambique	-	-	-	-	-	0.0	0.0	0.0	0.2	0.9	1.5	x
Namibia	..	..	..	..	..	-	-	-	-	-	-	..
Niger	..	..	..	..	..	..	-	-	-	-	-	..
Nigeria	0.4	1.0	2.9	7.0	6.9	9.3	14.7	18.7	19.3	28.3	29.7	329.6%
Senegal	-	-	-	-	0.0	0.1	0.0	0.0	0.0	0.1	0.1	551.7%
South Africa	-	-	-	-	-	-	-	-	1.9	4.0	4.1	x
South Sudan	..	..	..	..	..	..	..	..	..	-	-	..
Sudan	-	-	-	-	-	-	-	-	-	-	-	-
United Rep. of Tanzania	-	-	-	-	-	-	-	0.8	1.5	1.8	1.7	x
Togo	-	-	-	-	-	-	-	-	-	-	-	-
Tunisia	0.0	0.5	0.8	2.2	2.8	4.6	6.4	7.8	11.9	12.4	11.8	319.6%
Zambia	-	-	-	-	-	-	-	-	-	-	-	-
Zimbabwe	-	-	-	-	-	-	-	-	-	-	-	-
Other Africa	-	-	-	-	-	-	0.0	0.1	0.9	0.9	1.0	x
Africa	**5.3**	**9.0**	**25.6**	**44.3**	**58.8**	**74.4**	**98.0**	**148.9**	**179.0**	**212.9**	**222.9**	**279.3%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions from fuel combustion - natural gas

million tonnes of CO_2

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Bangladesh	0.3	0.6	1.5	3.1	5.4	8.1	11.7	19.0	35.8	43.0	45.8	750.3%
Brunei Darussalam	0.2	1.2	2.1	2.3	2.5	3.4	3.2	3.5	5.1	4.8	4.1	60.9%
Cambodia	..	..	..	..	..	-	-	-	-	-	-	..
DPR of Korea	-	-	-	-	-	-	-	-	-	-	-	-
India	1.0	1.3	1.8	4.7	13.1	25.0	36.2	54.3	95.7	57.3	53.6	309.0%
Indonesia	0.1	0.5	5.4	8.7	24.3	47.3	45.4	50.9	71.3	78.1	77.8	219.9%
Malaysia	0.0	0.1	0.2	4.6	6.8	24.1	48.5	63.9	63.1	72.7	70.5	942.6%
Mongolia	..	..	..	-	-	-	-	-	-	-	-	-
Myanmar	0.1	0.3	0.6	1.6	1.6	2.7	2.6	3.0	3.0	5.6	6.6	315.5%
Nepal	-	-	-	-	-	-	-	-	-	-	-	-
Pakistan	4.9	7.2	8.9	10.8	17.9	25.6	30.9	52.6	52.5	50.8	51.1	185.5%
Philippines	-	-	-	-	-	0.0	0.0	6.7	7.2	7.2	6.8	x
Singapore	0.0	0.1	0.1	0.1	0.1	3.2	2.9	13.3	16.7	22.0	22.1	+
Sri Lanka	-	-	-	-	-	-	-	-	-	-	-	-
Chinese Taipei	1.6	2.2	3.3	1.5	3.0	7.4	12.9	20.8	30.6	34.0	36.6	+
Thailand	-	-	-	6.9	11.7	20.5	40.8	60.9	74.7	83.2	84.7	622.1%
Viet Nam	-	-	-	0.1	0.0	0.4	2.6	11.0	19.1	21.0	22.0	+
Other non-OECD Asia	0.5	0.5	0.2	1.2	0.6	0.5	0.5	0.5	0.9	0.6	0.7	15.9%
Asia (excl. China)	**8.7**	**14.0**	**24.2**	**45.7**	**87.1**	**168.2**	**238.2**	**360.5**	**475.5**	**480.4**	**482.3**	**453.8%**
People's Rep. of China	7.4	17.4	28.1	16.2	19.8	26.8	35.8	71.5	187.7	329.1	348.8	+
Hong Kong, China	0.1	0.1	0.2	0.4	0.8	1.2	7.1	6.5	8.0	5.5	6.9	804.8%
China	**7.4**	**17.5**	**28.3**	**16.6**	**20.6**	**28.0**	**42.9**	**78.0**	**195.6**	**334.7**	**355.7**	**+**
Argentina	12.1	17.1	21.7	30.4	43.3	52.2	70.2	77.1	87.3	95.9	97.8	125.7%
Bolivia	0.1	0.3	0.6	0.8	1.5	2.3	2.4	3.4	5.7	7.5	6.9	373.1%
Brazil	0.5	1.0	1.6	3.7	5.7	7.5	16.4	37.1	49.9	77.7	76.7	+
Colombia	2.6	3.3	5.7	7.4	7.6	8.4	12.8	14.4	18.5	19.6	19.2	154.2%
Costa Rica	-	-	-	-	-	-	-	-	-	-	-	-
Cuba	0.1	0.2	0.1	0.1	0.1	0.2	1.1	1.4	2.0	2.3	2.4	+
Curaçao [1]	-	-	-	-	-	-	-	-	-	-	-	-
Dominican Republic	-	-	-	-	-	-	-	0.4	1.5	2.1	2.1	x
Ecuador	-	-	-	-	-	-	-	0.7	1.0	1.4	1.3	x
El Salvador	-	-	-	-	-	-	-	-	-	-	-	-
Guatemala	-	-	-	-	-	-	-	-	-	-	-	-
Haiti	-	-	-	-	-	-	-	-	-	-	-	-
Honduras	-	-	-	-	-	-	-	-	-	-	-	-
Jamaica	-	-	-	-	-	-	-	-	-	-	-	-
Nicaragua	-	-	-	-	-	-	-	-	-	-	-	-
Panama	-	-	-	-	-	-	-	-	-	-	-	-
Paraguay	-	-	-	-	-	-	-	-	-	-	-	-
Peru	0.6	0.8	1.0	1.3	1.0	0.6	1.1	3.9	12.9	18.3	17.9	+
Suriname	..	..	..	..	..	..	-	-	-	-	-	..
Trinidad and Tobago	2.8	2.3	3.9	4.5	5.8	6.0	7.5	13.6	17.6	18.8	18.0	208.8%
Uruguay	-	-	-	-	-	-	0.1	0.2	0.1	0.1	0.1	x
Venezuela	16.9	19.7	26.5	31.2	37.6	47.3	51.7	53.6	59.6	47.9	46.2	23.0%
Other non-OECD Americas	0.0	-	0.0	0.1	0.0	0.0	0.7	1.4	1.6	1.6	1.6	+
Non-OECD Americas	**35.8**	**44.7**	**61.1**	**79.5**	**102.7**	**124.6**	**164.0**	**207.1**	**257.8**	**293.1**	**290.2**	**182.6%**
Bahrain	1.8	4.1	5.7	7.5	8.7	11.2	13.4	17.1	21.7	25.7	25.7	194.8%
Islamic Republic of Iran	5.5	8.1	8.6	16.9	33.8	76.2	118.0	189.6	274.2	319.2	342.4	913.9%
Iraq	1.8	3.2	2.5	1.6	3.8	6.1	6.0	3.5	9.8	12.4	12.8	237.1%
Jordan	-	-	-	-	0.2	0.5	0.5	3.2	5.4	0.7	4.6	+
Kuwait	10.0	9.9	13.2	9.7	11.6	17.8	18.4	23.6	27.9	35.2	40.1	246.8%
Lebanon	-	-	-	-	-	-	-	-	0.5	-	-	-
Oman	-	-	0.7	2.1	4.9	6.8	11.7	14.8	31.1	42.3	45.9	828.8%
Qatar	1.9	4.2	5.6	9.1	10.5	14.4	18.5	26.6	43.0	60.5	62.8	496.0%
Saudi Arabia	2.7	5.4	20.9	28.8	43.2	54.6	66.8	101.5	130.8	152.5	156.3	261.9%
Syrian Arab Republic	-	-	0.1	0.3	3.2	4.0	7.4	8.9	15.7	8.3	7.3	127.1%
United Arab Emirates	2.1	3.3	9.7	19.9	33.3	48.8	58.8	82.2	115.4	125.6	134.2	303.2%
Yemen	-	-	-	-	-	-	-	-	1.9	1.9	1.9	x
Middle East	**25.7**	**38.2**	**67.0**	**96.0**	**153.3**	**240.4**	**319.5**	**471.1**	**677.4**	**784.4**	**834.1**	**444.2%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions from international marine bunkers

million tonnes of CO_2

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
World	**353.79**	**341.07**	**357.33**	**306.76**	**371.64**	**428.54**	**498.37**	**571.92**	**662.94**	**627.73**	**657.04**	**76.8%**
Annex I Parties	*..*	*..*	*..*	*..*	*236.59*	*231.40*	*252.85*	*271.72*	*268.84*	*248.12*	*246.29*	*4.1%*
Annex II Parties	*205.15*	*219.47*	*237.59*	*173.40*	*226.06*	*227.86*	*247.08*	*262.19*	*254.54*	*190.25*	*185.67*	*-17.9%*
North America	*26.68*	*36.49*	*94.86*	*57.00*	*94.49*	*94.63*	*93.17*	*85.44*	*85.67*	*47.35*	*41.52*	*-56.1%*
Europe	*121.84*	*111.91*	*98.45*	*89.11*	*110.46*	*111.13*	*133.01*	*152.95*	*150.63*	*128.21*	*126.75*	*14.7%*
Asia Oceania	*56.64*	*71.08*	*44.28*	*27.29*	*21.11*	*22.10*	*20.90*	*23.79*	*18.24*	*14.69*	*17.40*	*-17.6%*
Annex I EIT	*..*	*..*	*..*	*..*	*9.88*	*2.60*	*1.82*	*3.17*	*7.91*	*50.05*	*52.24*	*428.8%*
Non-Annex I Parties	*..*	*..*	*..*	*..*	*135.05*	*197.14*	*245.51*	*300.20*	*394.10*	*379.61*	*410.75*	*204.1%*
Annex B Kyoto Parties	*..*	*..*	*..*	*..*	*116.85*	*116.91*	*140.51*	*161.91*	*161.11*	*138.11*	*138.34*	*18.4%*
Non-OECD Total	**144.31**	**118.15**	**115.91**	**127.96**	**135.60**	**172.97**	**211.57**	**263.65**	**371.06**	**400.91**	**431.92**	**218.5%**
OECD Total	**209.48**	**222.92**	**241.43**	**178.80**	**236.04**	**255.57**	**286.80**	**308.27**	**291.88**	**226.82**	**225.12**	**-4.6%**
Canada	3.10	2.61	4.76	1.19	2.90	3.20	3.37	2.86	2.20	1.17	0.56	-80.6%
Chile	0.61	0.37	0.27	0.09	0.58	1.13	1.96	3.33	1.30	0.64	0.41	-28.4%
Mexico	0.26	0.39	1.01	1.34	..	2.58	3.87	2.73	2.53	2.56	2.65	..
United States	23.58	33.88	90.10	55.82	91.60	91.43	89.80	82.58	83.47	46.17	40.96	-55.3%
OECD Americas	**27.54**	**37.25**	**96.15**	**58.44**	**95.07**	**98.33**	**99.01**	**91.50**	**89.49**	**50.55**	**44.58**	**-53.1%**
Australia	5.15	5.08	3.71	2.31	2.16	2.82	2.99	2.76	2.18	2.33	2.44	13.1%
Israel [1]	..	..	..	0.35	0.38	0.65	0.59	0.81	1.07	0.43	0.82	113.4%
Japan	50.44	64.91	39.38	24.24	17.90	18.15	17.14	20.02	14.98	11.44	13.88	-22.4%
Korea	1.54	0.17	0.31	1.71	5.32	21.57	30.77	33.58	29.04	27.33	30.37	470.6%
New Zealand	1.05	1.09	1.19	0.74	1.05	1.14	0.76	1.00	1.08	0.93	1.08	2.6%
OECD Asia Oceania	**58.18**	**71.25**	**44.60**	**29.35**	**26.81**	**44.32**	**52.25**	**58.18**	**48.35**	**42.45**	**48.58**	**81.2%**
Austria	-	-	-	-	0.05	0.06	0.07	0.08	0.07	0.06	0.05	6.2%
Belgium	8.16	8.76	7.63	7.41	13.04	12.43	17.19	24.64	24.54	17.34	18.64	43.0%
Czech Republic	-	-	-	-	-	-	-	-	-	-	-	-
Denmark	2.11	1.69	1.34	1.36	3.05	5.01	4.08	2.43	2.19	2.34	2.42	-20.9%
Estonia	..	..	..	..	0.57	0.28	0.33	0.38	0.70	1.03	0.92	60.9%
Finland	0.24	0.31	1.86	1.47	1.80	1.05	2.12	1.61	0.67	0.31	0.94	-47.6%
France	12.89	14.71	12.72	7.65	7.86	6.78	8.99	8.25	7.41	5.84	5.22	-33.6%
Germany	13.13	10.71	11.22	11.05	7.95	6.57	6.98	7.93	8.84	7.32	7.61	-4.3%
Greece	1.90	2.82	2.66	3.54	8.11	11.34	11.45	9.15	8.73	6.00	5.73	-29.4%
Hungary	-	-	-	-	-	-	-	-	-	-	-	-
Iceland	..	..	..	0.02	0.10	0.14	0.21	0.20	0.18	0.07	0.15	50.8%
Ireland	0.24	0.21	0.24	0.09	0.06	0.37	0.47	0.33	0.26	0.40	0.49	762.8%
Italy	23.10	18.22	13.29	10.93	8.52	7.75	5.30	7.23	9.59	6.17	6.12	-28.2%
Latvia	..	..	..	..	1.50	0.48	0.03	0.82	0.80	0.73	0.80	-46.3%
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-
Netherlands	28.61	33.28	29.78	27.82	34.93	34.70	41.42	49.20	43.64	40.74	39.58	13.3%
Norway	1.94	1.52	0.88	1.04	1.41	2.22	2.59	2.18	1.22	0.46	0.60	-57.1%
Poland	1.65	2.23	2.24	1.65	1.25	0.44	0.91	1.02	0.69	0.46	0.58	-53.6%
Portugal	2.34	2.02	1.36	1.50	1.93	1.53	2.10	1.84	1.48	1.95	2.06	6.7%
Slovak Republic	-	-	-	-	-	-	-	-	-	-	-	-
Slovenia	..	..	..	..	..	..	..	0.07	0.06	0.18	0.20	..
Spain	6.00	3.47	5.12	6.83	11.57	10.10	19.16	25.25	26.79	24.88	23.77	105.4%
Sweden	3.62	3.48	2.69	1.77	2.11	3.33	4.33	6.18	6.25	5.47	5.75	172.1%
Switzerland	-	-	-	-	0.06	0.05	0.03	0.04	0.03	0.02	0.02	-66.7%
Turkey	0.27	0.29	..	0.25	0.38	0.58	1.26	3.34	1.16	3.20	2.69	616.7%
United Kingdom	17.54	10.70	7.65	6.63	7.92	7.70	6.50	6.41	8.75	8.84	7.60	-4.0%
OECD Europe [1]	**123.75**	**114.43**	**100.68**	**91.01**	**114.16**	**112.91**	**135.54**	**158.59**	**154.03**	**133.82**	**131.95**	**15.6%**
IEA/Accession/Association	*222.74*	*238.38*	*262.09*	*199.39*	*277.47*	*304.98*	*358.80*	*410.88*	*454.52*	*389.30*	*402.94*	45.2%
European Union - 28	*..*	*..*	*..*	*..*	*113.13*	*111.68*	*134.68*	*156.72*	*157.49*	*135.24*	*134.83*	19.2%
G20	*..*	*..*	*..*	*..*	*267.06*	*293.02*	*332.75*	*371.41*	*404.05*	*365.39*	*377.71*	41.4%
Africa	*22.20*	*16.03*	*16.66*	*14.02*	*16.66*	*24.35*	*23.58*	*20.56*	*18.82*	*18.31*	*19.90*	19.5%
Americas	*58.43*	*61.59*	*117.67*	*78.41*	*114.94*	*123.19*	*132.42*	*130.31*	*137.04*	*95.99*	*89.71*	-21.9%
Asia	*..*	*..*	*..*	*..*	*110.69*	*156.90*	*192.95*	*245.94*	*326.94*	*316.14*	*347.85*	214.3%
Europe	*..*	*..*	*..*	*..*	*125.94*	*119.85*	*145.33*	*170.90*	*176.47*	*193.74*	*195.76*	55.4%
Oceania	*6.78*	*6.71*	*5.37*	*3.25*	*3.42*	*4.26*	*4.09*	*4.21*	*3.67*	*3.55*	*3.82*	11.8%

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions from international marine bunkers

million tonnes of CO_2

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Non-OECD Total	**144.31**	**118.15**	**115.91**	**127.96**	**135.60**	**172.97**	**211.57**	**263.65**	**371.06**	**400.91**	**431.92**	**218.5%**
Albania	..	..	..	..	..	..	..	..	..	0.06	0.06	..
Armenia	..	..	..	..	-	-	-	-	-	-	-	-
Azerbaijan	..	..	..	..	..	..	..	..	0.23	0.23	0.16	..
Belarus	..	..	..	..	-	-	-	-	-	-	-	-
Bosnia and Herzegovina	..	..	..	..	-	-	-	-	-	-	-	-
Bulgaria	..	..	..	0.72	0.18	0.85	0.20	0.35	0.31	0.26	0.27	49.6%
Croatia	..	..	..	..	0.15	0.10	0.06	0.08	0.02	..	..	-100.0%
Cyprus [1]	0.01	0.07	0.05	0.11	0.18	0.21	0.60	0.91	0.58	0.73	0.76	319.8%
FYR of Macedonia	-	-	-	-	-	-	-	-	-	-	-	-
Georgia	..	..	..	..	..	0.16	..	..	..	..	..	..
Gibraltar	3.54	3.85	4.20	4.67	5.51	5.97	8.41	12.67	13.28	11.46	11.70	112.5%
Kazakhstan	..	..	..	..	..	..	..	..	..	..	0.30	..
Kosovo	..	..	..	..	..	..	-	-	-	-	-	..
Kyrgyzstan	..	..	..	..	-	-	-	-	-	-	-	-
Lithuania	..	..	..	..	0.30	0.45	0.29	0.46	0.45	0.03	0.24	-19.8%
Malta	0.19	0.08	0.09	0.06	0.09	0.14	2.09	2.11	4.65	3.90	4.93	+
Republic of Moldova	..	..	..	..	-	-	-	-	-	-	-	-
Montenegro	..	..	..	..	..	..	..	..	..	..	..	..
Romania	..	..	..	..	..	..	..	..	0.05	0.25	0.14	..
Russian Federation	..	..	..	..	5.93	..	..	..	4.84	47.11	49.08	728.2%
Serbia	..	..	..	..	..	..	..	..	..	0.05	0.08	..
Tajikistan	..	..	..	..	-	-	-	-	-	-	-	-
Turkmenistan	..	..	..	..	..	..	..	..	..	..	..	..
Ukraine	..	..	..	..	..	..	..	..	..	..	..	..
Uzbekistan	..	..	..	..	-	-	-	-	-	-	-	-
Former Soviet Union [1]	13.31	14.24	14.24	13.93	..	..	..	..	..	..	..	..
Former Yugoslavia [1]	..	..	..	..	..	..	..	..	..	..	..	..
Non-OECD Europe and Eurasia [1]	**17.04**	**18.23**	**18.58**	**19.49**	**12.34**	**7.89**	**11.65**	**16.57**	**24.41**	**64.08**	**67.72**	**448.9%**
Algeria	0.61	0.77	1.30	1.17	1.37	1.18	0.77	1.18	1.02	0.83	0.87	-36.8%
Angola	0.78	0.49	0.84	0.11	0.02	0.03	..	0.34	0.56	1.15	1.28	+
Benin	..	..	..	..	..	..	..	..	..	..	..	..
Botswana	..	..	..	-	-	-	-	-	-	-	-	-
Cameroon	..	..	0.12	0.03	0.04	0.09	0.06	0.04	0.14	0.17	0.18	322.1%
Congo	..	..	..	..	..	..	..	..	..	..	..	..
Côte d'Ivoire	0.06	0.01	1.36	0.73	0.12	0.27	0.29	0.36	0.06	0.15	0.23	89.3%
Dem. Rep. of the Congo	0.41	0.22	0.08	0.09	0.11	0.01	..	..	..	..	..	-100.0%
Egypt	0.06	1.11	3.27	4.83	5.38	7.92	8.78	4.63	1.40	0.52	0.58	-89.3%
Eritrea	..	..	..	..	..	0.43	..	..	..	..	..	..
Ethiopia	0.07	0.02	0.01	0.03	0.03	0.03	..	..	..	..	..	-100.0%
Gabon	0.20	0.14	0.20	0.23	0.08	0.44	0.61	0.61	0.66	0.55	0.58	622.8%
Ghana	0.16	0.14	0.10	..	..	..	0.16	0.12	0.13	..	..	..
Kenya	1.49	1.07	0.57	0.45	0.56	0.17	0.21	0.22	0.12	0.12	0.13	-76.5%
Libya	0.01	0.01	0.02	0.04	0.25	0.28	0.86	1.16	1.17	0.30	0.26	3.7%
Mauritius	0.05	0.11	0.17	0.22	0.19	0.27	0.69	0.60	0.74	0.91	0.89	368.4%
Morocco	0.24	0.18	0.21	0.04	0.06	0.04	0.05	0.07	0.43	0.43	0.43	568.8%
Mozambique	0.76	0.36	0.27	0.10	0.09	0.01	0.00	0.01	..	..	..	-100.0%
Namibia	..	..	..	..	..	..	..	..	..	..	..	..
Niger	..	..	..	..	..	..	-	-	-	-	-	..
Nigeria	0.02	0.11	0.25	0.35	0.59	1.43	1.21	1.29	1.32	1.18	1.18	100.7%
Senegal	3.02	2.11	0.85	0.33	0.11	0.09	0.30	0.36	0.21	0.23	0.24	112.2%
South Africa	10.92	7.22	5.31	3.44	6.01	10.41	8.60	8.60	9.82	10.45	11.72	95.0%
South Sudan	..	..	..	..	..	..	..	..	..	-	-	..
Sudan	..	0.01	0.02	0.02	0.02	0.03	0.03	0.04	0.06	0.06	0.07	200.0%
United Rep. of Tanzania	0.05	0.05	0.12	0.08	0.08	0.07	0.08	0.11	0.14	0.19	0.20	149.7%
Togo	..	..	..	..	..	..	0.01	0.01	0.05	0.05	0.06	..
Tunisia	0.06	0.02	0.02	0.01	0.07	0.06	0.06	0.05	0.04	0.05	0.01	-86.0%
Zambia	-	-	-	-	-	-	-	-	-	-	-	-
Zimbabwe	-	-	-	-	-	-	-	-	-	-	-	-
Other Africa	3.23	1.88	1.58	1.72	1.47	1.10	0.79	0.76	0.77	0.98	1.00	-32.1%
Africa	**22.20**	**16.03**	**16.66**	**14.02**	**16.66**	**24.35**	**23.58**	**20.56**	**18.82**	**18.31**	**19.90**	**19.5%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions from international marine bunkers

million tonnes of CO_2

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Bangladesh	0.07	0.05	0.19	0.07	0.06	0.11	0.14	0.18	0.25	0.31	0.33	430.9%
Brunei Darussalam	..	..	0.00	..	0.12	0.21	0.22	0.27	0.28	0.22	0.29	149.4%
Cambodia	..	..	..	..	..	..	..	..	..	..	..	..
DPR of Korea	..	..	..	..	..	..	..	..	..	..	..	..
India	0.72	0.58	0.73	0.34	1.38	1.71	2.19	3.09	4.17	4.24	4.41	220.9%
Indonesia	0.71	1.10	0.80	0.69	1.70	1.30	0.36	0.43	0.56	0.70	0.74	-56.6%
Malaysia	0.11	0.22	0.19	0.31	0.30	0.54	0.70	0.19	0.19	0.67	1.12	280.7%
Mongolia	..	..	..	-	-	-	-	-	-	-	-	-
Myanmar	0.01	0.00	-	-	-	0.01	0.01	0.01	0.01	0.01	0.01	x
Nepal	-	-	-	-	-	-	-	-	-	-	-	-
Pakistan	0.29	0.22	0.47	0.08	0.11	0.05	0.08	0.26	0.56	0.21	0.22	99.9%
Philippines	1.31	0.45	0.59	0.50	0.21	0.36	0.68	0.38	0.59	0.29	0.09	-59.1%
Singapore	8.98	10.53	15.11	15.29	34.21	35.63	58.16	79.39	127.21	132.05	140.61	311.0%
Sri Lanka	1.20	1.30	1.12	1.02	1.22	1.10	0.51	0.54	0.66	1.36	1.30	6.4%
Chinese Taipei	0.39	0.33	0.67	1.64	4.90	7.63	11.11	7.56	5.50	3.63	3.40	-30.7%
Thailand	0.21	0.26	0.51	0.66	1.72	3.05	2.49	5.23	4.46	3.33	3.77	119.7%
Viet Nam	..	..	..	0.07	0.09	0.22	0.46	0.80	1.03	0.60	0.52	503.7%
Other non-OECD Asia	0.57	0.54	0.47	0.20	0.21	0.30	0.33	0.44	0.41	0.67	0.64	202.8%
Asia (excl. China)	**14.56**	**15.58**	**20.83**	**20.87**	**46.21**	**52.22**	**77.45**	**98.78**	**145.88**	**148.29**	**157.44**	**240.7%**
People's Rep. of China	2.41	2.82	3.32	3.95	4.34	8.95	9.57	16.30	27.90	23.14	29.83	587.9%
Hong Kong, China	2.00	1.72	2.88	3.14	4.57	7.24	10.72	17.97	38.98	24.17	27.46	501.2%
China	**4.40**	**4.53**	**6.20**	**7.09**	**8.90**	**16.19**	**20.29**	**34.28**	**66.88**	**47.32**	**57.29**	**543.4%**
Argentina	0.66	0.29	1.34	2.02	2.24	1.72	1.50	2.22	3.80	4.99	2.93	30.3%
Bolivia	-	-	-	-	-	-	-	-	-	-	-	-
Brazil	1.01	1.18	1.43	1.73	1.73	3.67	9.25	11.03	12.74	11.12	13.27	665.6%
Colombia	0.96	0.49	0.31	0.22	0.33	0.58	0.75	1.15	2.04	2.81	2.58	677.9%
Costa Rica	0.10	..	0.13	0.14	0.24	0.37	0.34	0.36	0.09	0.00	0.00	-98.7%
Cuba	..	..	..	0.12	0.06	0.04	0.05	0.06	2.41	2.29	2.32	+
Curaçao [1]	7.79	7.41	7.35	6.19	5.23	5.37	6.35	6.78	7.26	5.09	5.00	-4.3%
Dominican Republic	..	..	..	..	..	..	..	..	..	..	..	..
Ecuador	0.28	..	0.35	0.12	0.50	1.00	0.88	2.10	1.72	1.40	1.09	118.0%
El Salvador	..	..	..	..	..	..	..	..	..	..	..	..
Guatemala	0.18	0.27	0.41	0.38	0.43	0.53	0.64	0.75	0.90	1.04	1.08	152.2%
Haiti	..	..	..	..	..	..	..	..	..	..	..	..
Honduras	..	..	..	..	..	..	..	..	0.00	..	0.02	..
Jamaica	0.16	0.27	0.10	0.04	0.10	0.12	0.12	0.26	0.27	0.63	0.63	522.5%
Nicaragua	..	..	..	..	..	..	..	..	..	..	..	..
Panama	1.72	3.44	3.13	4.07	5.00	6.49	8.15	7.37	9.56	9.96	10.17	103.4%
Paraguay	-	-	-	-	-	-	-	-	-	-	-	-
Peru	0.10	0.13	0.48	0.63	0.12	0.53	0.31	1.01	0.77	0.00	..	-100.0%
Suriname	..	..	..	..	..	..	0.07	0.11	0.13	0.15	0.16	..
Trinidad and Tobago	5.17	3.58	1.44	0.31	0.11	0.16	1.21	1.49	1.07	1.44	1.71	+
Uruguay	0.28	0.20	0.25	0.33	0.37	1.22	0.93	1.14	1.43	0.68	0.52	38.4%
Venezuela	9.22	4.87	2.01	1.78	2.53	2.32	2.08	2.35	2.77	2.94	2.75	8.9%
Other non-OECD Americas	3.25	2.21	2.82	1.88	0.87	0.72	0.80	0.64	0.59	0.89	0.91	4.0%
Non-OECD Americas	**30.89**	**24.34**	**21.53**	**19.97**	**19.87**	**24.85**	**33.42**	**38.81**	**47.54**	**45.44**	**45.13**	**127.2%**
Bahrain	0.56	0.56	0.61	0.48	0.25	0.26	0.25	0.24	0.25	0.26	0.26	3.7%
Islamic Republic of Iran	1.05	1.28	1.26	0.93	1.27	1.90	2.26	2.95	7.38	11.47	15.05	+
Iraq	0.26	0.30	0.37	0.47	0.40	0.02	0.49	0.33	0.44	0.58	0.70	72.3%
Jordan	..	..	..	..	..	0.03	0.13	0.25	0.05	0.01	0.02	..
Kuwait	6.36	6.38	5.66	2.40	0.56	1.84	1.44	2.17	1.70	3.57	4.35	677.9%
Lebanon	0.72	0.03	..	..	..	0.04	0.05	0.06	0.09	0.10	0.10	..
Oman	3.89	2.57	0.72	0.35	0.06	0.08	0.20	0.12	3.62	3.67	4.01	+
Qatar	..	..	..	..	..	..	..	..	..	..	..	..
Saudi Arabia	40.46	26.13	13.76	28.30	5.79	6.02	6.67	7.16	8.18	10.03	9.89	70.6%
Syrian Arab Republic	0.78	1.27	1.99	2.56	2.85	3.47	3.71	3.20	3.46	0.78	0.55	-80.5%
United Arab Emirates	..	..	5.59	9.78	19.19	33.50	29.68	37.81	42.01	46.73	49.32	157.1%
Yemen	1.14	0.92	2.16	1.25	1.25	0.31	0.31	0.36	0.34	0.28	0.20	-83.7%
Middle East	**55.22**	**39.43**	**32.11**	**46.52**	**31.62**	**47.46**	**45.18**	**54.66**	**67.53**	**77.47**	**84.45**	**167.0%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions from international aviation bunkers

million tonnes of CO_2

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
World	**169.22**	**173.87**	**202.13**	**224.90**	**258.94**	**290.34**	**355.82**	**422.78**	**457.66**	**504.49**	**529.69**	**104.6%**
Annex I Parties	*..*	*..*	*..*	*..*	*171.24*	*181.74*	*226.55*	*257.14*	*254.64*	*266.86*	*276.30*	*61.3%*
Annex II Parties	*59.17*	*62.37*	*71.49*	*82.30*	*132.44*	*161.20*	*206.43*	*231.69*	*225.18*	*234.91*	*243.01*	*83.5%*
North America	*16.77*	*17.70*	*21.39*	*22.05*	*41.92*	*49.03*	*60.81*	*71.41*	*68.72*	*69.65*	*73.18*	*74.6%*
Europe	*36.32*	*38.05*	*43.13*	*49.09*	*71.41*	*87.98*	*116.82*	*128.31*	*127.38*	*131.85*	*136.34*	*90.9%*
Asia Oceania	*6.07*	*6.61*	*6.96*	*11.16*	*19.12*	*24.20*	*28.80*	*31.97*	*29.08*	*33.41*	*33.49*	*75.2%*
Annex I EIT	*..*	*..*	*..*	*..*	*37.32*	*18.73*	*17.37*	*21.04*	*24.69*	*23.10*	*21.55*	*-42.2%*
Non-Annex I Parties	*..*	*..*	*..*	*..*	*87.70*	*108.60*	*129.27*	*165.64*	*203.02*	*237.63*	*253.39*	*188.9%*
Annex B Kyoto Parties	*..*	*..*	*..*	*..*	*90.08*	*100.19*	*129.44*	*143.73*	*145.35*	*151.45*	*156.39*	*73.6%*
Non-OECD Total	**104.93**	**105.00**	**120.73**	**131.85**	**115.44**	**114.44**	**132.22**	**164.41**	**200.89**	**230.94**	**244.07**	**111.4%**
OECD Total	**64.29**	**68.87**	**81.40**	**93.05**	**143.50**	**175.90**	**223.59**	**258.37**	**256.78**	**273.55**	**285.62**	**99.0%**
Canada	1.27	1.95	1.36	1.23	2.73	2.61	3.12	2.51	3.41	2.46	2.59	-5.4%
Chile	0.44	0.35	0.55	0.50	0.57	0.65	1.06	1.07	1.54	1.96	1.70	197.2%
Mexico	1.40	2.42	4.28	4.58	5.29	6.83	8.13	8.60	8.16	9.71	10.33	95.4%
United States	15.51	15.76	20.03	20.82	39.19	46.42	57.69	68.90	65.31	67.19	70.59	80.1%
OECD Americas	**18.62**	**20.48**	**26.22**	**27.12**	**47.77**	**56.50**	**70.00**	**81.07**	**78.42**	**81.33**	**85.20**	**78.3%**
Australia	1.59	1.91	2.43	2.79	4.34	5.80	7.22	8.16	10.19	11.72	11.65	168.5%
Israel [1]	1.81	1.90	2.23	2.01	1.60	2.15	2.40	3.24	2.43	2.55	2.76	72.7%
Japan	3.83	4.36	3.96	7.71	13.45	16.78	19.77	21.58	16.55	19.17	19.33	43.8%
Korea	-	0.37	0.83	1.71	0.85	2.07	1.71	7.32	12.01	12.83	13.19	+
New Zealand	0.65	0.34	0.58	0.66	1.33	1.61	1.81	2.23	2.33	2.52	2.52	88.8%
OECD Asia Oceania	**7.88**	**8.88**	**10.03**	**14.89**	**21.57**	**28.41**	**32.92**	**42.53**	**43.52**	**48.79**	**49.45**	**129.3%**
Austria	0.28	0.25	0.39	0.65	0.86	1.29	1.65	1.91	2.00	1.93	2.08	140.6%
Belgium	1.23	1.06	1.24	1.64	2.84	2.63	4.42	3.83	4.12	3.98	4.35	52.9%
Czech Republic	0.70	0.59	0.86	0.64	0.66	0.57	0.48	0.95	0.93	0.87	0.88	33.1%
Denmark	1.94	1.57	1.61	1.57	1.72	1.85	2.34	2.58	2.42	2.67	2.61	51.8%
Estonia	..	..	..	..	0.10	0.05	0.06	0.14	0.11	0.12	0.07	-29.4%
Finland	0.18	0.40	0.46	0.49	0.98	0.87	1.03	1.25	1.60	1.86	1.90	93.4%
France	4.62	5.77	5.67	6.50	9.42	11.56	15.22	16.27	16.49	16.86	17.78	88.8%
Germany	7.65	8.24	8.30	9.55	13.31	15.64	19.33	22.39	23.90	24.06	24.09	81.0%
Greece	1.31	1.33	2.25	2.36	2.36	2.55	2.44	2.33	2.04	2.33	2.47	4.3%
Hungary	0.15	0.21	0.37	0.45	0.49	0.54	0.70	0.80	0.70	0.53	0.54	9.4%
Iceland	0.22	0.14	0.09	0.18	0.22	0.20	0.40	0.40	0.37	0.54	0.66	201.4%
Ireland	0.97	0.74	0.61	0.57	1.04	1.12	1.74	2.38	2.16	2.16	2.45	134.8%
Italy	3.50	2.46	4.19	4.38	4.54	5.86	8.46	8.97	9.48	9.21	9.48	108.7%
Latvia	..	..	..	..	0.22	0.08	0.08	0.18	0.35	0.33	0.32	46.5%
Luxembourg	0.11	0.15	0.19	0.22	0.39	0.57	0.96	1.29	1.29	1.21	1.37	247.7%
Netherlands	2.03	2.29	2.75	3.50	4.55	7.52	9.77	10.79	10.09	10.70	11.32	148.7%
Norway	0.70	0.51	0.68	0.93	1.26	1.10	1.06	1.05	1.29	1.51	1.48	18.1%
Poland	0.53	0.53	0.68	0.68	0.66	0.81	0.82	0.96	1.52	1.75	1.94	194.0%
Portugal	0.71	0.81	0.89	1.28	1.38	1.56	1.94	2.18	2.63	2.89	3.13	127.5%
Slovak Republic	-	-	-	-	-	0.12	0.08	0.12	0.12	0.10	0.13	x
Slovenia	..	..	..	..	0.08	0.06	0.07	0.07	0.08	0.08	0.08	-3.8%
Spain	1.76	2.80	2.60	2.69	3.35	6.07	8.11	9.28	9.11	10.93	11.55	244.5%
Sweden	0.33	0.34	0.49	0.51	1.09	1.77	2.08	1.89	2.06	2.16	2.21	104.0%
Switzerland	1.64	1.81	2.04	2.44	3.03	3.66	4.61	3.52	4.20	4.70	4.86	60.2%
Turkey	0.09	0.14	0.12	0.18	0.54	0.79	1.56	3.25	3.64	7.81	10.67	+
United Kingdom	7.15	7.39	8.68	9.63	19.05	22.14	31.24	36.01	32.13	32.13	32.55	70.9%
OECD Europe [1]	**37.79**	**39.51**	**45.16**	**51.03**	**74.16**	**90.99**	**120.68**	**134.76**	**134.84**	**143.43**	**150.97**	**103.6%**
IEA/Accession/Association	*66.45*	*73.13*	*88.36*	*102.68*	*159.52*	*197.68*	*252.37*	*298.49*	*311.45*	*341.37*	*357.95*	124.4%
European Union - 28	*..*	*..*	*..*	*..*	*72.35*	*88.16*	*115.12*	*128.99*	*127.85*	*131.55*	*136.08*	88.1%
G20	*..*	*..*	*..*	*..*	*184.43*	*211.95*	*260.19*	*311.76*	*327.45*	*353.97*	*369.79*	100.5%
Africa	*5.44*	*7.76*	*10.82*	*11.40*	*11.75*	*13.60*	*17.91*	*17.91*	*20.32*	*21.92*	*21.76*	85.1%
Americas	*23.24*	*25.68*	*33.78*	*34.62*	*56.51*	*68.87*	*86.08*	*99.89*	*101.20*	*109.10*	*112.56*	99.2%
Asia	*..*	*..*	*..*	*..*	*74.80*	*92.85*	*107.24*	*143.72*	*170.04*	*203.09*	*222.09*	196.9%
Europe	*..*	*..*	*..*	*..*	*109.71*	*107.29*	*134.96*	*150.07*	*152.71*	*155.72*	*158.67*	44.6%
Oceania	*2.62*	*2.51*	*3.29*	*3.89*	*6.17*	*7.73*	*9.63*	*11.19*	*13.39*	*14.66*	*14.60*	136.7%

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions from international aviation bunkers

million tonnes of CO_2

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Non-OECD Total	**104.93**	**105.00**	**120.73**	**131.85**	**115.44**	**114.44**	**132.22**	**164.41**	**200.89**	**230.94**	**244.07**	**111.4%**
Albania	-	-	-	-	-	-	0.12	0.18	0.05	0.02	0.01	x
Armenia	..	..	..	..	0.60	0.10	0.19	0.14	0.13	0.13	0.10	-84.0%
Azerbaijan	..	..	..	..	1.05	0.31	0.30	1.11	1.21	1.07	0.81	-22.1%
Belarus	..	..	..	..	-	-	-	-	-	0.34	0.34	x
Bosnia and Herzegovina	..	..	..	..	0.08	0.11	0.03	0.02	0.02	0.01	0.02	-76.0%
Bulgaria	0.61	0.61	0.92	1.13	0.71	0.99	0.24	0.56	0.50	0.51	0.53	-25.9%
Croatia	..	..	..	..	0.49	0.24	0.20	0.25	0.29	0.35	0.34	-29.7%
Cyprus [1]	0.15	0.02	0.23	0.44	0.73	0.80	0.82	0.89	0.83	0.71	0.72	-1.3%
FYR of Macedonia	..	..	..	..	0.02	0.09	0.09	0.02	0.02	0.04	0.04	180.0%
Georgia	..	..	..	..	0.61	0.01	0.05	0.11	0.12	0.25	0.21	-65.0%
Gibraltar	0.02	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.02	0.02	0.02	14.3%
Kazakhstan	..	..	..	..	2.70	0.79	0.23	0.49	0.62	0.69	0.95	-65.0%
Kosovo	..	..	..	..	..	..	-	-	0.04	0.01	0.01	..
Kyrgyzstan	..	..	..	..	0.26	0.19	0.12	0.39	0.83	0.01	0.32	20.0%
Lithuania	..	..	..	..	0.40	0.12	0.07	0.14	0.14	0.23	0.24	-39.7%
Malta	0.18	0.18	0.23	0.14	0.22	0.22	0.37	0.26	0.30	0.33	0.34	60.0%
Republic of Moldova	..	..	..	..	0.22	0.03	0.06	0.04	0.06	0.08	0.07	-66.7%
Montenegro	..	..	..	..	..	..	..	0.04	0.01	0.05	0.06	..
Romania	0.06	0.05	-	-	0.70	0.55	0.38	0.33	0.43	0.55	0.60	-13.7%
Russian Federation	..	..	..	..	26.63	14.13	13.40	15.43	18.67	16.95	15.17	-43.1%
Serbia	..	..	..	..	0.43	0.11	0.09	0.15	0.13	0.21	0.19	-55.7%
Tajikistan	..	..	..	..	0.05	0.02	0.01	0.03	0.09	0.19	0.17	260.0%
Turkmenistan	..	..	..	..	0.76	0.62	0.98	1.35	1.63	1.45	1.45	90.3%
Ukraine	..	..	..	..	6.18	0.48	0.78	1.12	0.83	0.40	0.37	-93.9%
Uzbekistan	..	..	..	..	-	-	-	-	-	-	-	-
Former Soviet Union [1]	67.33	62.72	71.33	77.48	..	..	..	..	..	..	..	..
Former Yugoslavia [1]	0.65	0.89	1.01	1.00	..	..	..	..	..	..	..	..
Non-OECD Europe and Eurasia [1]	**69.00**	**64.50**	**73.74**	**80.20**	**42.83**	**19.93**	**18.55**	**23.07**	**26.96**	**24.58**	**23.08**	**-46.1%**
Algeria	0.29	0.67	0.94	1.32	1.10	0.97	1.18	1.17	1.44	1.32	1.45	31.6%
Angola	0.23	0.31	0.26	1.00	1.04	1.18	1.43	0.57	0.64	0.72	0.68	-34.7%
Benin	0.02	0.01	0.03	0.06	0.05	0.07	0.07	0.03	0.47	-	-	-100.0%
Botswana	..	..	..	0.01	0.04	0.02	0.02	0.03	0.04	0.03	0.04	18.2%
Cameroon	0.17	0.10	0.15	0.15	0.15	0.17	0.18	0.20	0.21	0.25	0.27	75.0%
Congo	-	0.05	0.11	0.09	0.08	0.05	0.08	0.11	0.14	0.13	0.13	75.0%
Côte d'Ivoire	0.13	0.21	0.26	0.29	0.27	0.26	0.37	0.28	0.18	0.21	0.40	48.8%
Dem. Rep. of the Congo	0.28	0.25	0.38	0.40	0.32	0.35	0.24	0.51	0.47	0.72	0.39	19.8%
Egypt	0.21	0.28	0.52	0.13	0.46	0.82	1.77	2.31	2.64	2.17	1.65	261.4%
Eritrea	..	..	..	..	..	0.02	0.03	0.03	0.00	0.00	0.00	..
Ethiopia	0.14	0.16	0.20	0.34	0.54	0.17	0.21	0.40	0.87	1.25	1.31	144.7%
Gabon	0.03	0.04	0.07	0.09	0.20	0.20	0.24	0.21	0.25	0.21	0.20	3.0%
Ghana	0.13	0.15	0.12	0.10	0.14	0.18	0.33	0.40	0.36	0.39	0.38	172.8%
Kenya	0.58	0.90	1.11	0.83	0.84	1.38	1.38	1.78	1.72	1.69	2.02	141.4%
Libya	0.27	0.54	0.90	1.06	0.64	0.92	1.34	0.52	0.62	0.38	0.20	-68.5%
Mauritius	0.06	0.10	0.14	0.18	0.21	0.21	0.61	0.73	0.73	0.76	0.82	283.6%
Morocco	0.35	0.44	0.78	0.70	0.79	0.74	0.91	1.17	1.79	2.01	2.01	152.6%
Mozambique	0.12	0.05	0.08	0.10	0.13	0.06	0.13	0.14	0.20	0.38	0.11	-17.1%
Namibia	..	..	..	..	..	0.10	0.13	0.03	0.12	0.15	0.16	..
Niger	..	..	..	..	..	..	0.05	0.04	0.04	0.10	0.13	..
Nigeria	0.25	0.71	1.15	1.35	0.96	1.26	0.59	0.71	0.52	0.96	1.08	12.3%
Senegal	0.30	0.37	0.59	0.43	0.46	0.46	0.76	0.75	0.69	0.82	0.87	90.3%
South Africa	0.53	0.74	0.88	0.94	1.11	1.59	2.82	2.18	2.43	2.47	2.73	146.7%
South Sudan	..	..	..	..	..	..	..	..	..	0.12	0.08	..
Sudan	0.34	0.15	0.20	0.22	0.10	0.11	0.33	0.98	0.85	0.78	0.80	734.2%
United Rep. of Tanzania	0.09	0.20	0.18	0.13	0.22	0.19	0.18	0.26	0.34	0.44	0.47	111.7%
Togo	-	-	-	-	0.11	0.12	0.04	0.15	0.22	0.25	0.26	148.5%
Tunisia	0.39	0.38	0.57	0.31	0.57	0.75	0.86	0.66	0.76	0.82	0.63	9.6%
Zambia	0.04	0.14	0.23	0.12	0.20	0.10	0.13	0.17	0.09	0.12	0.12	-39.7%
Zimbabwe	0.09	0.19	0.21	0.33	0.25	0.35	0.36	0.03	0.03	0.03	0.08	-68.4%
Other Africa	0.40	0.64	0.74	0.72	0.79	0.81	1.17	1.36	1.48	2.24	2.29	189.4%
Africa	**5.44**	**7.76**	**10.82**	**11.40**	**11.75**	**13.60**	**17.91**	**17.91**	**20.32**	**21.92**	**21.76**	**85.1%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions from international aviation bunkers

million tonnes of CO_2

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Bangladesh	0.06	0.09	0.15	0.22	0.27	0.30	0.38	0.81	0.92	1.03	1.08	294.2%
Brunei Darussalam	0.00	0.06	0.07	0.05	0.11	0.21	0.21	0.25	0.33	0.23	0.26	127.8%
Cambodia	..	..	..	..	..	0.03	0.04	0.06	0.13	0.26	0.28	..
DPR of Korea	-	-	-	-	-	-	-	-	-	-	-	-
India	1.69	2.00	2.51	3.24	3.74	4.65	5.02	7.36	11.34	12.45	13.98	273.3%
Indonesia	0.17	0.33	0.73	0.66	0.97	1.18	1.22	1.54	2.04	2.54	2.66	173.8%
Malaysia	0.42	0.75	0.76	0.86	1.51	2.78	3.77	4.81	5.70	7.56	7.51	397.7%
Mongolia	..	..	..	-	0.01	0.06	0.06	0.06	0.05	0.08	0.09	575.0%
Myanmar	0.03	0.02	0.03	0.03	0.02	0.02	0.05	0.03	0.06	0.13	0.14	616.6%
Nepal	0.01	0.02	0.04	0.06	0.05	0.11	0.17	0.19	0.26	0.36	0.31	520.0%
Pakistan	1.14	1.09	1.71	1.42	1.41	1.72	1.98	2.46	2.28	2.04	2.13	51.4%
Philippines	0.71	0.83	0.66	1.03	1.02	1.17	1.43	2.14	2.96	3.11	3.64	258.1%
Singapore	0.70	1.33	2.73	3.23	5.69	7.89	12.01	13.59	17.19	21.60	22.09	288.3%
Sri Lanka	-	0.00	0.00	-	-	-	0.32	0.94	0.35	1.44	1.17	x
Chinese Taipei	1.49	1.64	1.67	0.92	1.81	4.13	5.42	6.51	6.30	7.65	8.14	349.6%
Thailand	1.27	2.19	2.41	3.16	5.64	7.59	8.35	10.27	10.00	11.25	12.07	114.0%
Viet Nam	6.98	2.63	-	-	-	0.12	0.30	0.95	2.03	2.17	2.90	x
Other non-OECD Asia	0.40	0.28	0.33	0.47	0.52	0.33	0.62	0.84	0.91	1.10	1.05	101.2%
Asia (excl. China)	**15.07**	**13.26**	**13.83**	**15.35**	**22.78**	**32.29**	**41.35**	**52.81**	**62.84**	**75.00**	**79.49**	**248.9%**
People's Rep. of China	-	-	0.10	0.85	1.30	2.22	4.22	10.07	15.56	21.47	23.35	+
Hong Kong, China	1.43	1.85	2.27	2.58	5.68	9.31	8.39	14.86	16.35	18.22	19.17	237.6%
China	**1.43**	**1.85**	**2.37**	**3.43**	**6.98**	**11.53**	**12.61**	**24.93**	**31.91**	**39.68**	**42.52**	**508.9%**
Argentina	-	-	-	-	-	1.59	2.86	2.17	1.87	2.65	2.62	x
Bolivia	-	-	-	-	-	-	0.14	0.15	0.14	0.19	0.22	x
Brazil	-	-	0.61	0.75	1.43	2.08	2.02	3.34	5.83	7.45	7.28	409.9%
Colombia	0.60	0.93	1.32	1.32	1.58	2.17	1.91	1.85	2.36	3.26	2.21	40.1%
Costa Rica	-	-	-	-	0.01	0.32	0.37	0.57	0.50	0.49	0.53	+
Cuba	0.27	0.44	0.66	0.90	0.99	0.54	0.65	0.54	0.44	0.38	0.35	-64.6%
Curaçao [1]	0.16	0.13	0.17	0.13	0.12	0.20	0.24	0.26	0.28	0.19	0.19	62.1%
Dominican Republic	0.08	0.10	0.17	0.17	0.11	0.18	1.36	1.33	1.30	1.51	1.51	+
Ecuador	0.27	0.14	0.45	0.45	0.39	0.55	0.49	0.97	1.04	1.16	1.16	195.9%
El Salvador	0.04	0.05	0.06	0.11	0.11	0.16	0.22	0.24	0.34	0.48	0.48	319.4%
Guatemala	0.15	0.11	0.13	0.12	0.13	0.14	0.15	0.23	0.20	0.06	0.19	46.5%
Haiti	0.02	0.03	0.05	0.04	0.07	0.07	0.09	0.07	0.06	0.11	0.07	-4.3%
Honduras	0.02	0.03	0.06	0.12	0.09	0.07	0.11	0.07	0.15	0.21	0.25	169.0%
Jamaica	0.42	0.33	0.30	0.40	0.47	0.53	0.54	0.61	0.59	0.59	0.59	25.9%
Nicaragua	0.05	0.06	0.06	0.04	0.08	0.06	0.08	0.05	0.06	0.07	0.08	-3.7%
Panama	0.44	1.12	0.42	0.26	0.20	0.32	0.55	0.57	1.08	1.89	2.04	901.6%
Paraguay	0.03	0.04	0.06	0.06	0.03	0.03	0.04	0.05	0.07	0.11	0.10	222.0%
Peru	0.52	0.75	0.92	0.72	0.65	1.11	1.07	0.97	1.95	2.47	2.61	300.5%
Suriname	..	..	..	..	..	..	-	-	-	-	-	..
Trinidad and Tobago	0.21	0.12	0.17	0.22	0.20	0.18	0.33	1.21	0.85	0.68	0.76	285.5%
Uruguay	-	-	-	-	-	-	0.12	0.12	0.23	0.24	0.29	x
Venezuela	0.33	0.32	1.03	0.81	1.03	1.01	0.95	2.05	1.90	1.95	2.18	111.1%
Other non-OECD Americas	1.01	0.50	0.91	0.87	1.03	1.07	1.81	1.40	1.53	1.62	1.65	60.6%
Non-OECD Americas	**4.63**	**5.20**	**7.56**	**7.50**	**8.73**	**12.37**	**16.08**	**18.81**	**22.78**	**27.78**	**27.36**	**213.3%**
Bahrain	0.43	0.85	1.55	1.22	1.44	1.16	1.13	1.74	1.97	1.23	1.36	-5.7%
Islamic Republic of Iran	7.10	7.08	2.17	1.66	1.50	1.99	2.73	2.71	3.84	3.98	4.15	176.8%
Iraq	0.24	0.82	1.06	0.59	0.99	1.28	1.64	2.00	2.52	1.68	1.68	69.5%
Jordan	0.12	0.18	0.57	0.62	0.67	0.76	0.75	0.98	1.09	1.02	0.91	35.3%
Kuwait	0.35	0.35	1.06	0.98	0.52	1.14	1.16	1.84	2.26	2.26	2.20	326.0%
Lebanon	0.29	0.24	0.15	0.32	0.16	0.66	0.40	0.47	0.71	0.73	0.74	364.0%
Oman	0.01	0.15	0.38	0.58	0.94	0.47	0.65	0.69	1.30	1.62	1.61	70.6%
Qatar	-	0.16	0.23	0.24	0.35	0.43	0.57	1.45	3.61	4.00	3.86	+
Saudi Arabia	0.48	1.42	3.49	4.61	4.84	5.74	5.91	5.50	6.23	7.32	8.41	73.8%
Syrian Arab Republic	0.24	0.66	0.72	0.88	0.88	0.63	0.42	0.33	0.10	0.05	0.05	-94.2%
United Arab Emirates	0.02	0.34	0.81	1.82	9.89	10.19	9.97	8.81	12.07	17.87	24.85	151.3%
Yemen	0.09	0.18	0.22	0.47	0.18	0.28	0.38	0.36	0.37	0.22	0.04	-78.2%
Middle East	**9.36**	**12.43**	**12.42**	**13.98**	**22.36**	**24.72**	**25.72**	**26.87**	**36.06**	**41.98**	**49.86**	**123.0%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions by sector in 2015 [1]

million tonnes of CO_2

	Total CO_2 emissions from fuel combustion	Electricity and heat production	Other energy ind. own use [2]	Manufacturing industries and construction	Transport	*of which: road*	Other sectors	*of which: residential*
World [3]	**32 294.2**	**13 540.6**	**1 654.8**	**6 066.1**	**7 737.8**	**5 792.0**	**3 294.8**	**1 865.9**
Annex I Parties	*12 406.5*	*5 067.6*	*719.3*	*1 430.0*	*3 507.6*	*3 030.7*	*1 682.0*	*982.9*
Annex II Parties	*9 741.7*	*3 705.6*	*603.0*	*1 078.4*	*3 031.0*	*2 659.8*	*1 323.6*	*734.2*
North America	*5 546.7*	*2 087.4*	*368.9*	*493.0*	*1 925.8*	*1 632.8*	*671.7*	*354.5*
Europe	*2 641.3*	*862.3*	*148.9*	*333.4*	*788.3*	*747.4*	*508.4*	*317.5*
Asia Oceania	*1 553.7*	*755.9*	*85.2*	*252.0*	*316.9*	*279.6*	*143.5*	*62.2*
Annex I EIT	*2 340.1*	*1 234.6*	*102.0*	*306.1*	*401.7*	*301.6*	*295.6*	*218.1*
Non-Annex I Parties	*18 700.9*	*8 473.1*	*935.5*	*4 636.1*	*3 043.5*	*2 761.3*	*1 612.8*	*882.9*
Annex B Kyoto Parties	*4 126.0*	*1 566.3*	*264.3*	*548.4*	*1 061.4*	*993.9*	*685.6*	*429.5*
Non-OECD Total	**19 387.3**	**8 949.9**	**918.0**	**4 722.6**	**3 065.7**	**2 697.8**	**1 731.1**	**997.4**
OECD Total	**11 720.2**	**4 590.7**	**736.8**	**1 343.6**	**3 485.4**	**3 094.1**	**1 563.7**	**868.5**
Canada	*549.2*	*102.9*	*117.3*	*62.1*	*173.8*	*140.0*	*93.1*	*40.4*
Chile	*81.6*	*33.0*	*2.3*	*15.4*	*25.2*	*22.6*	*5.6*	*3.1*
Mexico	*442.3*	*143.0*	*50.5*	*66.0*	*150.5*	*145.9*	*32.3*	*17.7*
United States	*4 997.5*	*1 984.5*	*251.6*	*430.9*	*1 752.0*	*1 492.8*	*578.6*	*314.1*
OECD Americas	***6 070.7***	***2 263.5***	***421.7***	***574.4***	***2 101.5***	***1 801.4***	***709.6***	***375.3***
Australia	*380.9*	*190.5*	*32.7*	*41.9*	*94.7*	*79.7*	*21.1*	*9.2*
Israel [4]	*62.3*	*39.0*	*2.2*	*2.5*	*16.9*	*16.8*	*1.6*	*0.3*
Japan	*1 141.6*	*560.0*	*50.9*	*203.6*	*207.8*	*187.0*	*119.3*	*52.4*
Korea	**586.0**	**305.6**	**45.6**	**80.6**	**97.1**	**92.3**	**57.1**	**30.9**
New Zealand	**31.2**	**5.5**	**1.7**	**6.5**	**14.4**	**13.0**	**3.2**	**0.6**
OECD Asia Oceania	***2 201.9***	***1 100.5***	***133.1***	***335.2***	***430.9***	***388.8***	***202.3***	***93.4***
Austria	*62.1*	*13.7*	*6.5*	*10.9*	*22.7*	*21.9*	*8.3*	*5.7*
Belgium	*92.5*	*17.4*	*5.9*	*18.4*	*26.3*	*25.5*	*24.4*	*16.1*
Czech Republic	*99.6*	*54.2*	*4.3*	*11.9*	*17.3*	*16.8*	*11.8*	*7.8*
Denmark	*32.0*	*10.5*	*2.2*	*3.4*	*11.5*	*10.7*	*4.3*	*2.1*
Estonia	*15.5*	*11.7*	*0.1*	*0.6*	*2.3*	*2.2*	*0.8*	*0.2*
Finland	*42.1*	*16.8*	*3.3*	*7.2*	*10.9*	*10.2*	*3.9*	*1.1*
France	*290.5*	*32.6*	*16.7*	*40.6*	*122.4*	*118.0*	*78.1*	*43.4*
Germany	**729.8**	**322.8**	**23.6**	**93.9**	**157.5**	**152.4**	**131.8**	**84.7**
Greece	**64.6**	**30.5**	**4.1**	**6.3**	**16.7**	**14.4**	**7.0**	**5.4**
Hungary	*42.5*	*11.8*	*1.2*	*6.3*	*11.9*	*11.7*	*11.2*	*6.7*
Iceland	*2.1*	*0.0*	-	*0.5*	*0.8*	*0.8*	*0.7*	*0.0*
Ireland	*35.3*	*11.7*	*0.4*	*3.9*	*11.1*	*10.7*	*8.2*	*6.0*
Italy	*330.7*	*108.9*	*12.0*	*36.0*	*103.0*	*97.4*	*70.9*	*46.7*
Latvia	*6.8*	*1.9*	-	*0.8*	*3.1*	*2.8*	*1.2*	*0.4*
Luxembourg	*8.8*	*0.5*	-	*1.0*	*5.8*	*5.7*	*1.6*	*1.1*
Netherlands	*156.0*	*62.6*	*10.4*	*22.0*	*30.1*	*28.8*	*30.9*	*16.1*
Norway	*36.7*	*2.1*	*12.3*	*5.6*	*14.3*	*10.9*	*2.5*	*0.3*
Poland	**282.4**	**150.0**	**8.1**	**27.4**	**46.4**	**45.3**	**50.6**	**33.7**
Portugal	**47.0**	**19.0**	**2.7**	**5.6**	**15.8**	**15.1**	**4.0**	**1.8**
Slovak Republic	*29.4*	*6.7*	*5.0*	*7.1*	*6.0*	*5.6*	*4.6*	*2.6*
Slovenia	*12.8*	*4.6*	*0.0*	*1.6*	*5.3*	*5.2*	*1.3*	*0.7*
Spain	*247.0*	*81.4*	*18.8*	*28.9*	*85.5*	*78.3*	*32.4*	*16.2*
Sweden	*37.1*	*6.2*	*2.8*	*6.9*	*19.7*	*19.1*	*1.5*	*0.2*
Switzerland	*37.3*	*2.6*	*0.4*	*5.1*	*16.2*	*15.9*	*13.0*	*8.5*
Turkey	*317.2*	*123.6*	*14.3*	*44.9*	*72.5*	*66.9*	*62.0*	*30.2*
United Kingdom	*389.8*	*122.9*	*26.7*	*37.2*	*118.1*	*111.7*	*84.8*	*62.2*
OECD Europe [4]	***3 447.6***	***1 226.8***	***182.0***	***434.0***	***953.0***	***904.0***	***651.9***	***399.8***
IEA/Accession/Association	**23 531.8**	**10 313.1**	**1 157.0**	**4 805.2**	**4 766.1**	**4 192.9**	**2 490.4**	**1 343.1**
European Union - 28	**3 201.2**	**1 164.5**	**162.3**	**398.0**	**886.9**	**845.7**	**589.5**	**370.2**
G20	*26 278.7*	*11 684.7*	*1 308.4*	*5 207.2*	*5 342.5*	*4 657.9*	*2 736.0*	*1 523.3*
Africa	*1 140.4*	*484.2*	*83.3*	*143.1*	*313.5*	*300.0*	*116.2*	*72.4*
Americas	*7 203.2*	*2 544.4*	*514.3*	*789.3*	*2 522.7*	*2 193.1*	*832.5*	*437.7*
Asia	*17 258.6*	*8 149.1*	*770.4*	*4 434.4*	*2 394.1*	*2 136.6*	*1 510.6*	*807.0*
Europe	*5 080.0*	*2 160.0*	*252.4*	*649.1*	*1 207.9*	*1 066.6*	*810.5*	*538.6*
Oceania	*425.4*	*202.9*	*34.4*	*50.2*	*112.8*	*95.7*	*25.1*	*10.1*

1. This table shows CO_2 emissions for the same sectors which are present throughout this publication. In particular, the emissions from electricity and heat production are shown separately and not reallocated as in the table on pages II.25-II.27. 2. Includes emissions from own use in petroleum refining, the manufacture of solid fuels, coal mining, oil and gas extraction and other energy-producing industries. 3. World includes international bunkers in the transport sector. 4. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions by sector in 2015

million tonnes of CO_2

	Total CO_2 emissions from fuel combustion	Electricity and heat production	Other energy ind. own use	Manufacturing industries and construction	Transport	*of which: road*	Other sectors	*of which: residential*
Non-OECD Total	**19 387.3**	**8 949.9**	**918.0**	**4 722.6**	**3 065.7**	**2 697.8**	**1 731.1**	**997.4**
Albania	3.8	-	0.1	0.7	2.4	2.3	0.6	0.2
Armenia	4.7	1.3	-	0.4	1.5	1.5	1.5	0.8
Azerbaijan	30.8	12.5	1.9	2.3	7.0	6.3	7.1	5.5
Belarus	53.2	27.5	3.6	4.5	10.5	8.8	7.1	4.2
Bosnia and Herzegovina	22.2	14.8	0.7	2.2	3.1	3.1	1.4	0.6
Bulgaria	43.8	28.3	1.2	3.7	9.0	8.6	1.6	0.7
Croatia	15.5	3.3	1.5	2.2	5.8	5.6	2.7	1.5
Cyprus [1]	5.9	2.9	-	0.6	1.8	1.8	0.6	0.3
FYR of Macedonia	7.2	4.0	0.0	1.1	1.8	1.8	0.3	0.0
Georgia	8.4	1.3	0.0	1.6	3.6	3.6	1.9	1.4
Gibraltar	0.6	0.2	-	-	0.4	0.4	-	-
Kazakhstan	225.1	87.0	48.7	50.9	14.8	13.3	23.7	14.5
Kosovo	8.6	6.4	-	0.7	1.1	1.1	0.4	0.1
Kyrgyzstan	9.9	2.9	0.1	1.8	2.7	2.7	2.4	1.7
Lithuania	10.5	1.7	1.6	1.2	5.1	4.8	1.1	0.6
Malta	1.6	0.8	-	0.0	0.6	0.5	0.2	0.0
Republic of Moldova	7.6	3.6	-	0.8	1.9	1.9	1.3	0.8
Montenegro	2.4	1.6	-	0.2	0.6	0.5	0.1	0.0
Romania	69.5	28.9	3.1	12.4	15.4	14.8	9.8	6.2
Russian Federation	1 469.0	811.9	68.0	184.6	240.6	150.4	164.0	130.2
Serbia	44.5	31.7	0.7	4.0	5.8	5.8	2.3	1.2
Tajikistan	4.3	0.3	0.0	0.0	2.3	2.3	1.7	-
Turkmenistan	69.1	20.7	5.2	2.4	11.8	7.9	29.0	0.5
Ukraine	189.4	92.1	4.4	41.9	23.1	18.9	28.0	22.6
Uzbekistan	95.6	40.0	2.9	12.6	6.4	3.6	33.7	25.9
Non-OECD Europe and Eurasia [1]	**2 403.4**	**1 225.7**	**143.6**	**332.7**	**379.2**	**272.3**	**322.3**	**219.8**
Algeria	130.4	36.8	12.8	10.7	46.5	44.3	23.5	20.4
Angola	20.4	3.8	0.2	2.2	9.1	8.3	5.1	1.9
Benin	5.3	0.2	-	0.4	4.6	4.6	0.1	0.1
Botswana	7.1	3.8	-	0.7	2.4	2.3	0.2	0.0
Cameroon	6.0	1.2	0.4	0.5	3.5	3.3	0.5	0.5
Congo	2.7	0.5	-	0.1	2.1	1.7	0.1	0.1
Côte d'Ivoire	9.7	3.8	0.2	1.4	3.2	2.8	1.1	0.4
Dem. Rep. of the Congo	2.7	0.0	-	0.0	2.7	2.2	0.0	0.0
Egypt	198.6	86.0	11.8	26.7	55.0	52.3	19.2	16.3
Eritrea	0.6	0.3	-	0.0	0.2	0.2	0.1	0.0
Ethiopia	10.2	0.0	-	3.5	4.9	4.7	1.8	0.8
Gabon	3.2	0.9	0.0	1.2	0.8	0.8	0.4	0.2
Ghana	14.0	3.3	0.0	1.8	7.9	7.3	1.1	0.8
Kenya	14.1	1.1	0.1	3.4	8.1	7.9	1.5	1.3
Libya	45.3	24.9	0.5	0.9	17.8	17.8	1.2	1.2
Mauritius	4.0	2.4	-	0.3	1.0	1.0	0.2	0.1
Morocco	54.9	21.6	0.6	7.7	15.9	15.8	9.0	6.2
Mozambique	5.0	1.3	0.0	0.8	2.5	2.3	0.4	0.1
Namibia	3.8	0.0	-	0.3	2.1	2.0	1.3	0.0
Niger	2.0	0.5	-	0.2	1.2	1.2	0.1	0.1
Nigeria	64.4	13.0	11.2	7.5	24.6	24.5	8.1	1.6
Senegal	6.6	2.4	0.0	1.2	2.6	2.5	0.4	0.3
South Africa	427.6	244.4	43.6	56.0	53.6	49.9	30.1	15.3
South Sudan	1.1	0.3	0.1	0.0	0.7	0.7	0.0	0.0
Sudan	15.4	4.0	0.2	1.8	7.9	7.9	1.5	0.5
United Rep. of Tanzania	11.6	2.8	-	1.4	7.0	7.0	0.4	0.3
Togo	1.9	0.0	-	0.2	1.5	1.5	0.2	0.2
Tunisia	25.6	9.2	0.5	5.4	6.7	6.5	3.8	2.0
Zambia	3.3	0.3	0.0	1.5	1.1	1.1	0.3	0.0
Zimbabwe	11.8	7.1	0.1	1.0	2.5	2.3	1.0	0.2
Other Africa	30.9	8.4	0.9	4.1	13.9	13.3	3.7	1.5
Africa	**1 140.4**	**484.2**	**83.3**	**143.1**	**313.5**	**300.0**	**116.2**	**72.4**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions by sector in 2015

million tonnes of CO_2

	Total CO_2 emissions from fuel combustion	Electricity and heat production	Other energy ind. own use	Manufacturing industries and construction	Transport	*of which: road*	Other sectors	*of which: residential*
Bangladesh	70.5	33.5	0.1	16.8	9.3	7.1	10.8	7.4
Brunei Darussalam	6.0	2.4	1.7	0.4	1.4	1.4	0.1	0.1
Cambodia	8.0	2.5	-	0.2	4.2	3.6	1.1	0.5
DPR of Korea	22.5	3.6	0.0	13.3	1.4	1.4	4.2	0.1
India	2 066.0	1 066.7	36.7	534.8	254.4	236.5	173.4	86.5
Indonesia	441.9	171.4	24.0	90.5	128.6	113.1	27.4	20.0
Malaysia	220.4	103.1	20.4	28.8	61.4	59.0	6.7	1.8
Mongolia	17.2	11.8	0.0	1.4	2.0	1.5	1.9	1.1
Myanmar	24.4	4.9	0.8	5.2	10.3	8.9	3.2	0.0
Nepal	5.6	-	-	2.2	2.3	2.3	1.1	0.4
Pakistan	146.0	45.5	1.5	38.9	40.8	39.6	19.3	15.7
Philippines	103.9	50.6	1.3	14.1	30.8	26.3	7.1	2.6
Singapore	44.4	21.9	4.5	10.7	6.6	6.5	0.6	0.2
Sri Lanka	19.5	6.8	0.0	3.0	8.7	8.4	1.0	0.5
Chinese Taipei	249.4	148.7	14.6	39.7	36.6	35.9	9.8	4.3
Thailand	247.5	90.8	19.5	54.4	64.6	61.6	18.3	4.2
Viet Nam	168.3	73.5	-	50.7	32.1	31.2	12.0	6.8
Other non-OECD Asia	25.3	7.9	-	5.4	10.3	8.5	1.7	0.6
Asia (excl. China)	**3 886.8**	**1 845.6**	**125.1**	**910.7**	**705.7**	**652.7**	**299.6**	**152.9**
People's Rep. of China	9 040.7	4 395.4	337.1	2 768.9	836.6	691.0	702.8	359.0
Hong Kong, China	43.9	27.9	-	7.1	7.3	7.3	1.6	0.8
China	**9 084.6**	**4 423.3**	**337.1**	**2 776.0**	**843.9**	**698.2**	**704.4**	**359.8**
Argentina	191.4	55.7	18.2	31.4	46.8	41.7	39.4	23.7
Bolivia	18.3	3.4	0.8	1.9	7.7	7.3	4.5	1.4
Brazil	450.8	91.1	28.8	93.8	197.3	178.5	39.9	18.0
Colombia	72.3	13.8	5.2	14.8	29.7	28.6	8.7	3.6
Costa Rica	6.9	0.1	0.0	1.0	5.3	5.3	0.5	0.2
Cuba	29.9	15.6	0.6	8.5	1.4	1.3	3.7	0.6
Curaçao [1]	4.9	0.6	2.6	0.4	1.1	1.1	0.2	0.2
Dominican Republic	21.4	11.1	0.1	3.0	5.6	4.3	1.6	1.3
Ecuador	37.6	8.7	1.4	4.4	16.9	16.1	6.2	2.4
El Salvador	6.5	1.6	-	0.8	3.4	3.4	0.7	0.6
Guatemala	15.1	4.7	0.1	2.0	7.4	7.4	0.9	0.9
Haiti	3.2	0.9	-	0.6	1.4	1.4	0.3	0.3
Honduras	9.2	3.5	-	1.3	4.1	3.9	0.4	0.3
Jamaica	7.0	2.7	-	2.3	1.7	1.7	0.3	0.1
Nicaragua	5.1	1.6	0.0	0.6	2.2	2.0	0.6	0.1
Panama	10.7	3.2	-	2.4	4.3	4.3	0.8	0.6
Paraguay	5.7	0.0	-	0.2	5.3	5.3	0.2	0.2
Peru	49.1	11.8	3.9	8.9	20.8	20.3	3.8	2.3
Suriname	2.1	0.9	0.0	0.1	0.7	0.4	0.4	0.0
Trinidad and Tobago	22.8	6.0	8.2	4.7	3.4	3.0	0.4	0.4
Uruguay	6.4	0.7	0.4	0.8	3.5	3.5	1.0	0.4
Venezuela	136.8	33.2	22.0	30.3	45.5	45.5	5.9	4.5
Other non-OECD Americas	19.4	10.1	0.0	0.8	5.8	5.5	2.6	0.4
Non-OECD Americas	**1 132.5**	**281.0**	**92.6**	**214.9**	**421.2**	**391.8**	**122.9**	**62.4**
Bahrain	30.1	20.4	3.7	2.1	3.5	3.4	0.3	0.3
Islamic Republic of Iran	552.4	154.6	37.9	87.9	136.6	121.4	135.4	105.6
Iraq	132.1	78.6	11.2	8.7	25.3	25.3	8.3	8.3
Jordan	23.8	11.2	0.6	1.8	7.8	7.8	2.3	1.5
Kuwait	85.4	42.4	13.7	15.9	12.7	12.7	0.6	0.6
Lebanon	22.7	12.9	-	1.1	5.6	5.6	3.1	3.1
Oman	64.3	16.7	7.6	23.9	13.1	13.1	3.0	0.5
Qatar	79.9	20.2	30.9	13.6	15.0	15.0	0.3	0.3
Saudi Arabia	531.5	245.7	26.9	112.1	142.1	139.3	4.6	4.6
Syrian Arab Republic	26.2	11.2	0.6	3.6	6.4	6.3	4.5	2.3
United Arab Emirates	180.2	72.3	2.6	73.4	30.9	29.9	1.0	1.0
Yemen	11.1	3.9	0.8	1.2	3.1	3.1	2.3	1.8
Middle East	**1 739.7**	**690.2**	**136.3**	**345.3**	**402.1**	**382.9**	**165.8**	**129.9**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions with electricity and heat allocated to consuming sectors [1] in 2015

million tonnes of CO_2

	Total CO_2 emissions from fuel combustion	Other energy ind. own use [2]	Manufacturing industries and construction	Transport	*of which: road*	Other sectors	*of which: residential*
World [3]	**32 294.2**	**2 223.6**	**11 907.4**	**7 973.1**	**5 877.7**	**10 190.2**	**5 382.2**
Annex I Parties	*12 406.5*	*975.6*	*2 935.1*	*3 582.2*	*3 032.8*	*4 913.6*	*2 590.8*
Annex II Parties	*9 741.7*	*724.4*	*2 104.5*	*3 067.2*	*2 661.8*	*3 845.5*	*1 913.4*
North America	*5 546.7*	*439.4*	*954.0*	*1 931.2*	*1 634.1*	*2 222.1*	*1 086.6*
Europe	*2 641.3*	*180.2*	*655.1*	*804.1*	*748.1*	*1 001.9*	*557.9*
Asia Oceania	*1 553.7*	*104.8*	*495.4*	*331.9*	*279.6*	*621.5*	*269.0*
Annex I EIT	*2 340.1*	*235.6*	*719.9*	*439.6*	*301.8*	*945.0*	*621.2*
Non-Annex I Parties	*18 700.9*	*1 248.0*	*8 972.2*	*3 204.1*	*2 844.9*	*5 276.6*	*2 791.4*
Annex B Kyoto Parties	*4 126.0*	*342.8*	*1 110.4*	*1 091.6*	*994.9*	*1 581.1*	*885.6*
Non-OECD Total	**19 387.3**	**1 339.4**	**9 132.9**	**3 258.1**	**2 781.5**	**5 656.8**	**3 133.3**
OECD Total	**11 720.2**	**884.1**	**2 774.4**	**3 528.2**	**3 096.2**	**4 533.4**	**2 248.9**
Canada	549.2	122.9	95.5	174.8	140.2	156.1	72.6
Chile	81.6	2.6	36.1	25.7	22.7	17.2	8.9
Mexico	442.3	52.9	142.5	151.1	145.9	95.8	48.3
United States	4 997.5	316.5	858.5	1 756.4	1 493.9	2 066.1	1 013.9
OECD Americas	**6 070.7**	**495.0**	**1 132.7**	**2 108.0**	**1 802.7**	**2 335.1**	**1 143.8**
Australia	380.9	44.3	107.0	99.3	79.7	130.2	59.3
Israel [4]	62.3	2.8	12.1	16.9	16.8	30.6	12.8
Japan	1 141.6	58.7	380.0	218.2	187.0	484.7	207.3
Korea	586.0	52.0	240.7	98.3	92.3	195.0	75.7
New Zealand	31.2	1.8	8.4	14.4	13.0	6.6	2.3
OECD Asia Oceania	**2 201.9**	**159.6**	**748.2**	**447.1**	**388.8**	**847.0**	**357.5**
Austria	62.1	6.9	15.9	23.2	21.9	16.1	9.8
Belgium	92.5	6.5	26.7	26.6	25.5	32.7	19.8
Czech Republic	99.6	6.5	31.6	18.4	16.9	43.1	25.1
Denmark	32.0	2.4	5.0	11.6	10.7	12.9	7.1
Estonia	15.5	0.7	2.9	2.3	2.2	9.5	4.9
Finland	42.1	3.5	14.3	11.0	10.2	13.3	6.3
France	290.5	17.8	48.2	123.1	118.0	101.4	55.1
Germany	729.8	32.0	231.0	163.2	152.5	303.6	173.1
Greece	64.6	5.1	13.6	16.9	14.4	29.0	15.8
Hungary	42.5	1.6	11.0	12.2	11.7	17.6	10.6
Iceland	2.1	0.0	0.5	0.8	0.8	0.7	0.0
Ireland	35.3	0.4	8.5	11.1	10.7	15.3	9.7
Italy	330.7	19.5	80.0	106.3	97.5	125.0	70.1
Latvia	6.8	-	1.1	3.1	2.8	2.7	1.3
Luxembourg	8.8	-	1.2	5.8	5.7	1.8	1.1
Netherlands	156.0	14.5	47.1	30.9	28.9	63.5	27.7
Norway	36.7	12.4	6.4	14.3	10.9	3.7	0.9
Poland	282.4	19.6	68.7	48.6	45.3	145.4	86.8
Portugal	47.0	4.0	12.2	15.9	15.1	15.0	6.1
Slovak Republic	29.4	5.4	9.8	6.1	5.7	8.2	4.6
Slovenia	12.8	0.0	3.7	5.3	5.2	3.7	2.0
Spain	247.0	21.0	54.9	87.6	78.7	83.5	40.1
Sweden	37.1	2.9	8.8	19.8	19.1	5.5	2.7
Switzerland	37.3	0.4	5.9	16.3	15.9	14.7	9.3
Turkey	317.2	15.5	109.6	73.0	66.9	119.1	54.5
United Kingdom	389.8	30.8	75.0	119.8	111.8	164.2	103.1
OECD Europe [4]	**3 447.6**	**229.6**	**893.6**	**973.2**	**904.8**	**1 351.2**	**747.7**
IEA/Accession/Association	*23 531.8*	*1 550.4*	*9 544.5*	*4 955.5*	*4 278.4*	*7 481.4*	*3 791.3*
European Union - 28	*3 201.2*	*213.0*	*813.1*	*907.2*	*846.5*	*1 268.0*	*715.7*
G20	*26 278.7*	*1 840.1*	*10 405.8*	*5 565.4*	*4 743.5*	*8 467.4*	*4 425.9*
Africa	*1 140.4*	*98.4*	*352.6*	*318.9*	*300.0*	*370.5*	*212.8*
Americas	*7 203.2*	*592.3*	*1 455.5*	*2 530.4*	*2 194.4*	*2 625.0*	*1 296.8*
Asia	*17 258.6*	*1 067.5*	*8 576.6*	*2 557.6*	*2 220.2*	*5 056.9*	*2 595.7*
Europe	*5 080.0*	*419.3*	*1 402.6*	*1 262.0*	*1 067.5*	*1 996.1*	*1 213.0*
Oceania	*425.4*	*46.1*	*121.6*	*117.5*	*95.7*	*140.2*	*63.5*

1. CO_2 emissions from electricity and heat generation have been allocated to final consuming sectors in proportion to the electricity and heat consumed. The detailed unallocated emissions are shown in the table on pages II.22-II.24. 2. Includes emissions from own use in petroleum refining, the manufacture of solid fuels, coal mining, oil and gas extraction and other energy-producing industries. 3. World includes international bunkers in the transport sector. 4. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions with electricity and heat allocated to consuming sectors in 2015

million tonnes of CO_2

	Total CO_2 emissions from fuel combustion	Other energy ind. own use	Manufacturing industries and construction	Transport	*of which: road*	Other sectors	*of which: residential*
Non-OECD Total	**19 387.3**	**1 339.4**	**9 132.9**	**3 258.1**	**2 781.5**	**5 656.8**	**3 133.3**
Albania	3.8	0.1	0.7	2.4	2.3	0.6	0.2
Armenia	4.7	-	0.8	1.5	1.5	2.4	1.3
Azerbaijan	30.8	3.7	4.1	7.3	6.3	15.7	10.6
Belarus	53.2	5.9	12.8	10.8	8.8	23.7	13.7
Bosnia and Herzegovina	22.2	1.3	7.0	3.2	3.1	10.8	7.5
Bulgaria	43.8	3.2	12.9	9.2	8.6	18.4	10.8
Croatia	15.5	1.5	2.9	5.9	5.6	5.2	2.9
Cyprus [1]	5.9	0.0	0.9	1.8	1.8	3.2	1.4
FYR of Macedonia	7.2	0.1	2.2	1.9	1.8	3.1	2.0
Georgia	8.4	0.0	2.0	3.6	3.6	2.7	1.7
Gibraltar	0.6	-	-	0.4	0.4	0.2	-
Kazakhstan	225.1	57.6	87.7	16.8	13.3	63.1	34.2
Kosovo	8.6	0.0	2.5	1.1	1.1	4.9	3.4
Kyrgyzstan	9.9	0.1	2.3	2.7	2.7	4.8	3.5
Lithuania	10.5	1.6	1.6	5.1	4.8	2.2	1.2
Malta	1.6	-	0.2	0.6	0.5	0.9	0.3
Republic of Moldova	7.6	0.0	1.7	2.0	1.9	3.9	2.5
Montenegro	2.4	-	0.6	0.6	0.5	1.2	0.7
Romania	69.5	5.3	23.2	15.9	14.9	25.0	16.1
Russian Federation	1 469.0	174.9	460.3	270.6	150.4	563.1	388.8
Serbia	44.5	2.0	12.7	6.1	5.8	23.6	17.2
Tajikistan	4.3	0.0	0.1	2.3	2.3	1.9	0.1
Turkmenistan	69.1	7.9	7.7	12.1	7.9	41.3	3.6
Ukraine	189.4	9.2	77.1	26.0	18.9	77.1	52.4
Uzbekistan	95.6	3.8	22.0	7.2	3.6	62.6	30.4
Non-OECD Europe and Eurasia [1]	**2 403.4**	**278.3**	**746.2**	**417.3**	**272.5**	**961.6**	**606.6**
Algeria	130.4	13.4	23.3	47.2	44.3	46.4	34.6
Angola	20.4	0.2	3.5	9.1	8.3	7.6	4.4
Benin	5.3	-	0.5	4.6	4.6	0.2	0.1
Botswana	7.1	-	2.3	2.4	2.3	2.4	1.1
Cameroon	6.0	0.4	1.1	3.5	3.3	1.0	0.7
Congo	2.7	-	0.3	2.1	1.7	0.3	0.3
Côte d'Ivoire	9.7	0.2	2.6	3.2	2.8	3.7	1.6
Dem. Rep. of the Congo	2.7	-	0.1	2.7	2.2	0.0	0.0
Egypt	198.6	11.8	48.6	55.3	52.3	82.9	53.8
Eritrea	0.6	-	0.1	0.2	0.2	0.3	0.2
Ethiopia	10.2	-	3.5	4.9	4.7	1.8	0.8
Gabon	3.2	0.1	1.4	0.8	0.8	1.0	0.6
Ghana	14.0	0.0	3.4	7.9	7.3	2.8	1.7
Kenya	14.1	0.1	4.0	8.1	7.9	2.0	1.6
Libya	45.3	0.5	4.5	17.8	17.8	22.5	11.0
Mauritius	4.0	0.0	1.2	1.0	1.0	1.7	0.9
Morocco	54.9	0.8	15.5	16.1	15.8	22.4	13.4
Mozambique	5.0	0.0	1.7	2.5	2.3	0.8	0.3
Namibia	3.8	-	0.3	2.1	2.0	1.4	0.0
Niger	2.0	0.0	0.3	1.2	1.2	0.4	0.4
Nigeria	64.4	11.3	9.7	24.6	24.5	18.9	9.0
Senegal	6.6	0.0	1.9	2.6	2.5	2.1	1.1
South Africa	427.6	57.2	197.3	57.6	49.9	115.5	58.9
South Sudan	1.1	0.1	0.0	0.7	0.7	0.3	0.1
Sudan	15.4	0.2	2.4	7.9	7.9	4.9	2.8
United Rep. of Tanzania	11.6	0.0	2.2	7.0	7.0	2.4	1.5
Togo	1.9	-	0.2	1.5	1.5	0.2	0.2
Tunisia	25.6	0.7	8.5	6.8	6.5	9.6	4.7
Zambia	3.3	0.0	1.7	1.1	1.1	0.4	0.1
Zimbabwe	11.8	0.1	3.7	2.5	2.3	5.5	2.5
Other Africa	30.9	1.0	7.1	13.9	13.3	8.9	4.4
Africa	**1 140.4**	**98.4**	**352.6**	**318.9**	**300.0**	**370.5**	**212.8**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions with electricity and heat allocated to consuming sectors in 2015

million tonnes of CO_2

	Total CO_2 emissions from fuel combustion	Other energy ind. own use	Manufacturing industries and construction	Transport	*of which: road*	Other sectors	*of which: residential*
Bangladesh	70.5	0.1	35.4	9.3	7.1	25.7	18.7
Brunei Darussalam	6.0	1.9	0.5	1.4	1.4	2.2	1.0
Cambodia	8.0	-	0.7	4.2	3.6	3.1	1.8
DPR of Korea	22.5	0.0	15.1	1.4	1.4	6.0	0.1
India	2 066.0	42.4	1 001.2	271.8	236.5	750.6	341.7
Indonesia	441.9	24.0	144.7	128.6	113.1	144.6	92.7
Malaysia	220.4	20.4	75.9	61.6	59.0	62.5	24.1
Mongolia	17.2	0.0	5.7	2.0	1.5	9.4	5.3
Myanmar	24.4	0.8	6.0	10.3	8.9	7.3	1.3
Nepal	5.6	-	2.2	2.3	2.3	1.1	0.4
Pakistan	146.0	1.5	52.3	40.8	39.6	51.5	37.4
Philippines	103.9	1.3	30.9	30.9	26.3	40.8	19.6
Singapore	44.4	4.5	19.4	7.8	6.5	12.7	3.5
Sri Lanka	19.5	0.0	5.2	8.7	8.4	5.6	3.3
Chinese Taipei	249.4	17.0	124.2	37.5	35.9	70.7	32.8
Thailand	247.5	19.5	94.0	64.7	61.6	69.3	25.2
Viet Nam	168.3	-	90.2	32.1	31.2	46.1	32.7
Other non-OECD Asia	25.3	-	8.6	10.3	8.5	6.4	2.9
Asia (excl. China)	**3 886.8**	**133.4**	**1 712.3**	**725.4**	**652.7**	**1 315.6**	**644.4**
People's Rep. of China	9 040.7	577.8	5 512.6	964.3	774.4	1 986.0	1 082.0
Hong Kong, China	43.9	-	9.1	7.3	7.3	27.5	8.2
China	**9 084.6**	**577.8**	**5 521.7**	**971.6**	**781.7**	**2 013.5**	**1 090.2**
Argentina	191.4	18.2	53.0	47.0	41.7	73.1	43.9
Bolivia	18.3	0.8	2.8	7.7	7.3	6.9	2.7
Brazil	450.8	32.8	128.6	197.8	178.5	91.6	41.2
Colombia	72.3	5.2	19.1	29.8	28.6	18.2	9.5
Costa Rica	6.9	0.0	1.0	5.3	5.3	0.5	0.2
Cuba	29.9	0.6	12.2	1.7	1.3	15.4	8.8
Curaçao [1]	4.9	2.6	0.7	1.1	1.1	0.4	0.2
Dominican Republic	21.4	0.1	7.1	5.6	4.3	8.6	5.0
Ecuador	37.6	1.4	7.7	16.9	16.1	11.5	5.0
El Salvador	6.5	-	1.4	3.4	3.4	1.7	1.1
Guatemala	15.1	0.1	3.8	7.4	7.4	3.8	2.6
Haiti	3.2	-	1.0	1.4	1.4	0.8	0.7
Honduras	9.2	-	2.2	4.1	3.9	2.9	1.6
Jamaica	7.0	-	3.3	1.7	1.7	2.0	1.0
Nicaragua	5.1	0.0	1.2	2.2	2.0	1.7	0.7
Panama	10.7	-	2.7	4.3	4.3	3.7	1.6
Paraguay	5.7	-	0.2	5.3	5.3	0.2	0.2
Peru	49.1	3.9	15.4	20.8	20.3	9.1	4.9
Suriname	2.1	0.0	0.5	0.7	0.4	0.9	0.3
Trinidad and Tobago	22.8	8.2	8.4	3.4	3.0	2.8	2.1
Uruguay	6.4	0.4	1.0	3.5	3.5	1.5	0.7
Venezuela	136.8	22.7	44.4	45.6	45.5	24.2	14.7
Other non-OECD Americas	19.4	0.0	5.1	5.8	5.5	8.4	4.3
Non-OECD Americas	**1 132.5**	**97.3**	**322.8**	**422.4**	**391.8**	**289.9**	**153.1**
Bahrain	30.1	3.7	12.4	3.5	3.4	10.4	5.9
Islamic Republic of Iran	552.4	39.7	128.0	137.0	121.4	247.6	160.7
Iraq	132.1	11.2	22.9	25.3	25.3	72.6	44.9
Jordan	23.8	0.7	4.4	7.8	7.8	10.9	6.5
Kuwait	85.4	19.6	15.9	12.7	12.7	37.1	24.2
Lebanon	22.7	-	4.5	5.6	5.6	12.7	8.1
Oman	64.3	7.6	26.6	13.1	13.1	17.0	8.4
Qatar	79.9	30.9	20.2	15.0	15.0	13.9	8.7
Saudi Arabia	531.5	36.8	152.0	142.1	139.3	200.5	121.0
Syrian Arab Republic	26.2	0.6	7.3	6.4	6.3	11.9	7.4
United Arab Emirates	180.2	2.6	81.9	30.9	29.9	64.9	25.7
Yemen	11.1	0.8	1.3	3.1	3.1	6.0	4.6
Middle East	**1 739.7**	**154.1**	**477.4**	**402.5**	**382.9**	**705.7**	**426.2**

1. Please refer to the chapter *Geographical Coverage* in Part I.

Total primary energy supply

petajoules

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
World [1]	**231 235**	**258 865**	**301 655**	**323 470**	**367 351**	**386 343**	**419 833**	**481 445**	**538 969**	**569 596**	**571 388**	**55.5%**
Annex I Parties	*..*	*..*	*..*	*..*	*233 956*	*229 746*	*241 497*	*251 032*	*245 850*	*238 047*	*235 892*	*0.8%*
Annex II Parties	*130 357*	*138 416*	*153 270*	*154 071*	*168 062*	*180 510*	*194 841*	*201 355*	*194 144*	*186 153*	*184 912*	*10.0%*
North America	*72 382*	*76 179*	*83 594*	*82 355*	*89 025*	*96 344*	*105 799*	*108 487*	*103 852*	*104 487*	*102 931*	*15.6%*
Europe	*44 326*	*46 580*	*51 961*	*53 017*	*56 519*	*58 992*	*62 326*	*65 675*	*63 306*	*57 174*	*57 877*	*2.4%*
Asia Oceania	*13 648*	*15 658*	*17 715*	*18 699*	*22 517*	*25 174*	*26 716*	*27 193*	*26 986*	*24 492*	*24 104*	*7.0%*
Annex I EIT	*..*	*..*	*..*	*..*	*63 601*	*46 558*	*43 360*	*46 022*	*47 103*	*46 692*	*45 475*	*-28.5%*
Non-Annex I Parties	*..*	*..*	*..*	*..*	*124 926*	*146 952*	*166 866*	*217 059*	*278 098*	*316 318*	*319 511*	*155.8%*
Annex B Kyoto Parties	*..*	*..*	*..*	*..*	*90 089*	*85 064*	*85 686*	*91 422*	*89 962*	*82 102*	*82 264*	*-8.7%*
Intl. aviation bunkers	**2 368**	**2 432**	**2 827**	**3 146**	**3 622**	**4 061**	**4 977**	**5 913**	**6 401**	**7 056**	**7 408**	**104.5%**
Intl. marine bunkers	**4 597**	**4 433**	**4 647**	**3 993**	**4 848**	**5 584**	**6 492**	**7 440**	**8 621**	**8 175**	**8 576**	**76.9%**
Non-OECD Total	**83 081**	**100 545**	**123 876**	**143 727**	**169 000**	**172 211**	**186 478**	**236 480**	**296 452**	**333 564**	**335 201**	**98.3%**
OECD Total	**141 189**	**151 455**	**170 305**	**172 604**	**189 882**	**204 487**	**221 885**	**231 612**	**227 496**	**220 801**	**220 203**	**16.0%**
Canada	5 918	6 948	8 036	8 080	8 846	9 790	10 619	11 405	11 105	11 674	11 312	27.9%
Chile	364	320	397	401	587	768	1 054	1 188	1 292	1 475	1 512	157.8%
Mexico	1 799	2 476	3 982	4 547	5 178	5 517	6 314	7 560	7 474	7 878	7 845	51.5%
United States	66 464	69 231	75 558	74 275	80 179	86 554	95 180	97 082	92 747	92 813	91 619	14.3%
OECD Americas	**74 546**	**78 974**	**87 973**	**87 304**	**94 790**	**102 630**	**113 167**	**117 235**	**112 618**	**113 840**	**112 288**	**18.5%**
Australia	2 161	2 528	2 914	3 037	3 616	3 881	4 316	4 751	5 344	5 244	5 246	45.1%
Israel [2]	240	294	328	317	480	649	763	772	971	899	962	100.4%
Japan	11 201	12 772	14 424	15 194	18 363	20 669	21 684	21 732	20 872	18 390	17 994	-2.0%
Korea	711	1 024	1 727	2 225	3 890	6 061	7 878	8 804	10 468	11 239	11 417	193.5%
New Zealand	286	358	376	469	537	623	716	709	770	858	864	60.7%
OECD Asia Oceania	**14 599**	**16 976**	**19 770**	**21 241**	**26 887**	**31 884**	**35 358**	**36 769**	**38 425**	**36 629**	**36 483**	**35.7%**
Austria	788	842	969	967	1 042	1 123	1 198	1 404	1 416	1 340	1 373	31.8%
Belgium	1 660	1 772	1 958	1 847	2 007	2 236	2 432	2 437	2 517	2 217	2 230	11.1%
Czech Republic	1 900	1 829	1 966	2 062	2 085	1 748	1 724	1 894	1 889	1 757	1 765	-15.4%
Denmark	775	732	801	808	727	812	780	791	815	674	674	-7.3%
Estonia	..	..	..	..	409	218	197	218	235	251	227	-44.5%
Finland	761	825	1 030	1 082	1 188	1 211	1 356	1 440	1 532	1 428	1 360	14.5%
France	6 639	6 907	8 029	8 534	9 379	9 925	10 547	11 340	10 936	10 162	10 321	10.0%
Germany	12 772	13 126	14 954	14 955	14 704	14 088	14 092	14 113	13 648	12 800	12 887	-12.4%
Greece	364	492	627	735	898	949	1 134	1 266	1 156	968	971	8.1%
Hungary	797	959	1 187	1 246	1 205	1 082	1 047	1 153	1 110	998	1 055	-12.4%
Iceland	38	46	63	74	95	92	131	131	227	246	234	146.0%
Ireland	281	278	345	361	415	446	578	610	602	534	555	33.8%
Italy	4 413	4 889	5 478	5 414	6 136	6 662	7 181	7 802	7 273	6 145	6 389	4.1%
Latvia	..	..	..	..	330	192	160	190	189	182	178	-46.0%
Luxembourg	170	158	149	128	142	132	140	184	177	160	156	9.9%
Netherlands	2 130	2 471	2 695	2 539	2 814	3 092	3 158	3 408	3 495	3 054	3 091	9.9%
Norway	558	613	768	837	882	984	1 095	1 123	1 420	1 164	1 240	40.6%
Poland	3 606	4 314	5 301	5 221	4 317	4 165	3 717	3 858	4 205	3 937	3 974	-7.9%
Portugal	263	322	418	459	703	845	1 030	1 108	984	886	920	30.9%
Slovak Republic	597	702	831	868	893	744	743	788	746	668	686	-23.1%
Slovenia	..	..	..	..	239	254	269	305	307	278	275	15.1%
Spain	1 784	2 407	2 834	2 969	3 771	4 220	5 102	5 942	5 349	4 796	4 979	32.0%
Sweden	1 509	1 634	1 695	1 977	1 976	2 107	1 991	2 159	2 131	2 019	1 903	-3.7%
Switzerland	686	719	839	924	1 020	1 009	1 047	1 086	1 097	1 049	1 027	0.7%
Turkey	818	1 120	1 317	1 646	2 206	2 578	3 178	3 526	4 465	5 087	5 393	144.4%
United Kingdom	8 737	8 347	8 308	8 407	8 622	9 058	9 335	9 330	8 532	7 532	7 568	-12.2%
OECD Europe [2]	**52 045**	**55 505**	**62 562**	**64 059**	**68 204**	**69 973**	**73 361**	**77 607**	**76 453**	**70 332**	**71 432**	**4.7%**
IEA/Accession/Association	*165 919*	*181 320*	*207 022*	*215 832*	*244 678*	*271 818*	*297 112*	*339 577*	*376 550*	*394 382*	*395 654*	*61.7%*
European Union - 28	*..*	*..*	*..*	*..*	*68 944*	*69 021*	*70 973*	*75 098*	*72 285*	*65 602*	*66 418*	*-3.7%*
G20	*..*	*..*	*..*	*..*	*295 813*	*312 797*	*338 007*	*383 779*	*426 303*	*447 734*	*448 399*	*51.6%*
Africa	*8 037*	*9 305*	*11 429*	*14 162*	*16 451*	*18 589*	*20 749*	*25 120*	*29 084*	*32 462*	*32 976*	*100.5%*
Americas	*82 508*	*88 482*	*99 605*	*99 693*	*108 474*	*118 132*	*130 932*	*137 146*	*136 905*	*140 431*	*138 568*	*27.7%*
Asia	*..*	*..*	*..*	*..*	*107 755*	*128 730*	*144 626*	*187 056*	*239 760*	*269 852*	*272 665*	*153.0%*
Europe	*..*	*..*	*..*	*..*	*121 901*	*106 582*	*106 848*	*113 105*	*111 884*	*105 271*	*104 835*	*-14.0%*
Oceania	*2 543*	*3 000*	*3 415*	*3 638*	*4 301*	*4 665*	*5 208*	*5 666*	*6 315*	*6 349*	*6 360*	*47.9%*

1. Total world includes non-OECD total, OECD total as well as international marine bunkers and international aviation bunkers.
2. Please refer to the chapter *Geographical Coverage* .

Total primary energy supply

petajoules

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Non-OECD Total	**83 081**	**100 545**	**123 876**	**143 727**	**169 000**	**172 211**	**186 478**	**236 480**	**296 452**	**333 564**	**335 201**	**98.3%**
Albania	72	83	129	114	112	56	75	91	89	98	92	-18.1%
Armenia	..	..	..	..	323	69	84	105	104	124	128	-60.2%
Azerbaijan	..	..	..	..	949	582	473	562	485	600	601	-36.7%
Belarus	..	..	..	..	1 905	1 036	1 029	1 120	1 152	1 162	1 058	-44.5%
Bosnia and Herzegovina	..	..	..	..	294	63	182	211	271	328	336	14.5%
Bulgaria	797	973	1 189	1 283	1 182	967	779	833	748	749	779	-34.1%
Croatia	..	..	..	..	396	327	351	408	393	337	352	-11.3%
Cyprus [1]	25	24	36	39	57	71	89	93	102	83	84	47.6%
FYR of Macedonia	..	..	..	..	104	105	112	119	120	113	112	8.1%
Georgia	..	..	..	..	520	156	120	119	131	184	194	-62.7%
Gibraltar	1	1	1	2	2	4	5	6	7	8	9	260.0%
Kazakhstan	..	..	..	..	3 075	2 187	1 494	2 130	2 894	3 210	3 270	6.3%
Kosovo	..	..	..	..	..	..	65	81	104	93	105	..
Kyrgyzstan	..	..	..	..	313	100	97	108	115	171	167	-46.8%
Lithuania	..	..	..	..	673	365	299	370	295	293	302	-55.0%
Malta	9	9	13	14	29	30	28	37	35	32	27	-7.7%
Republic of Moldova	..	..	..	..	414	198	121	146	147	138	142	-65.8%
Montenegro	..	..	..	..	..	..	..	43	47	40	42	..
Romania	1 764	2 169	2 731	2 719	2 606	1 951	1 517	1 616	1 467	1 322	1 336	-48.7%
Russian Federation	..	..	..	..	36 809	26 655	25 927	27 286	28 822	30 334	29 715	-19.3%
Serbia	..	..	..	..	825	577	575	673	654	555	618	-25.2%
Tajikistan	..	..	..	..	222	93	90	98	91	108	113	-49.1%
Turkmenistan	..	..	..	..	733	573	623	803	950	1 120	1 157	57.7%
Ukraine	..	..	..	..	10 551	6 854	5 602	5 982	5 545	4 426	3 772	-64.3%
Uzbekistan	..	..	..	..	1 941	1 790	2 130	1 971	1 809	1 829	1 783	-8.2%
Former Soviet Union [1]	32 169	39 351	46 453	52 248	..	..	..	..	..	..	..	..
Former Yugoslavia [1]	918	1 068	1 411	1 722	..	..	..	..	..	..	..	..
Non-OECD Europe and Eurasia [1]	**35 753**	**43 678**	**51 963**	**58 141**	**64 037**	**44 807**	**41 866**	**45 013**	**46 578**	**47 454**	**46 293**	**-27.7%**
Algeria	145	231	469	743	929	1 015	1 130	1 357	1 678	2 163	2 261	143.5%
Angola	161	173	191	209	246	266	301	353	509	614	626	154.1%
Benin	46	52	57	65	70	77	83	105	155	177	191	174.2%
Botswana	..	..	..	36	51	61	75	78	90	114	114	122.9%
Cameroon	113	127	153	187	209	232	264	305	292	314	326	56.5%
Congo	21	23	26	32	33	34	30	46	70	110	111	237.4%
Côte d'Ivoire	103	124	150	155	182	216	284	403	425	581	544	198.8%
Dem. Rep. of the Congo	280	313	354	417	494	537	582	698	831	1 202	1 209	144.8%
Egypt	327	410	632	1 074	1 350	1 471	1 699	2 582	3 066	3 369	3 324	146.2%
Eritrea	..	..	..	..	..	42	30	32	31	34	36	..
Ethiopia	582	644	699	806	960	1 142	1 327	1 544	1 785	2 035	2 093	118.0%
Gabon	45	54	58	57	49	56	62	126	213	209	212	329.4%
Ghana	125	153	168	182	222	271	263	246	317	372	406	83.3%
Kenya	222	253	309	364	448	509	586	672	819	992	1 051	134.3%
Libya	66	153	295	424	468	586	663	744	870	748	722	54.4%
Mauritius	15	17	18	19	28	33	42	49	55	59	61	117.8%
Morocco	124	166	226	259	319	391	461	624	718	798	812	154.6%
Mozambique	289	280	281	267	248	263	300	355	417	487	542	118.7%
Namibia	..	..	..	..	..	39	43	56	64	76	78	..
Niger	..	..	..	..	..	..	62	73	93	122	124	..
Nigeria	1 389	1 614	2 046	2 390	2 781	3 085	3 602	4 407	5 022	5 634	5 835	109.8%
Senegal	52	58	65	65	71	78	100	117	160	163	171	142.5%
South Africa	1 902	2 260	2 737	3 617	3 808	4 335	4 565	5 369	5 925	6 096	5 946	56.1%
South Sudan	..	..	..	..	..	..	..	..	..	30	23	..
Sudan	294	313	350	396	445	502	557	627	700	627	656	47.4%
United Rep. of Tanzania	317	321	336	367	408	461	564	722	865	1 040	1 087	166.8%
Togo	30	33	37	41	53	66	88	99	130	139	144	171.6%
Tunisia	69	91	137	174	207	243	306	348	430	443	458	120.9%
Zambia	147	163	190	208	227	244	265	310	353	420	429	89.0%
Zimbabwe	228	248	272	310	389	412	419	403	402	463	471	21.1%
Other Africa	945	1 032	1 173	1 298	1 757	1 923	1 995	2 274	2 595	2 829	2 911	65.7%
Africa	**8 037**	**9 305**	**11 429**	**14 162**	**16 451**	**18 589**	**20 749**	**25 120**	**29 084**	**32 462**	**32 976**	**100.5%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

Total primary energy supply

petajoules

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Bangladesh	238	282	352	417	533	666	765	954	1 278	1 483	1 586	197.3%
Brunei Darussalam	7	31	57	75	72	94	100	93	136	149	114	57.3%
Cambodia	..	..	..	..	..	119	143	144	223	266	295	..
DPR of Korea	813	932	1 271	1 507	1 391	920	826	893	620	402	328	-76.4%
India	6 356	7 198	8 374	10 341	12 800	15 541	18 459	21 610	29 024	34 591	35 635	178.4%
Indonesia	1 467	1 722	2 332	2 756	4 130	5 478	6 517	7 498	8 818	9 401	9 435	128.4%
Malaysia	253	302	498	651	914	1 447	2 047	2 752	3 072	3 756	3 595	293.2%
Mongolia	..	..	..	131	143	113	100	125	165	221	207	45.1%
Myanmar	331	351	394	460	447	494	537	618	566	775	830	85.7%
Nepal	153	169	191	213	242	281	339	382	427	488	489	102.0%
Pakistan	713	852	1 037	1 351	1 796	2 242	2 660	3 178	3 534	3 852	3 932	118.9%
Philippines	642	764	938	995	1 202	1 408	1 674	1 627	1 691	2 000	2 183	81.6%
Singapore	114	155	215	283	483	789	782	903	1 064	1 091	1 072	122.2%
Sri Lanka	159	172	190	209	231	251	349	377	408	450	479	107.3%
Chinese Taipei	419	599	1 168	1 390	1 999	2 660	3 552	4 286	4 666	4 615	4 556	127.9%
Thailand	573	726	921	1 036	1 756	2 593	3 026	4 145	4 934	5 647	5 662	222.4%
Viet Nam	554	582	603	668	748	916	1 203	1 727	2 467	2 799	3 090	313.1%
Other non-OECD Asia	237	272	324	269	289	289	345	398	514	601	583	102.1%
Asia (excl. China)	**13 030**	**15 110**	**18 865**	**22 752**	**29 176**	**36 301**	**43 424**	**51 711**	**63 607**	**72 588**	**74 071**	**153.9%**
People's Rep. of China	16 373	20 238	25 038	28 945	36 454	43 727	47 304	74 583	106 189	123 658	124 484	241.5%
Hong Kong, China	126	152	194	276	361	443	569	526	572	593	582	61.2%
China	**16 498**	**20 390**	**25 232**	**29 220**	**36 814**	**44 171**	**47 873**	**75 109**	**106 762**	**124 251**	**125 066**	**239.7%**
Argentina	1 409	1 505	1 751	1 731	1 929	2 263	2 577	2 802	3 294	3 510	3 599	86.6%
Bolivia	43	62	102	106	109	158	205	217	264	345	347	217.1%
Brazil	2 922	3 814	4 767	5 416	5 870	6 745	7 848	9 016	11 132	12 693	12 476	112.5%
Colombia	580	646	741	837	1 014	1 156	1 081	1 134	1 306	1 423	1 414	39.4%
Costa Rica	34	42	53	53	70	99	120	162	195	206	206	193.9%
Cuba	439	491	613	640	729	455	533	447	517	489	504	-30.8%
Curaçao [1]	229	161	164	75	61	55	88	87	85	83	86	40.7%
Dominican Republic	98	129	144	142	168	220	303	295	310	318	345	105.5%
Ecuador	94	132	209	235	265	330	369	391	493	594	630	137.9%
El Salvador	73	95	105	110	103	141	166	189	182	170	181	74.8%
Guatemala	114	140	159	158	185	223	295	327	427	553	531	187.7%
Haiti	63	72	87	79	65	71	84	143	159	174	179	173.7%
Honduras	58	64	78	84	100	118	125	172	191	224	238	138.6%
Jamaica	84	112	95	72	117	134	160	155	112	118	121	4.0%
Nicaragua	51	62	64	81	85	95	105	120	124	151	164	93.8%
Panama	69	71	59	65	62	84	108	122	151	176	178	185.7%
Paraguay	57	62	87	95	129	164	161	166	201	216	227	76.2%
Peru	382	434	471	443	408	459	512	571	818	995	1 031	152.9%
Suriname	..	..	..	..	..	..	26	26	30	29	28	..
Trinidad and Tobago	110	97	160	213	251	257	412	675	840	819	812	224.0%
Uruguay	101	102	111	84	94	108	129	124	171	196	210	123.3%
Venezuela	748	965	1 368	1 521	1 658	1 961	2 147	2 357	3 030	2 826	2 486	50.0%
Other non-OECD Americas	203	252	242	151	213	210	210	213	255	281	286	34.3%
Non-OECD Americas	**7 962**	**9 508**	**11 632**	**12 390**	**13 684**	**15 503**	**17 765**	**19 911**	**24 287**	**26 591**	**26 280**	**92.1%**
Bahrain	59	89	117	174	219	269	334	437	532	589	597	173.1%
Islamic Republic of Iran	695	1 115	1 593	2 252	2 903	4 238	5 151	7 229	8 553	9 929	9 903	241.2%
Iraq	168	255	407	616	839	1 406	1 087	1 107	1 571	2 072	2 004	138.8%
Jordan	21	32	64	110	137	180	204	280	297	342	361	163.4%
Kuwait	256	271	438	587	381	619	784	1 100	1 343	1 331	1 451	280.4%
Lebanon	77	91	104	98	82	185	205	211	267	314	320	291.1%
Oman	4	10	48	88	177	255	317	415	784	1 019	1 063	501.5%
Qatar	39	85	139	236	273	341	457	698	1 157	1 858	1 903	596.3%
Saudi Arabia	308	367	1 302	1 926	2 429	3 538	4 097	5 131	7 766	8 933	9 282	282.2%
Syrian Arab Republic	100	128	187	328	438	507	646	871	907	450	418	-4.7%
United Arab Emirates	42	81	303	574	855	1 159	1 320	1 863	2 630	3 064	3 068	258.8%
Yemen	31	29	53	73	105	143	199	276	327	317	146	38.5%
Middle East	**1 800**	**2 553**	**4 755**	**7 062**	**8 838**	**12 840**	**14 801**	**19 616**	**26 135**	**30 220**	**30 515**	**245.3%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

Total primary energy supply

million tonnes of oil equivalent

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
World [1]	**5 523.0**	**6 182.9**	**7 204.9**	**7 725.9**	**8 774.0**	**9 227.7**	**10 027.5**	**11 499.1**	**12 873.1**	**13 604.6**	**13 647.4**	**55.5%**
Annex I Parties	*..*	*..*	*..*	*..*	*5 587.9*	*5 487.4*	*5 768.1*	*5 995.8*	*5 872.0*	*5 685.7*	*5 634.2*	*0.8%*
Annex II Parties	*3 113.5*	*3 306.0*	*3 660.8*	*3 679.9*	*4 014.1*	*4 311.4*	*4 653.7*	*4 809.3*	*4 637.1*	*4 446.2*	*4 416.6*	*10.0%*
North America	*1 728.8*	*1 819.5*	*1 996.6*	*1 967.0*	*2 126.3*	*2 301.1*	*2 527.0*	*2 591.2*	*2 480.5*	*2 495.6*	*2 458.5*	*15.6%*
Europe	*1 058.7*	*1 112.5*	*1 241.1*	*1 266.3*	*1 349.9*	*1 409.0*	*1 488.6*	*1 568.6*	*1 512.0*	*1 365.6*	*1 382.4*	*2.4%*
Asia Oceania	*326.0*	*374.0*	*423.1*	*446.6*	*537.8*	*601.3*	*638.1*	*649.5*	*644.5*	*585.0*	*575.7*	*7.0%*
Annex I EIT	*..*	*..*	*..*	*..*	*1 519.1*	*1 112.0*	*1 035.6*	*1 099.2*	*1 125.0*	*1 115.2*	*1 086.2*	*-28.5%*
Non-Annex I Parties	*..*	*..*	*..*	*..*	*2 983.8*	*3 509.9*	*3 985.5*	*5 184.4*	*6 642.2*	*7 555.1*	*7 631.4*	*155.8%*
Annex B Kyoto Parties	*..*	*..*	*..*	*..*	*2 151.7*	*2 031.7*	*2 046.6*	*2 183.6*	*2 148.7*	*1 961.0*	*1 964.9*	*-8.7%*
Intl. aviation bunkers	**56.6**	**58.1**	**67.5**	**75.1**	**86.5**	**97.0**	**118.9**	**141.2**	**152.9**	**168.5**	**176.9**	**104.5%**
Intl. marine bunkers	**109.8**	**105.9**	**111.0**	**95.4**	**115.8**	**133.4**	**155.1**	**177.7**	**205.9**	**195.3**	**204.8**	**76.9%**
Non-OECD Total	**1 984.4**	**2 401.5**	**2 958.7**	**3 432.9**	**4 036.5**	**4 113.2**	**4 454.0**	**5 648.2**	**7 080.6**	**7 967.0**	**8 006.1**	**98.3%**
OECD Total	**3 372.2**	**3 617.4**	**4 067.7**	**4 122.6**	**4 535.2**	**4 884.1**	**5 299.6**	**5 531.9**	**5 433.6**	**5 273.7**	**5 259.4**	**16.0%**
Canada	141.4	165.9	191.9	193.0	211.3	233.8	253.6	272.4	265.2	278.8	270.2	27.9%
Chile	8.7	7.6	9.5	9.6	14.0	18.3	25.2	28.4	30.9	35.2	36.1	157.8%
Mexico	43.0	59.1	95.1	108.6	123.7	131.8	150.8	180.6	178.5	188.2	187.4	51.5%
United States	1 587.5	1 653.5	1 804.7	1 774.0	1 915.1	2 067.3	2 273.3	2 318.8	2 215.2	2 216.8	2 188.3	14.3%
OECD Americas	**1 780.5**	**1 886.3**	**2 101.2**	**2 085.2**	**2 264.0**	**2 451.3**	**2 702.9**	**2 800.1**	**2 689.8**	**2 719.0**	**2 681.9**	**18.5%**
Australia	51.6	60.4	69.6	72.5	86.4	92.7	103.1	113.5	127.6	125.3	125.3	45.1%
Israel [2]	5.7	7.0	7.8	7.6	11.5	15.5	18.2	18.4	23.2	21.5	23.0	100.4%
Japan	267.5	305.1	344.5	362.9	438.6	493.7	517.9	519.1	498.5	439.2	429.8	-2.0%
Korea	17.0	24.5	41.3	53.1	92.9	144.8	188.2	210.3	250.0	268.4	272.7	193.5%
New Zealand	6.8	8.5	9.0	11.2	12.8	14.9	17.1	16.9	18.4	20.5	20.6	60.7%
OECD Asia Oceania	**348.7**	**405.5**	**472.2**	**507.3**	**642.2**	**761.5**	**844.5**	**878.2**	**917.8**	**874.9**	**871.4**	**35.7%**
Austria	18.8	20.1	23.2	23.1	24.9	26.8	28.6	33.5	33.8	32.0	32.8	31.8%
Belgium	39.7	42.3	46.8	44.1	47.9	53.4	58.1	58.2	60.1	53.0	53.3	11.1%
Czech Republic	45.4	43.7	47.0	49.2	49.8	41.7	41.2	45.2	45.1	42.0	42.1	-15.4%
Denmark	18.5	17.5	19.1	19.3	17.4	19.4	18.6	18.9	19.5	16.1	16.1	-7.3%
Estonia	..	..	..	..	9.8	5.2	4.7	5.2	5.6	6.0	5.4	-44.5%
Finland	18.2	19.7	24.6	25.8	28.4	28.9	32.4	34.4	36.6	34.1	32.5	14.5%
France	158.6	165.0	191.8	203.8	224.0	237.1	251.9	270.9	261.2	242.7	246.5	10.0%
Germany	305.0	313.5	357.2	357.2	351.2	336.5	336.6	337.1	326.0	305.7	307.8	-12.4%
Greece	8.7	11.7	15.0	17.6	21.4	22.7	27.1	30.2	27.6	23.1	23.2	8.1%
Hungary	19.0	22.9	28.3	29.8	28.8	25.9	25.0	27.5	26.5	23.8	25.2	-12.4%
Iceland	0.9	1.1	1.5	1.8	2.3	2.2	3.1	3.1	5.4	5.9	5.6	146.0%
Ireland	6.7	6.6	8.2	8.6	9.9	10.7	13.8	14.6	14.4	12.8	13.3	33.8%
Italy	105.4	116.8	130.8	129.3	146.6	159.1	171.5	186.4	173.7	146.8	152.6	4.1%
Latvia	..	..	..	..	7.9	4.6	3.8	4.5	4.5	4.3	4.3	-46.0%
Luxembourg	4.1	3.8	3.6	3.1	3.4	3.1	3.3	4.4	4.2	3.8	3.7	9.9%
Netherlands	50.9	59.0	64.4	60.6	67.2	73.9	75.4	81.4	83.5	72.9	73.8	9.9%
Norway	13.3	14.6	18.4	20.0	21.1	23.5	26.2	26.8	33.9	27.8	29.6	40.6%
Poland	86.1	103.0	126.6	124.7	103.1	99.5	88.8	92.1	100.4	94.0	94.9	-7.9%
Portugal	6.3	7.7	10.0	11.0	16.8	20.2	24.6	26.5	23.5	21.2	22.0	30.9%
Slovak Republic	14.3	16.8	19.8	20.7	21.3	17.8	17.7	18.8	17.8	15.9	16.4	-23.1%
Slovenia	..	..	..	..	5.7	6.1	6.4	7.3	7.3	6.7	6.6	15.1%
Spain	42.6	57.5	67.7	70.9	90.1	100.8	121.9	141.9	127.8	114.6	118.9	32.0%
Sweden	36.0	39.0	40.5	47.2	47.2	50.3	47.6	51.6	50.9	48.2	45.5	-3.7%
Switzerland	16.4	17.2	20.0	22.1	24.4	24.1	25.0	25.9	26.2	25.1	24.5	0.7%
Turkey	19.5	26.8	31.4	39.3	52.7	61.6	75.9	84.2	106.7	121.5	128.8	144.4%
United Kingdom	208.7	199.4	198.4	200.8	205.9	216.4	223.0	222.8	203.8	179.9	180.7	-12.2%
OECD Europe [2]	**1 243.1**	**1 325.7**	**1 494.3**	**1 530.0**	**1 629.0**	**1 671.3**	**1 752.2**	**1 853.6**	**1 826.0**	**1 679.9**	**1 706.1**	**4.7%**
IEA/Accession/Association	*3 962.9*	*4 330.8*	*4 944.6*	*5 155.1*	*5 844.0*	*6 492.3*	*7 096.4*	*8 110.6*	*8 993.7*	*9 419.7*	*9 450.0*	*61.7%*
European Union - 28	*..*	*..*	*..*	*..*	*1 646.7*	*1 648.5*	*1 695.2*	*1 793.7*	*1 726.5*	*1 566.9*	*1 586.4*	*-3.7%*
G20	*..*	*..*	*..*	*..*	*7 065.4*	*7 471.0*	*8 073.1*	*9 166.4*	*10 182.1*	*10 693.9*	*10 709.8*	*51.6%*
Africa	*192.0*	*222.3*	*273.0*	*338.3*	*392.9*	*444.0*	*495.6*	*600.0*	*694.7*	*775.3*	*787.6*	*100.5%*
Americas	*1 970.7*	*2 113.4*	*2 379.0*	*2 381.1*	*2 590.9*	*2 821.5*	*3 127.3*	*3 275.7*	*3 269.9*	*3 354.1*	*3 309.6*	*27.7%*
Asia	*..*	*..*	*..*	*..*	*2 573.7*	*3 074.7*	*3 454.3*	*4 467.7*	*5 726.6*	*6 445.3*	*6 512.5*	*153.0%*
Europe	*..*	*..*	*..*	*..*	*2 911.6*	*2 545.7*	*2 552.0*	*2 701.5*	*2 672.3*	*2 514.4*	*2 503.9*	*-14.0%*
Oceania	*60.7*	*71.7*	*81.6*	*86.9*	*102.7*	*111.4*	*124.4*	*135.3*	*150.8*	*151.6*	*151.9*	*47.9%*

1. Total world includes non-OECD total, OECD total as well as international marine bunkers and international aviation bunkers.
2. Please refer to the chapter *Geographical Coverage* .

Total primary energy supply

million tonnes of oil equivalent

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Non-OECD Total	**1 984.4**	**2 401.5**	**2 958.7**	**3 432.9**	**4 036.5**	**4 113.2**	**4 454.0**	**5 648.2**	**7 080.6**	**7 967.0**	**8 006.1**	**98.3%**
Albania	1.7	2.0	3.1	2.7	2.7	1.3	1.8	2.2	2.1	2.3	2.2	-18.1%
Armenia	..	..	..	..	7.7	1.6	2.0	2.5	2.5	3.0	3.1	-60.2%
Azerbaijan	..	..	..	..	22.7	13.9	11.3	13.4	11.6	14.3	14.4	-36.7%
Belarus	..	..	..	..	45.5	24.7	24.6	26.8	27.5	27.7	25.3	-44.5%
Bosnia and Herzegovina	..	..	..	..	7.0	1.5	4.3	5.0	6.5	7.8	8.0	14.5%
Bulgaria	19.0	23.2	28.4	30.6	28.2	23.1	18.6	19.9	17.9	17.9	18.6	-34.1%
Croatia	..	..	..	..	9.5	7.8	8.4	9.7	9.4	8.0	8.4	-11.3%
Cyprus [1]	0.6	0.6	0.9	0.9	1.4	1.7	2.1	2.2	2.4	2.0	2.0	47.6%
FYR of Macedonia	..	..	..	..	2.5	2.5	2.7	2.9	2.9	2.7	2.7	8.1%
Georgia	..	..	..	..	12.4	3.7	2.9	2.8	3.1	4.4	4.6	-62.7%
Gibraltar	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	260.3%
Kazakhstan	..	..	..	..	73.4	52.2	35.7	50.9	69.1	76.7	78.1	6.3%
Kosovo	..	..	..	..	..	..	1.5	1.9	2.5	2.2	2.5	..
Kyrgyzstan	..	..	..	..	7.5	2.4	2.3	2.6	2.8	4.1	4.0	-46.8%
Lithuania	..	..	..	..	16.1	8.7	7.1	8.8	7.0	7.0	7.2	-55.0%
Malta	0.2	0.2	0.3	0.3	0.7	0.7	0.7	0.9	0.8	0.8	0.6	-7.7%
Republic of Moldova	..	..	..	..	9.9	4.7	2.9	3.5	3.5	3.3	3.4	-65.8%
Montenegro	..	..	..	..	..	..	..	1.0	1.1	1.0	1.0	..
Romania	42.1	51.8	65.2	64.9	62.3	46.6	36.2	38.6	35.0	31.6	31.9	-48.7%
Russian Federation	..	..	..	..	879.2	636.6	619.3	651.7	688.4	724.5	709.7	-19.3%
Serbia	..	..	..	..	19.7	13.8	13.7	16.1	15.6	13.3	14.8	-25.2%
Tajikistan	..	..	..	..	5.3	2.2	2.1	2.3	2.2	2.6	2.7	-49.1%
Turkmenistan	..	..	..	..	17.5	13.7	14.9	19.2	22.7	26.7	27.6	57.7%
Ukraine	..	..	..	..	252.0	163.7	133.8	142.9	132.4	105.7	90.1	-64.3%
Uzbekistan	..	..	..	..	46.4	42.7	50.9	47.1	43.2	43.7	42.6	-8.2%
Former Soviet Union [1]	768.3	939.9	1 109.5	1 247.9	..	..	..	..	..	..	..	..
Former Yugoslavia [1]	21.9	25.5	33.7	41.1	..	..	..	..	..	..	..	..
Non-OECD Europe and Eurasia [1]	**853.9**	**1 043.2**	**1 241.1**	**1 388.7**	**1 529.5**	**1 070.2**	**1 000.0**	**1 075.1**	**1 112.5**	**1 133.4**	**1 105.7**	**-27.7%**
Algeria	3.5	5.5	11.2	17.7	22.2	24.2	27.0	32.4	40.1	51.7	54.0	143.5%
Angola	3.9	4.1	4.6	5.0	5.9	6.4	7.2	8.4	12.2	14.7	15.0	154.1%
Benin	1.1	1.2	1.4	1.5	1.7	1.8	2.0	2.5	3.7	4.2	4.6	174.2%
Botswana	..	..	..	0.9	1.2	1.4	1.8	1.9	2.2	2.7	2.7	122.9%
Cameroon	2.7	3.0	3.7	4.5	5.0	5.5	6.3	7.3	7.0	7.5	7.8	56.5%
Congo	0.5	0.6	0.6	0.8	0.8	0.8	0.7	1.1	1.7	2.6	2.7	237.4%
Côte d'Ivoire	2.5	3.0	3.6	3.7	4.3	5.2	6.8	9.6	10.2	13.9	13.0	198.8%
Dem. Rep. of the Congo	6.7	7.5	8.5	10.0	11.8	12.8	13.9	16.7	19.8	28.7	28.9	144.8%
Egypt	7.8	9.8	15.1	25.7	32.3	35.1	40.6	61.7	73.2	80.5	79.4	146.2%
Eritrea	..	..	..	..	..	1.0	0.7	0.8	0.7	0.8	0.9	..
Ethiopia	13.9	15.4	16.7	19.2	22.9	27.3	31.7	36.9	42.6	48.6	50.0	118.0%
Gabon	1.1	1.3	1.4	1.4	1.2	1.3	1.5	3.0	5.1	5.0	5.1	329.4%
Ghana	3.0	3.7	4.0	4.4	5.3	6.5	6.3	5.9	7.6	8.9	9.7	83.3%
Kenya	5.3	6.0	7.4	8.7	10.7	12.2	14.0	16.0	19.6	23.7	25.1	134.3%
Libya	1.6	3.7	7.0	10.1	11.2	14.0	15.8	17.8	20.8	17.9	17.2	54.4%
Mauritius	0.4	0.4	0.4	0.4	0.7	0.8	1.0	1.2	1.3	1.4	1.5	117.8%
Morocco	3.0	4.0	5.4	6.2	7.6	9.3	11.0	14.9	17.2	19.1	19.4	154.6%
Mozambique	6.9	6.7	6.7	6.4	5.9	6.3	7.2	8.5	10.0	11.6	13.0	118.7%
Namibia	..	..	..	..	..	0.9	1.0	1.3	1.5	1.8	1.9	..
Niger	..	..	..	..	..	..	1.5	1.7	2.2	2.9	3.0	..
Nigeria	33.2	38.6	48.9	57.1	66.4	73.7	86.0	105.3	119.9	134.6	139.4	109.8%
Senegal	1.2	1.4	1.6	1.6	1.7	1.9	2.4	2.8	3.8	3.9	4.1	142.5%
South Africa	45.4	54.0	65.4	86.4	91.0	103.5	109.0	128.2	141.5	145.6	142.0	56.1%
South Sudan	..	..	..	..	..	..	..	..	..	0.7	0.6	..
Sudan	7.0	7.5	8.4	9.5	10.6	12.0	13.3	15.0	16.7	15.0	15.7	47.4%
United Rep. of Tanzania	7.6	7.7	8.0	8.8	9.7	11.0	13.5	17.2	20.7	24.8	26.0	166.8%
Togo	0.7	0.8	0.9	1.0	1.3	1.6	2.1	2.4	3.1	3.3	3.4	171.6%
Tunisia	1.7	2.2	3.3	4.2	4.9	5.8	7.3	8.3	10.3	10.6	10.9	120.9%
Zambia	3.5	3.9	4.5	5.0	5.4	5.8	6.3	7.4	8.4	10.0	10.2	89.0%
Zimbabwe	5.4	5.9	6.5	7.4	9.3	9.8	10.0	9.6	9.6	11.1	11.3	21.1%
Other Africa	22.6	24.7	28.0	31.0	42.0	45.9	47.7	54.3	62.0	67.6	69.5	65.7%
Africa	**192.0**	**222.3**	**273.0**	**338.3**	**392.9**	**444.0**	**495.6**	**600.0**	**694.7**	**775.3**	**787.6**	**100.5%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

Total primary energy supply

million tonnes of oil equivalent

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Bangladesh	5.7	6.7	8.4	10.0	12.7	15.9	18.3	22.8	30.5	35.4	37.9	197.3%
Brunei Darussalam	0.2	0.7	1.3	1.8	1.7	2.2	2.4	2.2	3.2	3.6	2.7	57.3%
Cambodia	..	..	..	..	..	2.8	3.4	3.4	5.3	6.4	7.0	..
DPR of Korea	19.4	22.3	30.4	36.0	33.2	22.0	19.7	21.3	14.8	9.6	7.8	-76.4%
India	151.8	171.9	200.0	247.0	305.7	371.2	440.9	516.2	693.2	826.2	851.1	178.4%
Indonesia	35.0	41.1	55.7	65.8	98.6	130.9	155.7	179.1	210.6	224.5	225.4	128.4%
Malaysia	6.1	7.2	11.9	15.5	21.8	34.6	48.9	65.7	73.4	89.7	85.9	293.2%
Mongolia	..	..	..	3.1	3.4	2.7	2.4	3.0	3.9	5.3	4.9	45.1%
Myanmar	7.9	8.4	9.4	11.0	10.7	11.8	12.8	14.8	13.5	18.5	19.8	85.7%
Nepal	3.7	4.0	4.6	5.1	5.8	6.7	8.1	9.1	10.2	11.7	11.7	102.0%
Pakistan	17.0	20.3	24.8	32.3	42.9	53.5	63.5	75.9	84.4	92.0	93.9	118.9%
Philippines	15.3	18.3	22.4	23.8	28.7	33.6	40.0	38.9	40.4	47.8	52.1	81.6%
Singapore	2.7	3.7	5.1	6.8	11.5	18.8	18.7	21.6	25.4	26.1	25.6	122.2%
Sri Lanka	3.8	4.1	4.5	5.0	5.5	6.0	8.3	9.0	9.7	10.7	11.4	107.3%
Chinese Taipei	10.0	14.3	27.9	33.2	47.7	63.5	84.8	102.4	111.4	110.2	108.8	127.9%
Thailand	13.7	17.3	22.0	24.7	41.9	61.9	72.3	99.0	117.8	134.9	135.2	222.4%
Viet Nam	13.2	13.9	14.4	16.0	17.9	21.9	28.7	41.3	58.9	66.9	73.8	313.1%
Other non-OECD Asia	5.7	6.5	7.7	6.4	6.9	6.9	8.2	9.5	12.3	14.3	13.9	102.1%
Asia (excl. China)	**311.2**	**360.9**	**450.6**	**543.4**	**696.9**	**867.0**	**1 037.2**	**1 235.1**	**1 519.2**	**1 733.7**	**1 769.2**	**153.9%**
People's Rep. of China	391.1	483.4	598.0	691.3	870.7	1 044.4	1 129.8	1 781.4	2 536.3	2 953.5	2 973.3	241.5%
Hong Kong, China	3.0	3.6	4.6	6.6	8.6	10.6	13.6	12.6	13.7	14.2	13.9	61.2%
China	**394.1**	**487.0**	**602.6**	**697.9**	**879.3**	**1 055.0**	**1 143.4**	**1 794.0**	**2 550.0**	**2 967.7**	**2 987.1**	**239.7%**
Argentina	33.6	35.9	41.8	41.3	46.1	54.0	61.6	66.9	78.7	83.8	86.0	86.6%
Bolivia	1.0	1.5	2.4	2.5	2.6	3.8	4.9	5.2	6.3	8.2	8.3	217.1%
Brazil	69.8	91.1	113.9	129.4	140.2	161.1	187.4	215.3	265.9	303.2	298.0	112.5%
Colombia	13.9	15.4	17.7	20.0	24.2	27.6	25.8	27.1	31.2	34.0	33.8	39.4%
Costa Rica	0.8	1.0	1.3	1.3	1.7	2.4	2.9	3.9	4.6	4.9	4.9	193.9%
Cuba	10.5	11.7	14.6	15.3	17.4	10.9	12.7	10.7	12.3	11.7	12.0	-30.8%
Curaçao [1]	5.5	3.8	3.9	1.8	1.5	1.3	2.1	2.1	2.0	2.0	2.1	40.7%
Dominican Republic	2.3	3.1	3.4	3.4	4.0	5.2	7.2	7.1	7.4	7.6	8.2	105.5%
Ecuador	2.2	3.1	5.0	5.6	6.3	7.9	8.8	9.3	11.8	14.2	15.1	137.9%
El Salvador	1.8	2.3	2.5	2.6	2.5	3.4	4.0	4.5	4.4	4.1	4.3	74.8%
Guatemala	2.7	3.3	3.8	3.8	4.4	5.3	7.0	7.8	10.2	13.2	12.7	187.7%
Haiti	1.5	1.7	2.1	1.9	1.6	1.7	2.0	3.4	3.8	4.2	4.3	173.7%
Honduras	1.4	1.5	1.9	2.0	2.4	2.8	3.0	4.1	4.6	5.4	5.7	138.6%
Jamaica	2.0	2.7	2.3	1.7	2.8	3.2	3.8	3.7	2.7	2.8	2.9	4.0%
Nicaragua	1.2	1.5	1.5	1.9	2.0	2.3	2.5	2.9	3.0	3.6	3.9	93.8%
Panama	1.7	1.7	1.4	1.6	1.5	2.0	2.6	2.9	3.6	4.2	4.3	185.7%
Paraguay	1.4	1.5	2.1	2.3	3.1	3.9	3.9	4.0	4.8	5.2	5.4	76.2%
Peru	9.1	10.4	11.3	10.6	9.7	11.0	12.2	13.6	19.5	23.8	24.6	152.9%
Suriname	..	..	..	..	..	..	0.6	0.6	0.7	0.7	0.7	..
Trinidad and Tobago	2.6	2.3	3.8	5.1	6.0	6.1	9.8	16.1	20.1	19.6	19.4	224.0%
Uruguay	2.4	2.4	2.6	2.0	2.3	2.6	3.1	3.0	4.1	4.7	5.0	123.3%
Venezuela	17.9	23.0	32.7	36.3	39.6	46.8	51.3	56.3	72.4	67.5	59.4	50.0%
Other non-OECD Americas	4.9	6.0	5.8	3.6	5.1	5.0	5.0	5.1	6.1	6.7	6.8	34.3%
Non-OECD Americas	**190.2**	**227.1**	**277.8**	**295.9**	**326.8**	**370.3**	**424.3**	**475.6**	**580.1**	**635.1**	**627.7**	**92.1%**
Bahrain	1.4	2.1	2.8	4.2	5.2	6.4	8.0	10.4	12.7	14.1	14.3	173.1%
Islamic Republic of Iran	16.6	26.6	38.1	53.8	69.3	101.2	123.0	172.7	204.3	237.2	236.5	241.2%
Iraq	4.0	6.1	9.7	14.7	20.0	33.6	26.0	26.4	37.5	49.5	47.9	138.8%
Jordan	0.5	0.8	1.5	2.6	3.3	4.3	4.9	6.7	7.1	8.2	8.6	163.4%
Kuwait	6.1	6.5	10.5	14.0	9.1	14.8	18.7	26.3	32.1	31.8	34.7	280.4%
Lebanon	1.8	2.2	2.5	2.3	2.0	4.4	4.9	5.0	6.4	7.5	7.6	291.1%
Oman	0.1	0.2	1.2	2.1	4.2	6.1	7.6	9.9	18.7	24.3	25.4	501.5%
Qatar	0.9	2.0	3.3	5.6	6.5	8.1	10.9	16.7	27.6	44.4	45.4	596.3%
Saudi Arabia	7.4	8.8	31.1	46.0	58.0	84.5	97.9	122.5	185.5	213.4	221.7	282.2%
Syrian Arab Republic	2.4	3.1	4.5	7.8	10.5	12.1	15.4	20.8	21.7	10.8	10.0	-4.7%
United Arab Emirates	1.0	1.9	7.2	13.7	20.4	27.7	31.5	44.5	62.8	73.2	73.3	258.8%
Yemen	0.7	0.7	1.3	1.7	2.5	3.4	4.7	6.6	7.8	7.6	3.5	38.5%
Middle East	**43.0**	**61.0**	**113.6**	**168.7**	**211.1**	**306.7**	**353.5**	**468.5**	**624.2**	**721.8**	**728.8**	**245.3%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

GDP using exchange rates

billion 2010 US dollars

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
World	**20 068**	**23 329**	**28 174**	**32 005**	**37 949**	**42 136**	**49 924**	**58 087**	**66 018**	**73 547**	**75 489**	**98.9%**
Annex I Parties	*..*	*..*	*..*	*..*	*30 199.1*	*32 366.2*	*37 753.7*	*42 247.0*	*44 308.9*	*47 087.3*	*48 019.5*	*59.0%*
Annex II Parties	*14 954.2*	*16 874.2*	*20 050.0*	*22 892.4*	*27 256.2*	*30 077.3*	*35 154.1*	*38 886.9*	*40 372.1*	*42 622.8*	*43 523.3*	*59.7%*
North America	*5 484.0*	*6 102.3*	*7 310.5*	*8 577.6*	*10 078.5*	*11 401.8*	*14 055.8*	*15 932.6*	*16 577.8*	*17 957.1*	*18 393.8*	*82.5%*
Europe	*7 008.3*	*7 868.5*	*9 192.5*	*9 984.0*	*11 738.6*	*12 724.1*	*14 683.0*	*16 015.0*	*16 653.8*	*17 144.4*	*17 490.7*	*49.0%*
Asia Oceania	*2 461.9*	*2 903.4*	*3 547.0*	*4 330.8*	*5 439.1*	*5 951.4*	*6 415.4*	*6 939.3*	*7 140.5*	*7 521.4*	*7 638.9*	*40.4%*
Annex I EIT	*..*	*..*	*..*	*..*	*2 562.5*	*1 841.4*	*2 052.5*	*2 671.4*	*3 130.6*	*3 406.1*	*3 374.7*	*31.7%*
Non-Annex I Parties	*..*	*..*	*..*	*..*	*7 749.9*	*9 769.7*	*12 169.9*	*15 839.8*	*21 709.2*	*26 459.9*	*27 469.5*	*254.5%*
Annex B Kyoto Parties	*..*	*..*	*..*	*..*	*13 578.1*	*14 499.2*	*16 768.1*	*18 590.7*	*19 634.0*	*20 422.2*	*20 846.9*	*53.5%*
Non-OECD Total	**4 157.0**	**5 248.0**	**6 636.6**	**7 402.0**	**8 605.2**	**9 591.7**	**11 646.5**	**15 469.4**	**21 281.0**	**25 875.6**	**26 738.5**	**210.7%**
OECD Total	**15 911.5**	**18 081.5**	**21 537.0**	**24 603.3**	**29 343.8**	**32 544.2**	**38 277.1**	**42 617.4**	**44 737.1**	**47 671.5**	**48 750.4**	**66.1%**
Canada	546.8	651.2	781.3	891.0	1 014.1	1 102.8	1 342.7	1 524.5	1 613.5	1 779.6	1 796.4	77.1%
Chile	43.3	37.1	52.7	55.0	76.2	115.6	144.8	181.0	217.5	257.2	263.1	245.2%
Mexico	284.0	374.3	516.6	568.6	617.9	666.6	869.3	953.7	1 049.9	1 177.0	1 207.7	95.5%
United States	4 937.2	5 451.1	6 529.2	7 686.6	9 064.4	10 299.0	12 713.1	14 408.1	14 964.4	16 177.5	16 597.4	83.1%
OECD Americas	**5 811.3**	**6 513.7**	**7 879.7**	**9 201.2**	**10 772.6**	**12 184.0**	**15 069.9**	**17 067.4**	**17 845.3**	**19 391.3**	**19 864.7**	**84.4%**
Australia	388.9	431.8	500.3	579.4	673.5	791.0	954.7	1 131.1	1 293.8	1 445.3	1 485.3	120.5%
Israel [1]	43.8	57.0	65.8	76.8	95.2	131.8	170.7	188.7	233.8	270.7	277.5	191.4%
Japan	2 014.0	2 402.0	2 976.7	3 669.9	4 682.8	5 063.8	5 348.9	5 672.3	5 700.1	5 914.0	5 986.1	27.8%
Korea	64.6	93.9	141.1	220.6	362.9	543.6	710.0	894.7	1 094.5	1 234.3	1 266.6	249.0%
New Zealand	58.9	69.6	70.0	81.5	82.7	96.6	111.7	135.9	146.6	162.0	167.4	102.4%
OECD Asia Oceania	**2 570.3**	**3 054.3**	**3 753.9**	**4 628.2**	**5 897.2**	**6 626.8**	**7 296.1**	**8 022.7**	**8 468.7**	**9 026.5**	**9 183.0**	**55.7%**
Austria	153.2	176.7	207.7	223.4	259.4	289.5	336.0	365.9	390.2	407.3	411.2	58.5%
Belgium	201.8	231.7	270.9	283.9	330.5	357.7	412.5	451.3	483.5	500.7	508.1	53.7%
Czech Republic	99.9	114.0	126.9	133.2	144.1	138.6	151.4	183.6	207.0	214.1	223.8	55.3%
Denmark	155.1	163.4	186.4	213.3	229.1	257.1	298.2	318.6	322.0	335.6	341.0	48.8%
Estonia	..	..	..	..	15.0	10.5	14.1	19.9	19.5	22.8	23.2	54.8%
Finland	86.6	104.9	122.6	141.1	167.1	163.4	209.4	237.9	247.8	247.1	247.7	48.2%
France	1 101.3	1 264.0	1 492.1	1 615.1	1 907.3	2 033.1	2 346.5	2 547.2	2 646.8	2 748.2	2 777.5	45.6%
Germany	1 582.1	1 729.3	2 040.5	2 183.6	2 568.6	2 841.0	3 123.9	3 213.8	3 417.1	3 634.1	3 696.6	43.9%
Greece	127.0	150.5	184.6	185.8	197.7	210.3	251.5	304.3	299.4	244.9	244.3	23.6%
Hungary	60.7	77.7	92.7	101.1	103.8	92.1	106.6	131.6	130.3	138.5	142.9	37.7%
Iceland	3.7	4.5	6.1	6.8	8.0	8.1	10.3	12.7	13.3	14.6	15.2	90.3%
Ireland	37.7	46.3	57.9	65.6	82.6	103.6	165.1	216.3	221.3	239.9	303.0	266.7%
Italy	967.4	1 110.0	1 379.8	1 500.0	1 749.2	1 866.2	2 060.2	2 158.7	2 125.1	2 043.5	2 059.5	17.7%
Latvia	..	..	..	..	..	12.8	16.4	24.3	23.8	27.6	28.3	..
Luxembourg	11.8	13.3	14.9	16.8	24.1	30.6	40.8	47.2	53.2	59.7	62.1	157.5%
Netherlands	326.6	369.7	425.6	450.0	530.5	594.2	734.7	785.1	836.4	851.6	868.3	63.7%
Norway	132.2	158.8	198.4	235.1	255.7	307.2	367.1	409.3	428.5	457.6	465.0	81.9%
Poland	171.1	218.8	228.2	230.2	226.7	252.4	326.2	379.8	479.3	535.6	556.2	145.4%
Portugal	81.2	94.3	121.0	126.4	166.6	181.3	221.4	231.1	238.3	224.0	227.5	36.6%
Slovak Republic	34.7	39.6	44.1	47.7	51.1	46.6	55.5	71.0	89.5	97.4	101.1	97.9%
Slovenia	..	..	..	..	30.9	30.0	36.9	44.1	48.0	48.0	49.1	59.0%
Spain	479.2	593.3	653.9	700.8	873.1	940.9	1 149.5	1 358.1	1 431.6	1 370.9	1 414.9	62.0%
Sweden	214.9	241.8	258.4	285.2	321.1	332.7	396.5	451.4	488.4	519.3	540.6	68.4%
Switzerland	316.7	316.8	344.4	371.1	429.0	431.8	483.4	520.7	581.2	620.7	625.9	45.9%
Turkey	155.2	194.9	219.0	277.7	364.0	426.3	520.9	658.1	771.9	1 025.4	1 087.6	198.8%
United Kingdom	1 029.9	1 099.2	1 227.4	1 379.7	1 638.9	1 775.4	2 076.0	2 385.4	2 429.7	2 624.7	2 682.3	63.7%
OECD Europe [1]	**7 529.9**	**8 513.5**	**9 903.4**	**10 774.0**	**12 674.0**	**13 733.3**	**15 911.1**	**17 527.3**	**18 423.0**	**19 253.8**	**19 702.8**	**55.5%**
IEA/Accession/Association	*16 434.9*	*18 715.9*	*22 388.5*	*25 832.6*	*31 073.1*	*35 241.4*	*41 954.5*	*48 139.6*	*53 601.1*	*59 485.5*	*61 367.0*	*97.5%*
European Union - 28	*..*	*..*	*..*	*..*	*11 879.3*	*12 783.3*	*14 769.3*	*16 239.4*	*16 977.9*	*17 504.6*	*17 889.6*	*50.6%*
G20	*..*	*..*	*..*	*..*	*33 738.6*	*37 438.5*	*44 328.9*	*51 139.5*	*57 368.1*	*63 637.4*	*65 374.7*	*93.8%*
Africa	*570.6*	*646.5*	*792.6*	*839.3*	*926.4*	*974.8*	*1 164.8*	*1 510.5*	*1 949.0*	*2 239.3*	*2 306.1*	*148.9%*
Americas	*6 922.0*	*7 957.3*	*9 725.0*	*11 093.5*	*12 869.5*	*14 671.1*	*17 832.6*	*20 258.0*	*21 816.7*	*23 802.1*	*24 207.1*	*88.1%*
Asia	*..*	*..*	*..*	*..*	*9 022.5*	*10 967.7*	*13 036.7*	*16 252.1*	*20 896.6*	*25 205.9*	*26 311.6*	*191.6%*
Europe	*..*	*..*	*..*	*..*	*14 357.8*	*14 614.6*	*16 801.2*	*18 774.9*	*19 887.9*	*20 660.2*	*20 977.6*	*46.1%*
Oceania	*458.3*	*513.4*	*584.0*	*675.5*	*772.8*	*907.8*	*1 088.4*	*1 291.2*	*1 467.8*	*1 639.6*	*1 686.5*	*118.2%*

1. Please refer to the chapter *Geographical Coverage* .

GDP using exchange rates

billion 2010 US dollars

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Non-OECD Total	**4 157.0**	**5 248.0**	**6 636.6**	**7 402.0**	**8 605.2**	**9 591.7**	**11 646.5**	**15 469.4**	**21 281.0**	**25 875.6**	**26 738.5**	**210.7%**
Albania	3.3	4.1	5.4	6.0	6.2	5.4	7.0	9.3	11.9	12.8	13.1	112.5%
Armenia	..	..	..	..	6.4	3.4	4.3	7.7	9.3	11.1	11.5	80.2%
Azerbaijan	..	..	..	..	22.3	9.3	13.1	24.8	52.9	58.4	59.0	164.4%
Belarus	..	..	..	..	30.5	19.9	27.1	38.9	55.2	61.0	58.6	92.0%
Bosnia and Herzegovina	..	..	..	..	3.4	3.3	11.3	14.9	17.2	17.8	18.3	438.8%
Bulgaria	15.5	21.2	28.6	33.7	36.3	31.8	32.8	43.5	50.6	52.7	54.6	50.5%
Croatia	..	..	..	..	58.0	39.6	46.8	58.3	59.7	57.4	58.3	0.6%
Cyprus [1]	3.2	3.8	6.7	8.8	12.3	15.6	19.0	22.6	25.6	23.0	23.4	90.6%
FYR of Macedonia	..	..	..	..	7.7	6.1	7.0	7.7	9.4	10.2	10.6	37.6%
Georgia	..	..	..	..	16.9	4.8	6.4	9.1	11.6	14.4	14.8	-12.9%
Gibraltar	0.5	0.5	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.1	1.2	63.2%
Kazakhstan	..	..	..	..	96.3	59.1	66.9	109.5	148.0	184.1	186.3	93.4%
Kosovo	..	..	..	..	..	..	3.3	4.7	5.8	6.6	6.8	..
Kyrgyzstan	..	..	..	..	4.8	2.4	3.2	3.9	4.8	5.9	6.1	25.9%
Lithuania	..	..	..	..	27.1	19.3	24.3	35.0	37.1	43.8	44.6	64.8%
Malta	1.2	1.7	2.9	3.2	4.3	5.6	7.1	7.9	8.7	9.9	10.5	146.6%
Republic of Moldova	..	..	..	..	9.9	4.0	3.5	5.0	5.8	7.1	7.0	-28.9%
Montenegro	..	..	..	..	..	..	..	3.3	4.1	4.4	4.5	..
Romania	53.3	80.7	116.3	135.8	124.0	111.4	110.0	145.5	168.0	182.3	189.0	52.4%
Russian Federation	..	..	..	..	1 509.3	937.6	1 015.0	1 366.7	1 626.6	1 790.6	1 723.9	14.2%
Serbia	..	..	..	..	24.6	24.0	25.6	34.6	39.5	39.9	40.2	63.7%
Tajikistan	..	..	..	..	6.8	2.6	2.6	4.1	5.6	7.5	7.9	17.2%
Turkmenistan	..	..	..	..	13.7	8.6	10.8	13.8	22.6	35.0	37.3	172.3%
Ukraine	..	..	..	..	205.8	98.8	89.4	129.4	136.0	134.3	121.1	-41.2%
Uzbekistan	..	..	..	..	20.5	16.6	20.0	26.1	39.3	53.8	58.1	184.1%
Former Soviet Union [1]	1 065.9	1 332.8	1 628.2	1 811.9	..	..	..	..	..	..	..	..
Former Yugoslavia [1]	84.5	103.7	139.5	142.1	..	..	..	..	..	..	..	..
Non-OECD Europe and Eurasia [1]	**1 227.3**	**1 548.5**	**1 928.2**	**2 142.1**	**2 247.6**	**1 430.1**	**1 557.2**	**2 127.1**	**2 556.5**	**2 824.8**	**2 766.6**	**23.1%**
Algeria	34.7	51.9	70.0	88.6	92.0	93.2	110.4	142.3	161.2	182.9	189.8	106.3%
Angola	24.7	24.9	25.0	27.3	32.0	25.3	34.5	46.2	82.5	100.9	103.9	224.6%
Benin	1.7	1.8	2.2	2.8	3.0	3.7	4.8	5.8	7.0	8.6	8.8	188.6%
Botswana	..	..	..	3.0	5.3	6.6	8.6	10.2	12.8	16.1	16.0	201.2%
Cameroon	5.9	7.9	10.7	16.8	14.9	13.6	17.1	20.5	23.6	28.8	30.4	104.4%
Congo	2.4	3.3	4.1	6.7	6.6	6.8	7.6	9.3	12.0	14.2	14.6	120.7%
Côte d'Ivoire	10.8	13.5	16.5	16.8	17.8	19.1	22.3	22.3	24.9	31.1	34.0	91.2%
Dem. Rep. of the Congo	21.5	22.9	21.2	23.2	23.1	15.9	13.0	15.7	20.5	27.8	29.7	28.4%
Egypt	28.7	33.0	52.6	72.9	89.6	105.9	136.4	162.2	218.9	237.7	247.7	176.5%
Eritrea	..	..	..	..	..	1.7	1.9	2.2	2.1	2.7	2.8	..
Ethiopia	7.9	8.0	8.2	7.8	10.0	10.5	13.1	17.9	29.9	44.1	48.3	385.1%
Gabon	4.7	9.5	8.9	10.0	10.6	12.3	12.5	13.6	14.4	17.8	18.6	75.2%
Ghana	9.9	9.3	9.7	9.5	12.0	14.9	18.4	23.5	32.2	44.8	46.5	286.0%
Kenya	8.3	10.8	14.6	16.5	21.8	23.6	26.2	31.3	40.0	49.4	52.2	139.8%
Libya	57.1	46.1	72.7	51.9	46.9	45.4	48.0	61.7	74.8	38.1	34.2	-27.1%
Mauritius	1.3	1.7	2.2	2.7	3.9	5.0	6.6	7.7	10.0	11.6	12.0	204.5%
Morocco	17.3	20.9	27.2	33.3	43.2	47.1	57.5	73.0	93.2	108.3	113.2	162.2%
Mozambique	2.6	2.2	2.3	1.8	2.3	2.7	4.6	7.1	10.2	13.4	14.3	524.6%
Namibia	..	..	..	..	..	6.0	7.1	9.1	11.3	14.0	14.8	..
Niger	..	..	..	..	..	..	3.7	4.4	5.7	7.4	7.6	..
Nigeria	102.8	118.0	143.0	123.9	130.3	133.5	156.6	259.2	367.1	449.9	461.8	254.6%
Senegal	4.2	4.7	4.9	5.7	6.4	7.1	8.6	10.9	12.9	14.8	15.8	147.2%
South Africa	143.7	164.9	192.0	205.4	223.0	232.7	267.0	322.3	375.3	412.1	417.3	87.1%
South Sudan	..	..	..	..	..	..	..	..	..	6.1	4.1	..
Sudan	11.2	13.8	15.5	16.0	19.8	25.4	34.1	46.4	65.6	69.3	72.7	267.0%
United Rep. of Tanzania	6.1	7.2	8.3	9.3	12.2	13.4	16.5	23.4	31.4	40.9	43.7	257.5%
Togo	1.2	1.5	1.9	1.8	2.1	2.1	2.6	2.7	3.2	3.8	4.0	95.9%
Tunisia	7.0	9.5	12.9	15.9	18.3	22.2	29.1	35.3	44.1	47.6	48.1	162.2%
Zambia	6.6	7.4	7.6	7.7	8.4	8.3	9.9	13.4	20.3	25.3	26.1	210.7%
Zimbabwe	6.7	7.8	8.4	10.3	12.9	13.6	15.3	10.4	9.4	12.6	12.7	-1.2%
Other Africa	41.6	44.2	49.9	51.7	58.0	57.4	70.7	100.8	132.6	157.2	160.3	176.7%
Africa	**570.6**	**646.5**	**792.6**	**839.3**	**926.4**	**974.8**	**1 164.8**	**1 510.5**	**1 949.0**	**2 239.3**	**2 306.1**	**148.9%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

GDP using exchange rates

billion 2010 US dollars

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Bangladesh	25.0	23.3	28.6	35.3	42.4	52.9	67.0	85.9	115.3	147.0	156.6	269.2%
Brunei Darussalam	5.8	7.1	11.5	9.6	9.6	11.2	12.0	13.3	13.7	13.7	13.6	42.2%
Cambodia	..	..	..	..	..	3.7	5.2	8.1	11.2	14.9	15.9	..
DPR of Korea	8.3	13.0	22.4	35.8	42.7	33.5	29.8	28.9	26.8	26.6	26.9	-37.1%
India	207.7	235.6	274.7	353.2	471.6	604.3	811.5	1 123.4	1 656.6	2 127.8	2 296.6	386.9%
Indonesia	94.9	124.0	181.5	228.8	309.8	437.2	453.4	571.2	755.1	942.3	987.5	218.7%
Malaysia	22.8	30.4	45.8	58.7	81.8	128.6	162.5	204.9	255.0	314.3	330.0	303.4%
Mongolia	..	..	..	3.2	3.8	3.4	3.8	5.3	7.2	11.4	11.7	203.6%
Myanmar	6.8	7.6	10.3	13.0	11.7	15.5	23.3	42.6	61.9	82.7	88.6	658.5%
Nepal	3.4	3.8	4.2	5.4	6.7	8.6	10.9	12.9	16.0	19.1	19.7	193.6%
Pakistan	27.6	32.2	43.4	60.3	79.9	100.1	117.6	150.0	177.4	206.2	215.9	170.3%
Philippines	47.5	59.6	80.0	75.0	94.5	105.2	125.3	156.9	199.6	251.0	265.8	181.2%
Singapore	15.1	21.3	32.1	44.7	67.6	102.2	134.5	170.7	236.4	281.4	287.0	324.7%
Sri Lanka	9.0	10.6	13.7	17.4	20.6	26.8	34.3	41.6	56.7	72.8	76.3	270.0%
Chinese Taipei	31.5	47.9	82.5	99.4	155.1	222.5	296.7	361.6	446.1	502.0	505.8	226.1%
Thailand	35.9	45.3	66.5	86.7	141.6	210.0	217.7	283.8	340.9	381.7	392.5	177.1%
Viet Nam	15.8	16.0	16.9	23.3	29.5	43.7	61.1	85.4	115.9	144.8	154.5	424.5%
Other non-OECD Asia	21.1	24.4	28.6	30.5	34.3	39.6	42.8	58.5	83.5	109.1	103.5	202.0%
Asia (excl. China)	**578.1**	**701.9**	**942.7**	**1 180.4**	**1 603.2**	**2 149.2**	**2 609.5**	**3 404.7**	**4 575.5**	**5 649.0**	**5 948.3**	**271.0%**
People's Rep. of China	200.0	248.9	341.4	566.2	829.6	1 479.0	2 237.1	3 569.9	6 100.6	8 333.3	8 909.8	974.0%
Hong Kong, China	24.6	31.5	54.3	71.7	104.1	134.8	153.4	188.6	228.6	258.0	264.3	153.8%
China	**224.6**	**280.4**	**395.7**	**637.9**	**933.7**	**1 613.8**	**2 390.5**	**3 758.5**	**6 329.3**	**8 591.3**	**9 174.1**	**882.6%**
Argentina	178.7	197.0	226.3	199.1	194.4	267.0	303.2	333.6	423.6	444.2	455.9	134.5%
Bolivia	6.6	8.3	9.2	8.3	9.3	11.4	13.5	15.7	19.7	24.5	25.7	175.6%
Brazil	499.3	731.6	1 010.4	1 066.4	1 192.7	1 387.3	1 538.7	1 774.8	2 208.9	2 421.6	2 330.4	95.4%
Colombia	64.5	80.2	104.1	116.3	148.1	181.3	192.5	229.9	287.0	348.5	359.2	142.6%
Costa Rica	7.3	9.2	11.9	11.9	15.2	19.8	24.5	29.5	37.3	42.8	44.4	192.1%
Cuba	21.3	25.5	30.0	45.2	44.7	31.0	38.7	49.5	64.3	70.7	73.9	65.2%
Curaçao [1]	1.1	1.2	1.4	1.5	1.7	1.9	2.3	2.5	2.7	1.9	1.8	7.6%
Dominican Republic	8.2	11.4	14.7	16.1	18.5	23.9	33.4	39.7	54.0	64.5	69.0	272.1%
Ecuador	16.0	23.7	29.4	33.2	38.0	44.0	46.5	58.9	69.6	86.5	86.6	127.9%
El Salvador	9.8	11.8	11.8	10.2	11.3	15.3	17.8	20.0	21.4	23.0	23.6	108.3%
Guatemala	11.1	13.8	18.2	17.2	19.9	24.5	29.8	34.6	41.3	47.9	49.9	150.8%
Haiti	4.7	5.0	6.6	6.4	6.3	5.8	6.6	6.4	6.6	7.7	7.8	23.1%
Honduras	3.7	4.2	6.0	6.5	7.6	9.0	10.5	13.2	15.7	18.0	18.7	145.9%
Jamaica	8.8	9.4	7.9	8.1	10.3	12.6	12.3	13.5	13.2	13.5	13.6	31.8%
Nicaragua	5.4	6.7	5.4	5.6	4.7	5.2	6.6	7.7	8.7	10.7	11.2	137.4%
Panama	5.7	6.5	8.7	10.3	9.9	13.0	16.5	20.4	28.9	39.9	42.2	324.9%
Paraguay	3.4	4.5	7.5	8.5	11.3	14.0	14.3	15.7	20.0	24.7	25.4	125.5%
Peru	47.2	59.2	64.7	64.6	58.5	75.5	85.8	105.8	147.5	180.3	186.2	218.4%
Suriname	..	..	..	..	..	..	2.7	3.5	4.4	5.0	4.9	..
Trinidad and Tobago	6.9	7.8	10.2	9.0	8.0	8.6	12.4	18.3	22.2	22.8	22.7	184.1%
Uruguay	15.9	17.2	21.4	17.7	21.4	25.9	29.9	30.2	40.3	47.4	47.8	123.7%
Venezuela	168.8	192.3	217.0	207.1	235.3	278.8	289.4	328.3	393.8	422.0	398.0	69.1%
Other non-OECD Americas	16.5	17.2	22.5	23.2	29.6	31.2	34.9	39.0	40.4	42.7	43.4	46.8%
Non-OECD Americas	**1 110.7**	**1 443.6**	**1 845.3**	**1 892.3**	**2 096.9**	**2 487.0**	**2 762.7**	**3 190.6**	**3 971.4**	**4 410.9**	**4 342.5**	**107.1%**
Bahrain	2.5	4.7	7.6	7.1	8.9	12.4	15.3	19.6	25.7	29.9	30.8	246.1%
Islamic Republic of Iran	184.1	238.9	165.1	201.5	205.5	237.3	281.9	368.5	467.8	463.9	464.1	125.8%
Iraq	15.3	21.7	45.7	40.8	71.3	46.9	101.6	104.2	138.5	181.0	186.5	161.7%
Jordan	3.5	3.4	7.1	9.2	8.7	12.2	14.3	19.5	26.4	29.5	30.2	247.6%
Kuwait	60.9	50.3	53.3	41.5	40.7	66.8	73.4	108.9	115.4	137.1	139.7	243.6%
Lebanon	17.2	16.9	14.4	20.1	11.4	20.3	21.8	26.3	38.0	40.7	41.2	260.4%
Oman	6.7	8.8	11.4	23.2	27.0	35.9	42.4	44.3	58.6	67.9	71.7	165.5%
Qatar	19.3	19.6	22.8	19.2	18.9	21.2	36.0	53.4	125.1	161.2	167.0	783.5%
Saudi Arabia	103.3	189.0	261.9	207.1	245.1	282.3	320.5	407.0	526.8	649.6	672.2	174.3%
Syrian Arab Republic	8.1	13.7	18.9	21.5	24.2	36.2	38.6	47.2	59.9	23.7	17.0	-29.7%
United Arab Emirates	21.8	56.1	116.9	109.0	124.1	149.4	195.6	254.0	286.0	347.0	360.0	190.1%
Yemen	2.8	4.0	7.0	9.9	11.7	15.8	20.3	25.0	30.9	28.9	20.8	77.2%
Middle East	**445.6**	**627.0**	**732.1**	**710.0**	**797.5**	**936.8**	**1 161.8**	**1 477.9**	**1 899.3**	**2 160.3**	**2 201.0**	**176.0%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

GDP using purchasing power parities

billion 2010 US dollars

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
World	**23 425**	**27 644**	**33 625**	**38 282**	**45 735**	**50 973**	**61 152**	**73 791**	**88 652**	**101 773**	**105 035**	**129.7%**
Annex I Parties	*..*	*..*	*..*	*..*	*30 175.2*	*31 434.4*	*36 655.7*	*41 479.7*	*43 895.7*	*46 785.6*	*47 627.8*	*57.8%*
Annex II Parties	*13 693.1*	*15 434.5*	*18 336.6*	*20 899.8*	*24 854.4*	*27 427.6*	*32 137.3*	*35 606.8*	*37 009.5*	*38 998.2*	*39 813.5*	*60.2%*
North America	*5 398.5*	*6 000.5*	*7 188.3*	*8 438.2*	*9 919.9*	*11 229.4*	*13 845.8*	*15 694.2*	*16 325.5*	*17 678.8*	*18 112.9*	*82.6%*
Europe	*6 418.0*	*7 219.8*	*8 444.6*	*9 159.9*	*10 789.0*	*11 693.5*	*13 490.5*	*14 715.9*	*15 285.8*	*15 683.6*	*16 005.4*	*48.3%*
Asia Oceania	*1 876.6*	*2 214.2*	*2 703.7*	*3 301.7*	*4 145.5*	*4 504.7*	*4 801.1*	*5 196.7*	*5 398.3*	*5 635.9*	*5 695.2*	*37.4%*
Annex I EIT	*..*	*..*	*..*	*..*	*4 706.5*	*3 285.2*	*3 636.2*	*4 761.3*	*5 584.1*	*6 071.9*	*5 996.0*	*27.4%*
Non-Annex I Parties	*..*	*..*	*..*	*..*	*15 559.7*	*19 538.1*	*24 496.5*	*32 311.1*	*44 756.7*	*54 987.7*	*57 407.4*	*268.9%*
Annex B Kyoto Parties	*..*	*..*	*..*	*..*	*13 505.9*	*14 024.1*	*16 173.3*	*18 120.0*	*19 254.6*	*20 034.9*	*20 436.1*	*51.3%*
Non-OECD Total	**8 239.7**	**10 324.8**	**12 969.3**	**14 725.9**	**17 646.5**	**19 803.1**	**24 278.9**	**32 533.4**	**45 049.9**	**55 133.8**	**57 304.3**	**224.7%**
OECD Total	**15 185.4**	**17 319.4**	**20 656.0**	**23 555.6**	**28 088.4**	**31 169.5**	**36 873.3**	**41 257.4**	**43 602.5**	**46 639.6**	**47 730.9**	**69.9%**
Canada	461.3	549.3	659.1	751.7	855.5	930.3	1 132.7	1 286.1	1 361.1	1 501.3	1 515.4	77.1%
Chile	61.8	53.0	75.2	78.6	108.8	165.0	206.7	258.4	310.5	367.1	375.6	245.2%
Mexico	468.0	616.8	851.3	937.0	1 018.2	1 098.4	1 432.5	1 571.7	1 730.2	1 939.6	1 990.2	95.5%
United States	4 937.2	5 451.1	6 529.2	7 686.6	9 064.4	10 299.0	12 713.1	14 408.1	14 964.4	16 177.5	16 597.4	83.1%
OECD Americas	**5 928.3**	**6 670.2**	**8 114.7**	**9 453.8**	**11 046.9**	**12 492.8**	**15 485.0**	**17 524.3**	**18 366.2**	**19 985.5**	**20 478.7**	**85.4%**
Australia	282.1	313.3	363.0	420.3	488.6	573.9	692.6	820.6	938.6	1 048.5	1 077.5	120.5%
Israel [1]	41.2	53.6	61.9	72.3	89.6	124.1	160.7	177.6	220.0	254.8	261.2	191.4%
Japan	1 539.8	1 836.4	2 275.7	2 805.7	3 580.1	3 841.2	4 004.8	4 250.0	4 323.6	4 437.0	4 462.3	24.6%
Korea	88.9	129.1	194.0	303.4	499.1	747.6	976.5	1 230.5	1 505.3	1 697.6	1 742.0	249.0%
New Zealand	54.7	64.6	65.0	75.6	76.7	89.6	103.7	126.1	136.0	150.3	155.3	102.4%
OECD Asia Oceania	**2 006.7**	**2 397.0**	**2 959.6**	**3 677.3**	**4 734.2**	**5 376.4**	**5 938.3**	**6 604.8**	**7 123.5**	**7 588.3**	**7 698.4**	**62.6%**
Austria	137.6	158.7	186.6	200.7	233.0	260.1	301.8	328.7	350.5	365.8	369.3	58.5%
Belgium	182.4	209.5	244.9	256.7	298.9	323.5	373.0	408.1	437.2	452.8	459.6	53.8%
Czech Republic	139.8	159.5	177.5	186.5	201.7	194.0	211.9	256.9	289.7	299.7	313.3	55.3%
Denmark	115.1	121.3	138.3	158.4	170.1	190.8	221.4	236.5	239.0	249.1	253.1	48.8%
Estonia	..	..	..	..	22.1	15.5	20.9	29.4	28.8	33.7	34.2	54.8%
Finland	72.8	88.2	103.0	118.6	140.4	137.3	175.9	199.9	208.2	207.6	208.1	48.2%
France	974.8	1 118.8	1 320.7	1 429.6	1 688.2	1 799.5	2 076.9	2 254.5	2 342.7	2 425.0	2 455.9	45.5%
Germany	1 486.6	1 624.9	1 917.4	2 051.8	2 413.6	2 669.5	2 935.3	3 019.8	3 210.8	3 414.7	3 473.5	43.9%
Greece	133.1	157.7	193.4	194.7	207.1	220.3	263.5	318.9	313.7	256.5	256.0	23.6%
Hungary	100.0	128.1	152.7	166.6	171.0	151.7	175.7	216.8	214.7	228.3	235.5	37.7%
Iceland	3.4	4.1	5.6	6.3	7.3	7.4	9.5	11.7	12.2	13.4	14.0	90.4%
Ireland	33.6	41.2	51.5	58.5	73.6	92.3	147.0	192.6	197.1	213.7	269.8	266.7%
Italy	946.5	1 086.0	1 350.0	1 467.6	1 711.4	1 825.9	2 015.8	2 112.1	2 079.2	1 999.4	2 015.0	17.7%
Latvia	..	..	..	..	35.1	19.8	25.5	37.8	36.9	42.8	44.0	25.3%
Luxembourg	9.7	10.9	12.2	13.7	19.7	25.0	33.3	38.5	43.5	48.8	50.8	157.5%
Netherlands	289.3	327.4	376.9	398.6	469.9	526.3	650.7	695.4	740.8	754.3	769.0	63.7%
Norway	87.5	105.0	131.3	155.6	169.2	203.3	242.9	270.8	283.6	302.8	307.7	81.9%
Poland	286.4	366.3	382.0	385.3	379.4	422.5	546.0	635.7	802.3	896.5	931.8	145.6%
Portugal	98.5	114.5	146.9	153.5	202.2	220.1	268.7	280.6	289.3	271.9	276.2	36.6%
Slovak Republic	52.3	59.7	66.5	71.8	77.0	70.3	83.6	106.9	134.8	146.7	152.3	97.9%
Slovenia	..	..	..	..	36.6	35.5	43.8	52.3	56.9	56.9	58.2	59.0%
Spain	498.7	617.3	680.4	729.2	908.6	979.1	1 196.2	1 413.2	1 489.7	1 426.6	1 472.3	62.0%
Sweden	171.9	193.5	206.8	228.2	256.9	266.2	317.3	361.2	390.8	415.5	432.5	68.4%
Switzerland	225.7	225.8	245.4	264.5	305.7	307.7	344.5	371.1	414.2	442.4	446.1	45.9%
Turkey	253.9	318.8	358.3	454.3	595.4	697.4	852.2	1 076.7	1 262.8	1 677.6	1 779.2	198.8%
United Kingdom	950.9	1 014.9	1 133.2	1 273.9	1 513.2	1 639.2	1 916.8	2 202.4	2 243.3	2 423.4	2 476.5	63.7%
OECD Europe [1]	**7 250.4**	**8 252.2**	**9 581.6**	**10 424.5**	**12 307.3**	**13 300.2**	**15 450.0**	**17 128.3**	**18 112.7**	**19 065.8**	**19 553.9**	**58.9%**
IEA/Accession/Association	*16 618.7*	*19 047.2*	*22 925.0*	*26 731.7*	*32 502.3*	*37 883.5*	*45 870.3*	*54 488.5*	*64 404.9*	*74 139.1*	*77 097.8*	*137.2%*
European Union - 28	*..*	*..*	*..*	*..*	*11 703.1*	*12 489.3*	*14 429.3*	*15 960.2*	*16 772.5*	*17 302.0*	*17 700.7*	*51.2%*
G20	*..*	*..*	*..*	*..*	*37 424.4*	*41 853.1*	*50 212.2*	*59 914.3*	*71 071.8*	*81 509.9*	*84 274.8*	*125.2%*
Africa	*1 244.4*	*1 412.3*	*1 767.4*	*1 898.9*	*2 106.3*	*2 240.7*	*2 697.0*	*3 485.7*	*4 516.7*	*5 187.4*	*5 357.8*	*154.4%*
Americas	*7 549.8*	*8 759.9*	*10 761.1*	*12 188.4*	*14 059.0*	*16 044.9*	*19 449.7*	*22 121.9*	*24 106.2*	*26 402.1*	*26 841.1*	*90.9%*
Asia	*..*	*..*	*..*	*..*	*13 364.9*	*16 915.2*	*20 917.1*	*27 542.2*	*37 830.7*	*46 955.0*	*49 320.1*	*269.0%*
Europe	*..*	*..*	*..*	*..*	*15 619.0*	*15 082.8*	*17 264.8*	*19 664.0*	*21 089.3*	*21 987.7*	*22 238.8*	*42.4%*
Oceania	*349.9*	*392.9*	*445.1*	*514.1*	*585.8*	*689.0*	*823.7*	*977.0*	*1 109.6*	*1 241.0*	*1 277.4*	*118.1%*

1. Please refer to the chapter *Geographical Coverage* .

GDP using purchasing power parities

billion 2010 US dollars

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Non-OECD Total	**8 239.7**	**10 324.8**	**12 969.3**	**14 725.9**	**17 646.5**	**19 803.1**	**24 278.9**	**32 533.4**	**45 049.9**	**55 133.8**	**57 304.3**	**224.7%**
Albania	7.5	9.4	12.4	13.7	14.0	12.3	15.8	21.1	27.1	29.0	29.8	112.5%
Armenia	..	..	..	..	13.0	6.9	8.8	15.6	18.9	22.7	23.4	80.2%
Azerbaijan	..	..	..	..	59.7	25.0	35.2	66.2	141.5	156.2	157.9	164.4%
Belarus	..	..	..	..	80.7	52.7	71.6	102.7	146.0	161.2	154.9	92.0%
Bosnia and Herzegovina	..	..	..	..	6.8	6.7	22.6	29.8	34.3	35.5	36.6	438.7%
Bulgaria	34.3	46.7	63.0	74.2	80.0	70.1	72.2	95.9	111.6	116.2	120.4	50.6%
Croatia	..	..	..	..	81.5	55.6	65.8	81.9	83.9	80.6	82.0	0.6%
Cyprus [1]	3.6	4.2	7.4	9.7	13.5	17.2	20.9	24.9	28.2	25.3	25.8	90.6%
FYR of Macedonia	..	..	..	..	19.7	15.5	18.0	19.8	24.1	26.1	27.1	37.6%
Georgia	..	..	..	..	37.7	10.7	14.1	20.2	25.9	31.9	32.8	-12.9%
Gibraltar	0.4	0.4	0.4	0.5	0.6	0.6	0.8	0.9	0.9	1.0	1.0	72.1%
Kazakhstan	..	..	..	..	217.9	133.8	151.2	247.7	334.9	416.4	421.4	93.4%
Kosovo	..	..	..	..	..	..	7.7	11.2	13.8	15.5	16.1	..
Kyrgyzstan	..	..	..	..	14.9	7.6	10.0	12.0	14.9	18.2	18.8	25.9%
Lithuania	..	..	..	..	45.3	32.4	40.7	58.7	62.2	73.4	74.7	64.8%
Malta	1.5	2.1	3.7	4.0	5.4	7.0	9.0	10.0	11.1	12.5	13.3	146.6%
Republic of Moldova	..	..	..	..	23.4	9.4	8.3	11.7	13.7	16.7	16.6	-29.2%
Montenegro	..	..	..	..	..	..	..	6.7	8.3	8.8	9.1	..
Romania	106.6	161.3	232.5	271.4	247.8	222.6	219.8	290.7	335.7	364.3	377.7	52.4%
Russian Federation	..	..	..	..	2 714.9	1 686.5	1 827.2	2 460.4	2 928.1	3 223.4	3 103.3	14.3%
Serbia	..	..	..	..	53.6	52.5	55.9	75.5	86.1	87.1	87.7	63.7%
Tajikistan	..	..	..	..	18.9	7.2	7.2	11.5	15.8	20.9	22.1	17.2%
Turkmenistan	..	..	..	..	30.0	19.0	23.6	30.3	49.6	76.8	81.7	172.3%
Ukraine	..	..	..	..	533.4	256.0	231.7	335.3	352.5	348.2	313.8	-41.2%
Uzbekistan	..	..	..	..	60.9	49.4	59.7	77.7	117.1	160.2	173.0	184.1%
Former Soviet Union [1]	1 927.6	2 410.3	2 944.5	3 276.8	..	..	..	..	..	..	..	..
Former Yugoslavia [1]	136.0	166.9	224.6	228.7	..	..	..	..	..	..	..	..
Non-OECD Europe and Eurasia [1]	**2 217.3**	**2 801.4**	**3 488.5**	**3 879.0**	**4 373.6**	**2 756.6**	**2 997.7**	**4 118.2**	**4 986.1**	**5 528.2**	**5 421.1**	**23.9%**
Algeria	98.1	146.5	197.8	250.2	259.9	263.2	311.9	401.9	455.4	516.7	536.1	106.3%
Angola	40.4	40.8	40.9	44.7	52.4	41.5	56.5	75.7	135.0	165.1	170.1	224.6%
Benin	3.9	4.3	5.2	6.5	7.1	8.8	11.2	13.6	16.4	20.2	20.6	188.6%
Botswana	..	..	..	6.3	10.9	13.7	17.6	21.1	26.3	33.1	33.0	201.2%
Cameroon	13.0	17.3	23.6	36.9	32.7	29.9	37.5	45.0	51.9	63.3	66.9	104.4%
Congo	4.5	6.1	7.7	12.5	12.3	12.6	14.2	17.3	22.3	26.4	27.1	120.7%
Côte d'Ivoire	23.4	29.2	35.8	36.2	38.4	41.3	48.2	48.2	53.8	67.2	73.4	91.2%
Dem. Rep. of the Congo	40.4	42.9	39.8	43.6	43.4	29.8	24.4	29.4	38.5	52.2	55.8	28.4%
Egypt	106.6	122.3	195.1	270.3	332.3	392.7	505.9	601.8	812.0	881.9	919.0	176.5%
Eritrea	..	..	..	..	..	4.8	5.6	6.3	6.1	7.7	8.0	..
Ethiopia	24.2	24.8	25.4	23.9	30.7	32.3	40.3	55.1	92.3	135.9	149.0	385.0%
Gabon	8.0	16.4	15.2	17.2	18.2	21.2	21.5	23.4	24.7	30.7	31.9	75.2%
Ghana	22.6	21.2	22.2	21.8	27.5	33.9	41.9	53.6	73.5	102.2	106.2	286.0%
Kenya	20.7	27.0	36.6	41.5	54.6	59.1	65.7	78.5	100.3	123.9	130.9	139.8%
Libya	136.6	110.4	174.1	124.3	112.4	108.7	115.0	147.8	179.1	91.3	81.9	-27.1%
Mauritius	2.5	3.3	4.2	5.2	7.5	9.5	12.6	14.7	19.1	22.1	22.8	204.5%
Morocco	38.6	46.5	60.6	74.2	96.2	104.8	128.1	162.6	207.6	241.3	252.2	162.2%
Mozambique	5.6	4.7	4.8	3.8	4.9	5.8	9.9	15.2	21.8	28.8	30.7	524.7%
Namibia	..	..	..	..	..	9.6	11.4	14.5	18.0	22.4	23.6	..
Niger	..	..	..	..	..	..	8.4	10.2	13.1	16.9	17.5	..
Nigeria	224.1	257.2	311.7	270.0	283.9	291.0	341.4	564.8	800.2	980.6	1 006.6	254.6%
Senegal	9.0	10.1	10.6	12.2	13.7	15.2	18.6	23.3	27.8	31.8	33.9	147.2%
South Africa	230.3	264.2	307.7	329.1	357.4	372.9	427.9	516.5	601.5	660.4	668.7	87.1%
South Sudan	..	..	..	..	..	..	..	..	..	22.5	21.1	..
Sudan	25.0	30.8	34.6	35.8	44.3	56.8	76.1	103.7	146.6	154.9	162.5	267.0%
United Rep. of Tanzania	17.7	21.1	24.4	27.3	35.7	39.0	48.2	68.3	91.7	119.4	127.7	257.4%
Togo	3.0	3.6	4.5	4.4	5.0	5.0	6.2	6.6	7.7	9.3	9.8	96.0%
Tunisia	17.4	23.6	32.1	39.4	45.5	55.0	72.3	87.5	109.3	118.1	119.3	162.2%
Zambia	14.5	16.3	16.6	17.0	18.4	18.2	21.7	29.3	44.5	55.6	57.2	210.6%
Zimbabwe	13.5	15.7	16.9	20.8	26.0	27.5	30.9	21.0	19.0	25.5	25.7	-1.2%
Other Africa	100.8	106.2	119.3	124.0	134.9	137.0	165.7	228.9	301.2	360.3	368.8	173.4%
Africa	**1 244.4**	**1 412.3**	**1 767.4**	**1 898.9**	**2 106.3**	**2 240.7**	**2 697.0**	**3 485.7**	**4 516.7**	**5 187.4**	**5 357.8**	**154.4%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

GDP using purchasing power parities

billion 2010 US dollars

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Bangladesh	78.9	73.7	90.4	111.4	134.0	167.2	211.7	271.2	364.1	464.3	494.8	269.2%
Brunei Darussalam	11.7	14.4	23.3	19.3	19.4	22.7	24.2	26.8	27.7	27.7	27.6	42.2%
Cambodia	..	..	..	..	..	11.5	16.4	25.6	35.4	46.7	50.0	..
DPR of Korea	31.1	48.7	84.0	134.5	160.2	125.8	111.7	108.4	100.6	99.9	100.8	-37.1%
India	665.9	755.5	880.8	1 132.7	1 512.5	1 937.7	2 602.5	3 602.4	5 312.2	6 823.4	7 364.8	386.9%
Indonesia	251.8	329.2	481.8	607.2	822.2	1 160.3	1 203.3	1 515.9	2 004.0	2 500.9	2 620.8	218.7%
Malaysia	51.9	69.3	104.4	133.8	186.5	293.2	370.5	467.0	581.4	716.6	752.2	303.4%
Mongolia	..	..	..	9.1	11.0	9.6	10.9	15.0	20.5	32.5	33.3	203.6%
Myanmar	23.6	26.3	35.8	45.3	40.6	54.0	81.0	148.4	215.6	288.0	308.3	658.5%
Nepal	11.1	12.3	13.9	17.6	22.0	28.3	35.8	42.3	52.6	62.9	64.6	193.6%
Pakistan	111.4	129.7	175.2	243.2	322.3	404.1	474.3	605.2	715.8	831.9	871.1	170.3%
Philippines	122.2	153.4	205.9	193.1	243.4	270.9	322.8	404.0	514.0	646.4	684.5	181.2%
Singapore	22.9	32.2	48.7	67.7	102.4	154.9	203.8	258.7	358.2	426.3	434.9	324.7%
Sri Lanka	26.8	31.5	40.7	51.8	61.3	79.8	102.0	123.9	168.8	216.6	226.9	270.0%
Chinese Taipei	61.4	93.4	160.9	193.9	302.4	433.9	578.6	705.1	870.0	979.0	986.3	226.1%
Thailand	93.6	118.0	173.2	225.8	368.7	546.8	566.8	738.8	887.6	993.7	1 021.9	177.1%
Viet Nam	52.2	52.8	55.8	76.9	97.1	144.0	201.5	281.3	382.1	477.4	509.3	424.5%
Other non-OECD Asia	42.4	48.9	57.1	59.9	65.1	72.3	78.3	111.9	166.9	221.0	211.5	224.7%
Asia (excl. China)	**1 659.0**	**1 989.3**	**2 631.8**	**3 323.4**	**4 471.2**	**5 917.1**	**7 196.2**	**9 452.0**	**12 777.5**	**15 855.3**	**16 763.5**	**274.9%**
People's Rep. of China	405.2	504.2	691.5	1 147.0	1 680.5	2 996.2	4 531.9	7 231.9	12 358.7	16 881.7	18 049.6	974.0%
Hong Kong, China	35.7	45.6	78.7	103.9	150.8	195.2	222.1	273.2	331.1	373.6	382.7	153.8%
China	**440.9**	**549.8**	**770.2**	**1 250.9**	**1 831.3**	**3 191.4**	**4 754.0**	**7 505.0**	**12 689.8**	**17 255.3**	**18 432.3**	**906.5%**
Argentina	277.0	305.4	350.7	308.5	301.3	413.8	469.9	517.0	656.5	688.4	706.6	134.5%
Bolivia	17.6	22.2	24.6	22.3	24.9	30.4	36.1	42.0	52.5	65.5	68.6	175.6%
Brazil	633.7	928.4	1 282.3	1 353.4	1 513.7	1 760.7	1 952.8	2 252.5	2 803.3	3 075.4	2 959.5	95.5%
Colombia	110.2	137.0	177.9	198.8	253.0	309.7	328.9	392.9	490.4	595.4	613.7	142.6%
Costa Rica	11.1	13.9	17.9	18.0	23.0	30.0	37.0	44.7	56.4	64.8	67.2	192.1%
Cuba	67.6	81.0	95.2	143.4	142.0	98.5	123.0	157.1	204.2	224.6	234.5	65.2%
Curaçao [1]	0.9	1.1	1.2	1.3	1.5	1.7	2.1	2.2	2.4	1.7	1.7	7.6%
Dominican Republic	16.5	22.9	29.6	32.5	37.4	48.2	67.3	80.1	108.7	129.8	139.0	272.1%
Ecuador	31.6	46.6	57.9	65.4	74.8	86.6	91.4	115.8	136.8	170.2	170.5	127.9%
El Salvador	20.1	24.3	24.2	21.1	23.3	31.5	36.6	41.1	44.1	47.4	48.6	108.4%
Guatemala	25.9	32.1	42.4	40.1	46.3	57.1	69.3	80.4	96.2	111.5	116.1	150.8%
Haiti	10.4	11.1	14.6	14.2	14.1	12.9	14.6	14.2	14.7	17.1	17.3	23.1%
Honduras	7.4	8.6	12.1	13.2	15.4	18.3	21.3	26.7	31.9	36.5	37.9	145.9%
Jamaica	14.7	15.7	13.3	13.6	17.3	21.0	20.6	22.6	22.1	22.6	22.8	31.8%
Nicaragua	14.0	17.4	14.1	14.5	12.3	13.4	17.1	20.0	22.6	27.7	29.1	137.3%
Panama	10.8	12.4	16.5	19.6	18.9	24.7	31.4	38.8	55.0	76.0	80.4	324.9%
Paraguay	7.5	9.9	16.7	18.7	24.9	31.0	31.6	34.8	44.4	54.6	56.2	125.5%
Peru	90.9	114.1	124.7	124.4	112.7	145.5	165.3	203.9	284.3	347.6	358.9	218.4%
Suriname	..	..	..	..	..	..	4.5	6.0	7.4	8.4	8.3	..
Trinidad and Tobago	12.1	13.7	17.9	15.7	14.0	15.0	21.8	32.1	38.9	40.1	39.9	184.1%
Uruguay	22.3	24.1	30.1	24.8	30.0	36.4	41.9	42.3	56.5	66.4	67.1	123.7%
Venezuela	201.7	229.8	259.3	247.4	281.2	333.1	345.8	392.3	470.6	504.3	475.6	69.1%
Other non-OECD Americas	17.5	18.2	23.1	23.7	30.1	32.5	34.4	38.3	40.0	40.6	42.9	42.5%
Non-OECD Americas	**1 621.5**	**2 089.7**	**2 646.3**	**2 734.6**	**3 012.1**	**3 552.0**	**3 964.7**	**4 597.6**	**5 739.9**	**6 416.6**	**6 362.4**	**111.2%**
Bahrain	4.9	9.0	14.7	13.7	17.2	23.9	29.5	37.9	49.7	57.9	59.5	246.1%
Islamic Republic of Iran	501.6	650.8	449.8	549.1	559.9	646.6	768.1	1 004.0	1 274.4	1 263.8	1 264.2	125.8%
Iraq	42.4	60.0	126.4	112.8	197.2	129.9	281.1	288.3	383.3	500.9	516.0	161.7%
Jordan	8.8	8.7	18.0	23.2	21.9	30.9	36.2	49.3	66.7	74.4	76.2	247.6%
Kuwait	116.5	96.4	102.0	79.3	77.8	127.9	140.5	208.5	220.9	262.5	267.3	243.6%
Lebanon	31.4	30.8	26.1	36.6	20.8	37.0	39.7	47.9	69.2	74.1	75.0	260.4%
Oman	15.5	20.3	26.3	53.4	62.2	82.7	97.7	102.0	135.1	156.3	165.1	165.5%
Qatar	34.1	34.6	40.2	33.9	33.4	37.4	63.6	94.2	220.8	284.6	294.7	783.5%
Saudi Arabia	238.7	436.9	605.4	478.6	566.6	652.5	740.8	940.8	1 217.8	1 501.6	1 553.9	174.3%
Syrian Arab Republic	17.8	30.2	41.8	47.4	53.4	80.0	85.3	104.1	132.3	52.2	37.5	-29.7%
United Arab Emirates	35.7	91.8	191.5	178.6	203.3	244.7	320.4	415.9	468.5	568.2	589.6	190.1%
Yemen	9.2	13.0	22.8	32.5	38.4	51.8	66.6	81.8	101.1	94.6	68.0	77.2%
Middle East	**1 056.7**	**1 482.4**	**1 665.1**	**1 639.1**	**1 852.0**	**2 145.2**	**2 669.4**	**3 374.8**	**4 339.8**	**4 891.0**	**4 967.1**	**168.2%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

Population

millions

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
World	**3 758.9**	**4 062.6**	**4 435.6**	**4 840.9**	**5 279.5**	**5 703.6**	**6 108.6**	**6 505.0**	**6 913.3**	**7 247.3**	**7 333.8**	**38.9%**
Annex I Parties	..	..	..	..	*1 176.8*	*1 208.1*	*1 232.1*	*1 256.7*	*1 286.4*	*1 307.1*	*1 312.8*	*11.6%*
Annex II Parties	*705.6*	*729.7*	*755.3*	*776.2*	*799.6*	*827.6*	*852.6*	*880.5*	*908.8*	*926.6*	*931.6*	*16.5%*
North America	*229.7*	*239.1*	*252.2*	*264.3*	*277.9*	*295.9*	*313.1*	*328.2*	*343.8*	*354.8*	*357.6*	*28.7%*
Europe	*354.9*	*361.7*	*368.0*	*371.6*	*377.6*	*384.4*	*389.6*	*400.0*	*410.4*	*416.5*	*418.4*	*10.8%*
Asia Oceania	*121.0*	*128.8*	*135.0*	*140.2*	*144.2*	*147.3*	*149.9*	*152.3*	*154.6*	*155.3*	*155.7*	*8.0%*
Annex I EIT	..	..	..	..	*321.1*	*319.7*	*314.2*	*306.5*	*303.3*	*302.5*	*302.5*	*-5.8%*
Non-Annex I Parties	..	..	..	..	*4 102.8*	*4 495.5*	*4 876.5*	*5 248.4*	*5 626.9*	*5 940.3*	*6 021.0*	*46.8%*
Annex B Kyoto Parties	..	..	..	..	*584.8*	*590.7*	*592.4*	*599.6*	*610.6*	*617.5*	*619.7*	*6.0%*
Non-OECD Total	**2 860.4**	**3 123.6**	**3 450.7**	**3 815.2**	**4 206.7**	**4 586.5**	**4 952.3**	**5 308.0**	**5 673.1**	**5 978.2**	**6 057.0**	**44.0%**
OECD Total	**898.4**	**939.0**	**984.9**	**1 025.7**	**1 072.8**	**1 117.1**	**1 156.4**	**1 197.0**	**1 240.1**	**1 269.1**	**1 276.7**	**19.0%**
Canada	22.0	23.1	24.5	25.8	27.7	29.3	30.7	32.2	34.0	35.5	35.9	29.5%
Chile	9.7	10.4	11.2	12.1	13.2	14.4	15.4	16.3	17.1	17.8	18.0	36.9%
Mexico	53.4	60.8	70.4	78.8	87.1	94.5	100.9	107.2	114.3	119.7	121.0	39.0%
United States	207.7	216.0	227.7	238.5	250.2	266.6	282.4	296.0	309.8	319.2	321.7	28.6%
OECD Americas	**292.8**	**310.3**	**333.8**	**355.2**	**378.1**	**404.8**	**429.4**	**451.7**	**475.2**	**492.3**	**496.6**	**31.3%**
Australia	13.2	14.0	14.8	15.9	17.2	18.1	19.2	20.4	22.2	23.7	24.1	40.2%
Israel [1]	3.0	3.5	3.9	4.2	4.7	5.5	6.3	7.0	7.6	8.2	8.4	79.7%
Japan	105.0	111.8	117.1	121.0	123.6	125.4	126.8	127.8	128.0	127.1	127.0	2.7%
Korea	32.9	35.3	38.1	40.8	42.9	45.1	47.0	48.1	49.4	50.4	50.6	18.1%
New Zealand	2.9	3.1	3.1	3.3	3.4	3.7	3.9	4.1	4.4	4.5	4.6	37.1%
OECD Asia Oceania	**157.0**	**167.6**	**177.0**	**185.3**	**191.7**	**197.9**	**203.2**	**207.4**	**211.7**	**214.0**	**214.7**	**12.0%**
Austria	7.5	7.6	7.5	7.6	7.7	7.9	8.0	8.2	8.4	8.5	8.6	12.4%
Belgium	9.7	9.8	9.9	9.9	10.0	10.1	10.2	10.5	10.9	11.2	11.2	12.5%
Czech Republic	9.8	10.1	10.3	10.3	10.4	10.3	10.3	10.2	10.5	10.5	10.5	1.7%
Denmark	5.0	5.1	5.1	5.1	5.1	5.2	5.3	5.4	5.5	5.6	5.7	10.5%
Estonia	..	..	..	..	1.6	1.4	1.4	1.4	1.3	1.3	1.3	-17.3%
Finland	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.2	5.4	5.5	5.5	9.9%
France	52.4	53.9	55.2	56.6	58.2	59.5	60.9	63.1	65.0	66.2	66.5	14.2%
Germany	78.3	78.7	78.3	77.7	79.4	81.3	81.5	81.3	80.3	81.0	81.7	2.9%
Greece	8.9	9.1	9.7	10.0	10.3	10.6	10.8	11.0	11.1	10.9	10.9	5.8%
Hungary	10.4	10.5	10.7	10.6	10.4	10.3	10.2	10.1	10.0	9.9	9.8	-5.1%
Iceland	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	29.8%
Ireland	3.0	3.2	3.4	3.5	3.5	3.6	3.8	4.2	4.6	4.6	4.6	32.4%
Italy	54.1	55.4	56.4	56.6	56.7	56.8	56.9	58.2	59.8	60.8	60.7	7.1%
Latvia	..	..	..	..	2.7	2.5	2.4	2.2	2.1	2.0	2.0	-25.8%
Luxembourg	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.6	49.0%
Netherlands	13.2	13.7	14.1	14.5	14.9	15.5	15.9	16.3	16.6	16.9	16.9	13.3%
Norway	3.9	4.0	4.1	4.2	4.2	4.4	4.5	4.6	4.9	5.1	5.2	22.4%
Poland	32.8	34.0	35.6	37.2	38.0	38.3	38.3	38.2	38.5	38.5	38.5	1.1%
Portugal	8.7	9.2	9.9	10.1	10.0	10.0	10.3	10.5	10.6	10.4	10.4	3.6%
Slovak Republic	4.6	4.7	5.0	5.2	5.3	5.4	5.4	5.4	5.4	5.4	5.4	2.3%
Slovenia	..	..	..	..	2.0	2.0	2.0	2.0	2.0	2.1	2.1	3.3%
Spain	34.6	36.0	38.0	38.9	39.3	39.7	40.6	43.7	46.6	46.5	46.4	18.0%
Sweden	8.1	8.2	8.3	8.4	8.6	8.8	8.9	9.0	9.4	9.7	9.8	14.5%
Switzerland	6.3	6.4	6.4	6.5	6.8	7.1	7.2	7.5	7.9	8.2	8.3	21.9%
Turkey	36.2	40.1	44.4	50.3	55.1	59.8	64.3	68.6	73.0	76.6	77.5	40.5%
United Kingdom	55.9	56.2	56.3	56.6	57.2	58.0	58.9	60.4	62.8	64.6	65.1	13.8%
OECD Europe [1]	**448.6**	**461.1**	**474.1**	**485.2**	**503.0**	**514.4**	**523.8**	**538.0**	**553.3**	**562.8**	**565.5**	**12.4%**
IEA/Accession/Association	*2 477.3*	*2 666.6*	*2 876.6*	*3 096.7*	*3 335.1*	*3 559.4*	*3 768.8*	*3 960.3*	*4 142.2*	*4 277.6*	*4 311.7*	*29.3%*
European Union - 28	..	..	..	..	*477.9*	*483.3*	*487.1*	*494.9*	*503.7*	*508.1*	*509.6*	*6.6%*
G20	..	..	..	..	*3 659.2*	*3 897.4*	*4 118.4*	*4 319.7*	*4 513.5*	*4 659.6*	*4 696.3*	*28.3%*
Africa	*373.1*	*414.3*	*475.4*	*547.0*	*628.1*	*720.0*	*813.6*	*918.9*	*1 042.7*	*1 156.0*	*1 186.9*	*89.0%*
Americas	*522.0*	*561.5*	*614.7*	*667.9*	*722.3*	*779.4*	*834.1*	*885.4*	*935.2*	*972.6*	*981.9*	*35.9%*
Asia	..	..	..	..	*3 179.9*	*3 448.1*	*3 703.7*	*3 938.6*	*4 163.2*	*4 338.9*	*4 382.8*	*37.8%*
Europe	..	..	..	..	*722.6*	*727.5*	*726.6*	*729.1*	*736.2*	*741.5*	*743.2*	*2.8%*
Oceania	*19.9*	*21.3*	*22.7*	*24.6*	*26.6*	*28.6*	*30.7*	*33.0*	*36.0*	*38.4*	*39.0*	*46.8%*

1. Please refer to the chapter *Geographical Coverage* .

Population

millions

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Non-OECD Total	**2 860.4**	**3 123.6**	**3 450.7**	**3 815.2**	**4 206.7**	**4 586.5**	**4 952.3**	**5 308.0**	**5 673.1**	**5 978.2**	**6 057.0**	**44.0%**
Albania	2.2	2.4	2.7	3.0	3.3	3.2	3.1	3.0	2.9	2.9	2.9	-12.1%
Armenia	..	..	..	..	3.5	3.2	3.1	3.0	3.0	3.0	3.0	-14.9%
Azerbaijan	..	..	..	..	7.2	7.7	8.0	8.4	9.1	9.5	9.6	34.8%
Belarus	..	..	..	..	10.2	10.2	10.0	9.7	9.5	9.5	9.5	-6.9%
Bosnia and Herzegovina	..	..	..	..	4.5	3.9	3.8	3.8	3.8	3.8	3.8	-15.8%
Bulgaria	8.5	8.7	8.9	9.0	8.7	8.4	8.2	7.7	7.4	7.2	7.2	-17.7%
Croatia	..	..	..	..	4.8	4.7	4.4	4.4	4.4	4.2	4.2	-12.1%
Cyprus [1]	0.6	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.9	0.8	47.8%
FYR of Macedonia	..	..	..	..	2.0	2.0	2.0	2.0	2.1	2.1	2.1	4.1%
Georgia	..	..	..	..	4.8	4.7	4.4	4.2	3.9	3.7	3.7	-22.6%
Gibraltar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.9%
Kazakhstan	..	..	..	..	16.3	15.8	14.9	15.1	16.3	17.3	17.5	7.3%
Kosovo	..	..	..	..	..	..	1.7	1.7	1.8	1.8	1.8	..
Kyrgyzstan	..	..	..	..	4.4	4.6	4.9	5.2	5.4	5.8	6.0	35.7%
Lithuania	..	..	..	..	3.7	3.6	3.5	3.3	3.1	2.9	2.9	-21.4%
Malta	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	22.0%
Republic of Moldova	..	..	..	..	3.7	3.7	3.6	3.6	3.6	3.6	3.6	-3.8%
Montenegro	..	..	..	..	..	..	..	0.6	0.6	0.6	0.6	..
Romania	20.5	21.3	22.2	22.8	23.2	22.7	22.4	21.3	20.2	19.9	19.8	-14.6%
Russian Federation	..	..	..	..	148.3	148.4	146.6	143.5	142.8	143.8	144.1	-2.8%
Serbia	..	..	..	..	10.1	10.3	8.1	7.4	7.3	7.1	7.1	-29.4%
Tajikistan	..	..	..	..	5.3	5.8	6.2	6.8	7.6	8.3	8.5	60.1%
Turkmenistan	..	..	..	..	3.7	4.2	4.5	4.7	5.0	5.3	5.4	46.5%
Ukraine	..	..	..	..	51.9	51.5	49.2	47.1	45.9	45.3	45.2	-13.0%
Uzbekistan	..	..	..	..	20.5	22.8	24.7	26.2	28.6	30.8	31.3	52.6%
Former Soviet Union [1]	243.2	252.6	264.0	276.0	..	..	..	..	..	..	..	..
Former Yugoslavia [1]	20.0	20.8	21.8	22.6	..	..	..	..	..	..	..	..
Non-OECD Europe and Eurasia [1]	**295.4**	**306.6**	**320.4**	**334.2**	**341.0**	**342.3**	**338.4**	**334.1**	**335.6**	**339.9**	**341.0**	**0.0%**
Algeria	15.0	16.7	19.3	22.6	25.9	28.9	31.2	33.3	36.0	38.9	39.7	53.1%
Angola	6.4	7.1	8.2	9.7	11.1	13.0	15.1	17.9	21.2	24.2	25.0	124.9%
Benin	3.0	3.3	3.7	4.3	5.0	6.0	6.9	8.2	9.5	10.6	10.9	117.6%
Botswana	..	..	..	1.2	1.4	1.6	1.7	1.9	2.0	2.2	2.3	63.9%
Cameroon	6.9	7.7	8.9	10.4	12.1	13.9	15.9	18.1	20.6	22.8	23.3	93.4%
Congo	1.4	1.6	1.8	2.1	2.4	2.7	3.1	3.5	4.1	4.5	4.6	93.6%
Côte d'Ivoire	5.5	6.6	8.3	10.2	12.2	14.4	16.5	18.1	20.1	22.2	22.7	86.6%
Dem. Rep. of the Congo	20.6	22.9	26.4	30.0	35.0	42.2	48.0	56.1	65.9	74.9	77.3	121.0%
Egypt	35.6	38.6	43.4	49.4	56.4	62.4	68.3	74.9	82.0	89.6	91.5	62.3%
Eritrea	..	..	..	..	..	3.2	3.5	4.2	4.7	5.1	5.3	..
Ethiopia	29.2	32.6	35.2	40.8	48.1	57.2	66.4	76.6	87.6	97.0	99.4	106.8%
Gabon	0.6	0.7	0.7	0.8	1.0	1.1	1.2	1.4	1.5	1.7	1.7	81.2%
Ghana	8.8	9.8	10.8	12.7	14.6	16.8	18.8	21.4	24.3	26.8	27.4	87.4%
Kenya	11.7	13.5	16.3	19.7	23.4	27.4	31.1	35.3	40.3	44.9	46.1	96.4%
Libya	2.2	2.6	3.2	3.8	4.4	4.9	5.3	5.8	6.3	6.3	6.3	42.7%
Mauritius	0.8	0.9	1.0	1.0	1.1	1.1	1.2	1.2	1.3	1.3	1.3	19.3%
Morocco	16.4	17.9	20.1	22.6	25.0	27.2	29.0	30.4	32.1	33.9	34.4	37.8%
Mozambique	9.5	10.4	11.9	13.1	13.4	15.9	18.3	21.1	24.3	27.2	28.0	109.2%
Namibia	..	..	..	..	..	1.7	1.9	2.0	2.2	2.4	2.5	..
Niger	..	..	..	..	..	..	11.2	13.5	16.3	19.1	19.9	..
Nigeria	57.5	63.6	73.7	83.9	95.6	108.4	122.9	139.6	159.4	177.5	182.2	90.6%
Senegal	4.3	4.9	5.6	6.4	7.5	8.7	9.9	11.3	13.0	14.7	15.1	101.3%
South Africa	23.1	25.7	29.1	33.0	36.8	41.4	44.9	47.6	51.0	54.1	55.0	49.5%
South Sudan	..	..	..	..	..	..	..	..	..	11.9	12.3	..
Sudan	14.3	16.2	19.1	22.5	25.8	30.1	34.8	40.1	46.2	39.4	40.2	56.1%
United Rep. of Tanzania	14.0	16.0	18.7	21.8	25.5	29.9	34.0	39.1	45.6	51.8	53.5	110.0%
Togo	2.2	2.4	2.7	3.3	3.8	4.3	4.9	5.6	6.4	7.1	7.3	92.9%
Tunisia	5.2	5.7	6.4	7.3	8.2	9.1	9.7	10.1	10.6	11.1	11.3	36.7%
Zambia	4.3	5.0	5.9	7.0	8.1	9.3	10.6	12.0	13.9	15.7	16.2	99.1%
Zimbabwe	5.4	6.2	7.3	8.9	10.5	11.7	12.5	13.0	14.0	15.2	15.6	48.8%
Other Africa	69.3	75.9	87.7	98.5	114.1	125.5	134.7	155.5	180.2	202.0	208.8	83.0%
Africa	**373.1**	**414.3**	**475.4**	**547.0**	**628.1**	**720.0**	**813.6**	**918.9**	**1 042.7**	**1 156.0**	**1 186.9**	**89.0%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

Population

millions

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Bangladesh	66.4	71.2	81.4	93.0	106.0	118.4	131.3	142.9	151.6	159.1	161.0	51.9%
Brunei Darussalam	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.4	64.6%
Cambodia	..	..	..	..	..	10.7	12.2	13.3	14.4	15.3	15.6	..
DPR of Korea	14.8	16.3	17.4	18.8	20.2	21.8	22.8	23.8	24.5	25.0	25.2	24.6%
India	566.6	621.7	697.2	782.1	870.6	960.9	1 053.5	1 144.3	1 231.0	1 295.3	1 311.1	50.6%
Indonesia	117.9	130.7	147.5	165.0	181.4	197.0	211.5	226.3	241.6	254.5	257.6	42.0%
Malaysia	11.2	12.3	13.8	15.8	18.2	20.7	23.4	25.8	28.1	29.9	30.3	66.6%
Mongolia	..	..	..	1.9	2.2	2.3	2.4	2.5	2.7	2.9	3.0	35.5%
Myanmar	27.8	30.6	34.5	38.5	42.0	44.7	47.7	50.0	51.7	53.4	53.9	28.3%
Nepal	12.2	13.3	14.9	16.7	18.7	21.4	23.7	25.5	26.9	28.2	28.5	52.1%
Pakistan	59.7	66.8	78.1	92.2	107.6	122.6	138.3	153.4	170.0	185.0	188.9	75.6%
Philippines	36.9	41.3	47.4	54.3	61.9	69.8	77.9	86.1	93.0	99.1	100.7	62.6%
Singapore	2.1	2.3	2.4	2.7	3.0	3.5	4.0	4.3	5.1	5.5	5.5	81.7%
Sri Lanka	12.7	13.5	14.7	15.8	17.1	18.1	18.7	19.4	20.1	20.8	21.0	22.8%
Chinese Taipei	14.9	16.1	17.8	19.2	20.2	21.2	21.9	22.7	23.2	23.4	23.4	15.8%
Thailand	38.0	42.3	47.4	52.0	56.6	59.3	62.7	65.9	66.7	67.7	68.0	20.1%
Viet Nam	43.7	48.0	53.7	58.9	66.0	72.0	77.6	82.4	86.9	90.7	91.7	38.9%
Other non-OECD Asia	27.8	30.3	31.1	30.1	33.2	30.4	34.8	41.0	46.3	51.4	52.6	58.4%
Asia (excl. China)	**1 052.8**	**1 157.0**	**1 299.4**	**1 457.3**	**1 625.4**	**1 795.0**	**1 964.8**	**2 130.0**	**2 284.3**	**2 407.6**	**2 438.3**	**50.0%**
People's Rep. of China	841.1	916.4	981.2	1 051.0	1 135.2	1 204.9	1 262.6	1 303.7	1 337.7	1 364.3	1 371.2	20.8%
Hong Kong, China	4.0	4.5	5.1	5.5	5.7	6.2	6.7	6.8	7.0	7.2	7.3	28.1%
China	**845.2**	**920.9**	**986.3**	**1 056.5**	**1 140.9**	**1 211.0**	**1 269.3**	**1 310.5**	**1 344.7**	**1 371.5**	**1 378.5**	**20.8%**
Argentina	24.4	26.1	28.1	30.4	32.7	35.0	37.1	39.1	41.2	43.0	43.4	32.7%
Bolivia	4.6	5.0	5.6	6.2	6.9	7.6	8.3	9.1	9.9	10.6	10.7	56.4%
Brazil	98.4	108.4	122.2	136.8	150.4	162.8	175.8	188.5	198.6	206.1	207.8	38.2%
Colombia	22.6	24.8	27.7	31.0	34.3	37.4	40.4	43.3	45.9	47.8	48.2	40.7%
Costa Rica	1.9	2.1	2.4	2.7	3.1	3.5	3.9	4.2	4.5	4.8	4.8	55.3%
Cuba	8.9	9.4	9.8	10.1	10.6	10.9	11.1	11.3	11.3	11.4	11.4	7.6%
Curaçao [1]	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-16.4%
Dominican Republic	4.6	5.2	5.8	6.5	7.2	7.9	8.6	9.2	9.9	10.4	10.5	46.5%
Ecuador	6.2	7.0	8.0	9.0	10.2	11.4	12.6	13.7	14.9	15.9	16.1	58.0%
El Salvador	3.8	4.1	4.6	4.9	5.3	5.6	5.8	5.9	6.0	6.1	6.1	16.7%
Guatemala	5.6	6.2	7.1	8.1	9.2	10.4	11.7	13.2	14.7	16.0	16.3	78.4%
Haiti	4.8	5.1	5.7	6.4	7.1	7.8	8.5	9.3	10.0	10.6	10.7	50.9%
Honduras	2.8	3.1	3.6	4.2	4.9	5.6	6.2	6.9	7.5	8.0	8.1	64.7%
Jamaica	1.9	2.0	2.1	2.3	2.4	2.5	2.6	2.7	2.7	2.8	2.8	17.1%
Nicaragua	2.5	2.8	3.3	3.7	4.1	4.6	5.0	5.4	5.7	6.0	6.1	46.7%
Panama	1.6	1.7	2.0	2.2	2.5	2.7	3.0	3.3	3.6	3.9	3.9	59.0%
Paraguay	2.5	2.8	3.2	3.7	4.2	4.8	5.3	5.8	6.2	6.6	6.6	57.5%
Peru	13.7	15.2	17.4	19.5	21.8	24.0	25.9	27.6	29.4	31.0	31.4	43.8%
Suriname	..	..	..	..	..	..	0.5	0.5	0.5	0.5	0.5	..
Trinidad and Tobago	1.0	1.0	1.1	1.2	1.2	1.3	1.3	1.3	1.3	1.4	1.4	11.3%
Uruguay	2.8	2.8	2.9	3.0	3.1	3.2	3.3	3.3	3.4	3.4	3.4	10.4%
Venezuela	11.9	13.4	15.3	17.5	19.9	22.2	24.5	26.8	29.0	30.7	31.1	56.6%
Other non-OECD Americas	2.6	2.7	2.8	2.9	3.0	3.2	2.9	3.1	3.3	3.5	3.5	15.6%
Non-OECD Americas	**229.2**	**251.2**	**280.9**	**312.7**	**344.2**	**374.6**	**404.7**	**433.8**	**460.0**	**480.3**	**485.2**	**41.0%**
Bahrain	0.2	0.3	0.4	0.4	0.5	0.6	0.7	0.9	1.3	1.4	1.4	177.6%
Islamic Republic of Iran	29.3	32.7	38.7	47.3	56.2	60.3	65.9	70.1	74.3	78.1	79.1	40.8%
Iraq	10.3	11.7	13.7	15.6	17.5	20.2	23.6	27.0	30.9	35.3	36.4	108.4%
Jordan	1.7	2.0	2.3	2.8	3.4	4.3	4.8	5.3	6.5	7.4	7.6	126.2%
Kuwait	0.8	1.1	1.4	1.7	2.1	1.6	1.9	2.3	3.1	3.8	3.9	89.0%
Lebanon	2.4	2.6	2.6	2.7	2.7	3.0	3.2	4.0	4.3	5.6	5.9	116.5%
Oman	0.7	0.9	1.2	1.5	1.8	2.2	2.2	2.5	2.9	4.2	4.5	147.8%
Qatar	0.1	0.2	0.2	0.4	0.5	0.5	0.6	0.8	1.8	2.2	2.2	369.5%
Saudi Arabia	6.1	7.4	9.9	13.4	16.4	18.9	21.4	24.7	28.1	30.9	31.5	92.8%
Syrian Arab Republic	6.6	7.6	9.0	10.7	12.5	14.3	16.4	18.1	20.7	18.8	18.5	48.6%
United Arab Emirates	0.3	0.5	1.0	1.4	1.8	2.4	3.1	4.5	8.3	9.1	9.2	405.6%
Yemen	6.3	6.8	8.1	9.8	12.0	15.3	17.8	20.5	23.6	26.2	26.8	124.3%
Middle East	**64.8**	**73.7**	**88.3**	**107.5**	**127.1**	**143.6**	**161.4**	**180.8**	**205.7**	**222.9**	**227.0**	**78.6%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions / TPES

tonnes CO_2 / terajoule

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
World [1]	**60.3**	**59.8**	**58.7**	**56.4**	**55.8**	**55.3**	**55.1**	**56.2**	**56.5**	**56.8**	**56.5**	**1.2%**
Annex I Parties	*..*	*..*	*..*	*..*	*58.7*	*56.5*	*56.1*	*55.3*	*53.8*	*53.1*	*52.6*	*-10.3%*
Annex II Parties	*65.8*	*63.9*	*61.4*	*58.9*	*57.5*	*55.6*	*55.6*	*55.1*	*53.6*	*53.3*	*52.7*	*-8.3%*
North America	*63.9*	*62.1*	*60.0*	*59.6*	*58.7*	*57.3*	*58.2*	*57.6*	*56.6*	*54.8*	*53.9*	*-8.1%*
Europe	*68.6*	*65.8*	*63.6*	*57.7*	*55.1*	*52.3*	*50.7*	*49.9*	*47.3*	*45.6*	*45.6*	*-17.1%*
Asia Oceania	*66.5*	*66.8*	*61.7*	*59.1*	*58.8*	*56.4*	*56.3*	*58.2*	*56.7*	*64.9*	*64.5*	*9.7%*
Annex I EIT	*..*	*..*	*..*	*..*	*61.8*	*60.0*	*58.0*	*55.4*	*54.1*	*51.4*	*51.5*	*-16.7%*
Non-Annex I Parties	*..*	*..*	*..*	*..*	*49.3*	*52.2*	*52.4*	*56.1*	*57.9*	*58.7*	*58.5*	*18.8%*
Annex B Kyoto Parties	*..*	*..*	*..*	*..*	*59.8*	*56.4*	*54.3*	*53.4*	*51.5*	*50.3*	*50.2*	*-16.1%*
Non-OECD Total	**49.1**	**51.9**	**53.0**	**51.3**	**52.4**	**53.1**	**52.7**	**55.8**	**57.3**	**58.0**	**57.8**	**10.3%**
OECD Total	**66.2**	**64.4**	**62.1**	**59.9**	**58.0**	**56.3**	**56.1**	**55.5**	**54.2**	**53.7**	**53.2**	**-8.3%**
Canada	57.5	54.3	52.5	48.7	47.4	45.9	48.6	47.5	47.6	47.5	48.6	2.4%
Chile	57.7	53.5	53.9	48.9	50.2	48.3	46.1	45.8	53.1	51.4	54.0	7.6%
Mexico	52.1	54.3	51.4	53.0	49.6	52.8	57.0	54.5	58.9	55.1	56.4	13.7%
United States	64.5	62.9	60.8	60.8	59.9	58.6	59.3	58.7	57.7	55.7	54.5	-8.9%
OECD Americas	**63.6**	**61.8**	**59.6**	**59.2**	**58.1**	**57.0**	**58.0**	**57.2**	**56.7**	**54.7**	**54.1**	**-7.0%**
Australia	66.3	71.0	70.9	72.5	71.8	73.5	77.5	78.3	72.8	71.2	72.6	1.1%
Israel [2]	57.3	55.8	57.5	76.7	68.3	69.1	71.8	76.1	70.5	68.2	64.7	-5.3%
Japan	67.0	66.5	60.3	57.0	56.7	53.7	52.6	54.2	53.3	64.4	63.4	11.8%
Korea	74.5	75.9	72.7	70.0	59.6	58.9	54.8	52.0	52.6	50.5	51.3	-13.8%
New Zealand	47.2	45.9	43.8	40.3	40.5	38.4	40.5	47.5	39.4	36.4	36.1	-10.9%
OECD Asia Oceania	**66.7**	**67.1**	**62.6**	**60.5**	**59.1**	**57.1**	**56.3**	**57.1**	**56.0**	**60.6**	**60.4**	**2.2%**
Austria	61.7	58.7	56.1	54.5	54.0	53.1	51.7	52.8	48.5	45.3	45.3	-16.2%
Belgium	71.0	65.2	64.1	54.7	52.9	49.8	46.8	44.1	41.2	39.4	41.5	-21.7%
Czech Republic	80.8	84.8	85.5	85.1	72.1	70.5	70.4	62.5	59.6	56.0	56.4	-21.8%
Denmark	71.5	71.9	78.7	75.5	70.1	71.9	65.1	61.2	57.9	51.1	47.4	-32.3%
Estonia	..	..	..	..	87.9	73.2	73.5	77.1	79.2	74.2	68.4	-22.1%
Finland	52.4	53.5	53.3	44.6	45.3	46.0	40.3	38.1	40.5	31.8	30.9	-31.7%
France	63.7	61.2	56.7	41.2	36.8	34.6	34.6	32.8	31.2	28.0	28.1	-23.6%
Germany	76.6	74.2	70.1	67.2	63.9	60.8	57.7	55.7	55.6	56.5	56.6	-11.4%
Greece	68.9	69.4	72.0	74.2	77.9	80.6	77.6	75.2	72.2	67.9	66.5	-14.6%
Hungary	75.6	73.2	69.6	64.0	54.5	52.0	50.9	47.4	42.5	40.1	40.3	-26.2%
Iceland	37.2	34.9	27.9	22.0	19.9	21.2	16.5	17.1	8.6	8.3	8.8	-55.9%
Ireland	76.9	76.0	75.1	73.2	72.6	73.2	70.7	72.5	65.3	63.4	63.6	-12.3%
Italy	65.6	64.8	64.8	63.2	63.4	60.2	58.5	58.5	53.9	52.0	51.8	-18.4%
Latvia	..	..	..	..	56.8	46.2	42.6	40.0	42.8	37.0	38.3	-32.5%
Luxembourg	96.7	80.6	83.5	80.6	75.7	62.4	57.4	62.5	60.2	57.9	56.4	-25.4%
Netherlands	59.9	53.4	53.9	54.5	52.5	52.9	51.1	49.0	48.6	48.6	50.5	-3.9%
Norway	41.2	38.5	35.4	31.5	31.1	31.9	29.1	30.7	26.4	30.4	29.6	-4.9%
Poland	79.7	78.6	78.5	80.9	79.9	80.1	77.9	76.9	73.2	70.9	71.1	-11.0%
Portugal	54.7	56.0	56.8	52.1	53.9	55.9	56.2	55.4	48.3	48.3	51.1	-5.1%
Slovak Republic	65.1	61.5	67.2	62.7	61.4	55.4	49.6	47.3	46.3	43.7	42.9	-30.1%
Slovenia	..	..	..	..	56.6	55.4	52.4	50.6	50.4	45.8	46.7	-17.6%
Spain	66.7	64.7	65.7	58.3	53.7	54.1	54.6	56.1	49.0	48.4	49.6	-7.7%
Sweden	54.4	48.3	43.1	29.5	26.3	27.0	26.1	22.7	21.6	18.5	19.5	-26.1%
Switzerland	56.7	51.1	46.8	45.2	39.9	41.1	40.1	40.5	39.4	36.1	36.3	-9.0%
Turkey	51.0	53.2	54.3	57.9	57.8	59.0	63.4	61.4	59.5	60.3	58.8	1.8%
United Kingdom	71.1	69.0	68.7	64.6	63.7	56.7	55.8	57.0	55.9	54.0	51.5	-19.2%
OECD Europe [2]	**69.6**	**67.2**	**65.6**	**60.7**	**57.5**	**54.8**	**53.2**	**52.0**	**49.7**	**48.3**	**48.3**	**-16.1%**
IEA/Accession/Association	*62.3*	*61.0*	*59.5*	*57.8*	*56.5*	*56.8*	*56.7*	*58.3*	*59.0*	*59.8*	*59.5*	5.3%
European Union - 28	*..*	*..*	*..*	*..*	*58.4*	*55.2*	*53.3*	*52.2*	*50.0*	*48.2*	*48.2*	-17.5%
G20	*..*	*..*	*..*	*..*	*56.7*	*56.6*	*56.5*	*57.9*	*58.3*	*58.9*	*58.6*	3.3%
Africa	*31.0*	*34.8*	*34.8*	*32.9*	*32.2*	*31.0*	*31.7*	*34.1*	*34.2*	*34.6*	*34.6*	7.5%
Americas	*61.6*	*59.8*	*57.7*	*56.7*	*55.9*	*55.0*	*56.1*	*55.2*	*54.1*	*52.7*	*52.0*	-7.0%
Asia	*..*	*..*	*..*	*..*	*54.1*	*56.7*	*56.4*	*60.4*	*61.9*	*63.6*	*63.3*	17.1%
Europe	*..*	*..*	*..*	*..*	*58.9*	*55.9*	*53.9*	*52.3*	*50.4*	*48.4*	*48.5*	-17.7%
Oceania	*63.3*	*67.0*	*66.9*	*67.2*	*66.7*	*67.6*	*71.2*	*73.5*	*68.0*	*65.8*	*66.9*	0.3%

1. The ratio for the world has been calculated to include international marine bunkers and international aviation bunkers.
2. Please refer to the chapter *Geographical Coverage* .

CO_2 emissions / TPES

tonnes CO_2 / terajoule

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Non-OECD Total	**49.1**	**51.9**	**53.0**	**51.3**	**52.4**	**53.1**	**52.7**	**55.8**	**57.3**	**58.0**	**57.8**	**10.3%**
Albania	53.7	52.1	53.0	61.0	50.7	33.2	41.1	42.2	44.2	42.1	41.7	-17.8%
Armenia	..	..	..	..	61.5	48.9	40.6	39.3	38.9	42.1	36.6	-40.5%
Azerbaijan	..	..	..	..	56.4	55.6	57.7	51.6	48.5	51.3	51.2	-9.1%
Belarus	..	..	..	..	52.4	55.0	50.7	49.1	52.0	49.4	50.3	-4.0%
Bosnia and Herzegovina	..	..	..	..	81.7	52.5	75.4	75.2	75.5	66.0	66.1	-19.0%
Bulgaria	80.1	75.3	71.6	64.1	63.1	54.6	54.2	55.8	59.3	55.6	56.2	-10.9%
Croatia	..	..	..	..	51.3	45.2	47.8	48.8	46.4	44.9	44.1	-14.0%
Cyprus [1]	70.9	70.1	71.1	71.8	68.1	71.1	70.4	75.8	71.0	69.9	69.9	2.8%
FYR of Macedonia	..	..	..	..	82.9	79.5	76.4	74.8	69.3	66.1	64.6	-22.1%
Georgia	..	..	..	..	64.4	52.2	38.6	34.2	38.2	42.0	43.2	-32.9%
Gibraltar	55.4	47.4	68.8	59.2	59.2	63.9	63.5	64.2	65.4	65.7	66.2	11.7%
Kazakhstan	..	..	..	..	77.1	78.0	75.0	73.7	76.4	71.6	68.9	-10.7%
Kosovo	..	..	..	..	..	..	79.1	81.6	83.4	80.0	81.8	..
Kyrgyzstan	..	..	..	..	72.6	44.7	45.8	45.4	52.4	52.8	59.3	-18.4%
Lithuania	..	..	..	..	47.9	36.8	34.2	33.6	41.7	35.7	34.9	-27.2%
Malta	74.2	74.3	74.4	80.3	79.6	80.1	75.3	73.9	73.6	72.6	61.3	-23.0%
Republic of Moldova	..	..	..	..	73.7	60.2	54.1	52.6	53.5	52.4	53.5	-27.4%
Montenegro	..	..	..	..	..	..	..	46.9	54.8	55.4	55.8	..
Romania	65.0	64.8	64.9	64.3	64.6	60.3	56.9	57.3	51.0	51.6	52.0	-19.4%
Russian Federation	..	..	..	..	58.8	58.1	56.9	54.3	53.0	49.0	49.4	-15.9%
Serbia	..	..	..	..	75.1	77.3	74.8	73.7	70.2	68.7	72.1	-4.0%
Tajikistan	..	..	..	..	49.6	26.4	24.2	24.0	25.3	37.7	38.2	-22.9%
Turkmenistan	..	..	..	..	60.9	58.0	58.8	59.9	59.9	59.8	59.7	-1.9%
Ukraine	..	..	..	..	65.2	57.7	52.7	49.1	48.0	53.0	50.2	-23.0%
Uzbekistan	..	..	..	..	59.2	52.8	53.5	54.3	53.6	53.5	53.6	-9.4%
Former Soviet Union [1]	60.4	63.0	63.2	58.9	..	..	..	..	..	..	..	..
Former Yugoslavia [1]	67.4	68.8	59.7	69.5	..	..	..	..	..	..	..	..
Non-OECD Europe and Eurasia [1]	**61.2**	**63.5**	**63.4**	**59.6**	**61.2**	**58.6**	**56.6**	**54.7**	**54.3**	**51.9**	**51.9**	**-15.2%**
Algeria	59.2	58.6	59.1	56.6	55.1	54.5	54.4	57.1	56.9	56.9	57.6	4.7%
Angola	10.0	11.3	13.9	13.5	15.9	14.7	15.4	17.4	29.7	31.4	32.6	104.9%
Benin	6.6	8.9	7.0	7.3	3.7	2.9	17.2	25.6	29.5	27.0	27.8	653.6%
Botswana	..	..	..	41.6	55.0	52.6	53.7	54.7	36.3	61.1	62.0	12.7%
Cameroon	6.5	8.0	10.9	12.7	12.7	10.6	10.6	9.6	17.3	17.9	18.4	45.4%
Congo	26.9	26.2	26.7	23.7	19.4	15.9	16.7	18.5	26.1	24.0	24.3	25.4%
Côte d'Ivoire	23.4	24.5	22.7	19.7	14.9	15.1	22.3	14.4	14.7	15.4	17.8	19.5%
Dem. Rep. of the Congo	9.2	8.4	8.9	7.8	6.1	2.1	1.5	1.8	2.2	3.9	2.3	-62.6%
Egypt	61.4	62.4	64.5	60.0	57.6	55.5	58.7	56.0	57.5	57.4	59.7	3.6%
Eritrea	..	..	..	..	..	18.6	20.7	18.1	15.5	17.0	17.1	..
Ethiopia	2.2	1.8	1.9	1.7	2.3	2.0	2.4	2.9	3.4	5.0	4.9	115.6%
Gabon	10.6	13.9	22.4	29.5	18.4	23.4	23.8	13.8	12.5	15.6	15.3	-16.9%
Ghana	15.3	15.0	13.0	11.5	11.5	11.8	18.9	26.0	32.9	35.4	34.6	202.0%
Kenya	14.6	13.7	14.2	12.6	12.3	11.2	13.2	11.1	13.7	12.5	13.5	9.4%
Libya	56.6	56.5	59.6	50.1	55.3	56.3	55.5	57.8	55.2	64.0	62.7	13.5%
Mauritius	17.1	25.2	31.7	33.0	41.7	47.3	57.5	60.9	66.4	67.5	65.3	56.5%
Morocco	53.2	58.2	60.4	62.9	61.6	66.7	64.0	62.9	64.6	67.1	67.7	9.8%
Mozambique	10.2	8.5	8.3	5.6	4.4	4.4	4.4	4.3	5.7	8.0	9.3	112.8%
Namibia	..	..	..	..	..	45.6	44.6	44.9	47.7	47.5	48.8	..
Niger	..	..	..	..	..	..	10.5	10.1	14.5	16.1	16.0	..
Nigeria	4.1	6.7	12.4	13.3	10.1	10.6	12.1	12.8	11.1	10.7	11.0	9.5%
Senegal	23.4	27.7	31.2	32.5	30.2	31.7	35.1	39.6	34.0	38.3	38.8	28.6%
South Africa	82.6	89.8	76.1	61.6	64.0	59.9	61.4	69.3	68.6	71.3	71.9	12.3%
South Sudan	..	..	..	..	..	..	..	..	..	52.0	45.7	..
Sudan	10.9	10.3	10.5	10.0	11.9	8.6	9.8	15.7	21.4	21.4	23.5	97.3%
United Rep. of Tanzania	4.4	4.4	4.4	4.0	4.1	5.4	4.6	7.0	7.1	10.0	10.7	160.7%
Togo	11.3	9.7	9.9	7.2	10.9	8.8	10.7	9.7	15.9	12.8	13.0	19.8%
Tunisia	53.6	53.2	57.9	55.4	58.9	57.7	57.6	55.9	54.1	56.4	56.0	-4.9%
Zambia	22.9	26.5	17.3	12.9	11.3	8.2	6.2	6.8	4.6	7.6	7.7	-31.8%
Zimbabwe	31.8	28.9	29.3	31.4	41.7	36.6	31.7	25.5	22.9	24.9	25.0	-40.1%
Other Africa	8.9	9.3	11.3	8.4	7.2	7.4	8.2	8.6	9.7	10.7	10.6	47.8%
Africa	**31.0**	**34.8**	**34.8**	**32.9**	**32.2**	**31.0**	**31.7**	**34.1**	**34.2**	**34.6**	**34.6**	**7.5%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions / TPES

tonnes CO_2 / terajoule

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Bangladesh	12.1	15.7	18.7	18.5	21.4	24.8	27.4	33.5	39.0	42.4	44.4	107.6%
Brunei Darussalam	53.6	45.4	46.7	39.5	45.1	47.8	44.3	51.9	50.6	45.0	52.5	16.5%
Cambodia	..	..	..	..	..	12.4	13.7	18.4	20.7	22.9	27.2	..
DPR of Korea	85.2	84.4	85.0	85.9	84.0	83.1	84.8	84.3	79.5	71.3	68.7	-18.2%
India	28.5	30.2	31.3	36.3	41.4	45.5	48.2	50.0	54.9	58.4	58.0	39.9%
Indonesia	17.2	22.0	29.0	30.4	32.4	37.3	39.2	42.5	42.7	46.3	46.8	44.5%
Malaysia	50.5	53.6	47.6	50.5	54.2	55.0	56.2	56.6	61.8	58.7	61.3	13.0%
Mongolia	..	..	..	90.1	90.1	90.8	89.5	87.7	85.8	81.1	82.9	-8.0%
Myanmar	13.6	11.2	12.9	12.5	8.8	13.6	17.3	17.1	14.0	25.8	29.4	235.5%
Nepal	1.2	1.9	2.7	2.6	3.7	6.3	9.1	8.0	9.6	11.9	11.4	209.7%
Pakistan	22.2	23.4	23.5	27.0	31.2	35.3	35.5	36.2	36.7	36.8	37.1	19.2%
Philippines	35.9	37.9	35.5	28.6	31.6	40.7	40.7	43.9	45.6	47.8	47.6	50.3%
Singapore	53.0	54.3	58.9	58.6	60.0	47.6	53.9	41.9	41.6	41.5	41.4	-30.9%
Sri Lanka	17.3	15.3	19.1	16.7	15.9	21.7	30.2	35.5	30.4	37.2	40.7	155.8%
Chinese Taipei	71.1	68.0	61.1	49.7	55.6	57.9	60.3	59.2	54.9	54.1	54.7	-1.5%
Thailand	28.3	29.1	36.6	40.6	46.1	54.0	50.3	48.3	45.3	43.2	43.7	-5.1%
Viet Nam	29.4	29.1	24.7	26.1	23.2	30.0	36.8	45.8	51.1	51.2	54.5	134.4%
Other non-OECD Asia	44.6	46.9	51.4	37.9	35.8	32.6	33.0	39.0	43.0	44.3	43.3	21.1%
Asia (excl. China)	**32.0**	**33.8**	**36.4**	**38.4**	**41.5**	**44.6**	**46.4**	**47.9**	**50.1**	**52.1**	**52.5**	**26.6%**
People's Rep. of China	47.7	50.9	54.5	56.2	56.9	66.0	65.3	71.8	72.6	73.1	72.6	27.5%
Hong Kong, China	73.4	71.7	75.3	81.0	92.3	82.4	70.9	78.5	73.3	80.8	75.5	-18.2%
China	**47.8**	**51.0**	**54.6**	**56.4**	**57.3**	**66.2**	**65.3**	**71.9**	**72.6**	**73.1**	**72.6**	**26.8%**
Argentina	58.6	56.6	54.4	50.7	51.5	51.8	54.1	53.3	52.7	52.9	53.2	3.2%
Bolivia	51.1	52.0	41.1	40.9	47.1	43.7	34.6	41.7	52.0	53.0	52.7	11.9%
Brazil	29.9	34.0	35.2	28.8	31.4	33.8	37.2	34.4	33.3	37.4	36.1	15.1%
Colombia	46.0	43.8	46.9	47.2	45.1	47.1	50.1	47.2	46.1	51.1	51.1	13.3%
Costa Rica	37.6	41.7	41.0	36.8	37.1	45.0	37.4	33.6	34.0	35.2	33.6	-9.4%
Cuba	47.4	49.2	49.7	50.2	46.8	49.4	51.3	56.1	63.2	60.0	59.2	26.5%
Curaçao [1]	63.3	63.4	52.8	60.2	43.6	47.8	63.7	68.5	51.3	57.5	56.5	29.5%
Dominican Republic	35.6	40.4	44.0	44.0	44.0	51.1	60.5	61.6	63.2	63.2	61.9	40.5%
Ecuador	37.3	45.1	49.7	49.6	50.2	50.6	49.1	61.2	65.0	65.2	59.6	18.6%
El Salvador	17.8	20.3	15.1	14.9	20.4	32.5	31.1	33.1	31.9	34.5	35.7	75.4%
Guatemala	19.8	21.6	26.5	20.2	17.4	26.3	29.1	32.5	24.2	29.2	28.5	64.1%
Haiti	6.0	5.7	7.1	10.1	14.3	12.7	16.4	13.9	13.2	15.9	17.9	25.5%
Honduras	19.3	20.6	21.6	19.9	21.8	30.2	35.8	41.6	38.4	39.0	38.8	77.8%
Jamaica	65.7	66.3	68.6	64.7	62.1	62.8	61.3	66.1	61.9	60.6	57.7	-7.1%
Nicaragua	29.2	30.0	28.1	22.3	21.7	26.6	33.6	33.6	34.5	30.0	31.4	44.3%
Panama	35.9	43.7	49.2	40.8	41.1	48.9	45.3	55.5	58.5	60.0	59.9	45.9%
Paraguay	10.0	11.4	15.4	15.0	15.0	21.2	20.3	20.9	23.1	24.0	25.1	67.1%
Peru	40.3	42.1	43.3	40.7	47.0	50.7	51.6	50.1	50.2	48.3	47.7	1.5%
Suriname	..	..	..	..	..	..	55.2	62.4	56.4	68.9	74.5	..
Trinidad and Tobago	48.6	47.1	39.7	31.2	31.5	31.7	24.5	26.0	26.6	28.4	28.1	-10.9%
Uruguay	50.4	52.1	48.2	36.0	38.2	40.8	39.3	41.6	34.8	31.9	30.3	-20.6%
Venezuela	61.4	58.1	60.9	55.9	56.4	54.1	54.1	58.2	56.6	54.8	55.0	-2.5%
Other non-OECD Americas	40.2	43.1	42.4	61.2	58.0	63.4	65.0	66.7	64.6	67.8	67.7	16.6%
Non-OECD Americas	**42.4**	**43.0**	**43.5**	**39.1**	**40.4**	**42.1**	**44.0**	**43.0**	**42.1**	**43.9**	**43.1**	**6.6%**
Bahrain	49.0	58.6	61.6	52.2	48.8	50.0	47.4	47.1	48.0	50.4	50.3	3.1%
Islamic Republic of Iran	56.0	61.0	55.5	64.4	59.0	57.7	60.6	57.8	58.3	56.0	55.8	-5.4%
Iraq	61.4	60.9	64.4	61.6	62.4	67.7	64.8	66.1	65.9	68.1	65.9	5.6%
Jordan	65.5	68.2	67.6	68.2	67.9	68.1	69.9	64.1	63.2	70.1	65.9	-2.9%
Kuwait	54.8	55.7	60.4	62.6	72.9	52.2	59.1	58.8	57.3	59.4	58.8	-19.3%
Lebanon	59.2	63.0	64.2	67.8	67.4	69.3	68.1	68.5	68.2	71.3	70.9	5.3%
Oman	72.1	72.2	46.6	63.8	57.5	57.5	64.4	60.7	54.0	58.8	60.5	5.2%
Qatar	57.8	57.6	50.3	45.2	45.5	49.3	46.5	47.6	49.3	42.2	42.0	-7.6%
Saudi Arabia	41.1	61.3	76.3	61.2	62.2	54.2	57.3	58.1	54.0	56.7	57.3	-8.0%
Syrian Arab Republic	54.6	64.6	65.9	59.6	62.1	61.4	57.3	61.4	61.7	61.3	62.8	1.1%
United Arab Emirates	58.1	60.6	63.5	62.0	60.7	60.1	60.5	59.6	58.7	57.5	58.7	-3.2%
Yemen	39.1	60.6	65.3	66.8	59.8	65.9	67.1	68.3	68.5	70.7	76.5	27.9%
Middle East	**53.5**	**60.6**	**63.7**	**61.9**	**60.6**	**57.9**	**59.4**	**58.5**	**57.1**	**57.0**	**57.0**	**-6.0%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions / TFC

tonnes CO_2 / terajoule

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
World [1]	**78.5**	**78.7**	**78.8**	**77.6**	**78.1**	**78.0**	**78.6**	**81.4**	**82.8**	**83.1**	**82.2**	**5.2%**
Annex I Parties	*..*	*..*	*..*	*..*	*85.5*	*83.0*	*82.2*	*82.1*	*79.6*	*77.8*	*76.5*	*-10.6%*
Annex II Parties	*86.3*	*85.9*	*84.6*	*82.8*	*83.7*	*81.6*	*80.8*	*81.0*	*78.5*	*77.0*	*75.6*	*-9.7%*
North America	*82.2*	*83.1*	*81.7*	*82.5*	*85.7*	*84.8*	*84.6*	*84.8*	*82.5*	*79.1*	*77.3*	*-9.8%*
Europe	*92.0*	*88.1*	*87.1*	*81.3*	*78.5*	*74.5*	*71.8*	*71.1*	*67.1*	*64.9*	*64.6*	*-17.7%*
Asia Oceania	*90.2*	*93.8*	*91.4*	*88.4*	*89.4*	*86.6*	*87.5*	*91.4*	*91.8*	*97.4*	*95.9*	*7.3%*
Annex I EIT	*..*	*..*	*..*	*..*	*90.8*	*88.9*	*88.9*	*87.3*	*83.9*	*80.2*	*79.5*	*-12.5%*
Non-Annex I Parties	*..*	*..*	*..*	*..*	*65.8*	*71.1*	*73.9*	*81.2*	*86.3*	*87.8*	*87.1*	*32.4%*
Annex B Kyoto Parties	*..*	*..*	*..*	*..*	*87.2*	*82.7*	*79.3*	*78.2*	*75.7*	*73.8*	*73.3*	*-16.0%*
Non-OECD Total	**64.3**	**67.2**	**69.8**	**69.9**	**71.6**	**73.3**	**75.1**	**81.6**	**85.8**	**87.1**	**86.3**	**20.6%**
OECD Total	**87.1**	**86.9**	**85.9**	**84.4**	**84.7**	**82.5**	**81.8**	**81.8**	**79.7**	**78.2**	**77.0**	**-9.0%**
Canada	69.7	68.3	65.0	62.5	61.9	60.5	64.4	66.0	67.1	67.5	67.8	9.5%
Chile	76.8	68.9	70.1	61.4	63.3	58.1	57.0	59.5	68.7	72.5	77.6	22.5%
Mexico	65.2	69.7	74.1	72.8	73.6	79.9	90.2	92.9	89.7	87.3	88.2	19.7%
United States	83.4	84.7	83.7	84.9	88.7	88.0	87.2	87.1	84.4	80.6	78.5	-11.5%
OECD Americas	**81.7**	**82.6**	**81.3**	**81.9**	**84.9**	**84.3**	**84.6**	**85.0**	**82.8**	**79.5**	**78.0**	**-8.1%**
Australia	94.9	104.3	105.5	106.6	109.5	109.4	114.9	123.0	121.4	110.2	111.9	2.2%
Israel [2]	100.0	100.8	99.7	114.8	112.5	109.3	109.3	117.5	110.2	110.9	107.6	-4.3%
Japan	90.0	92.8	89.6	85.7	86.7	83.4	83.0	85.5	86.0	96.1	93.6	7.9%
Korea	92.9	98.5	95.9	97.3	85.3	81.5	81.1	77.8	83.4	79.6	80.3	-5.8%
New Zealand	63.4	60.4	57.0	56.8	53.5	50.2	53.4	64.2	56.0	52.6	52.8	-1.2%
OECD Asia Oceania	**90.4**	**94.2**	**92.0**	**89.8**	**89.2**	**85.9**	**86.5**	**88.5**	**90.0**	**92.4**	**91.5**	**2.6%**
Austria	79.7	74.0	69.6	66.3	67.9	66.8	62.6	64.9	59.2	54.7	55.0	-19.0%
Belgium	96.3	89.7	92.8	79.9	79.0	70.1	65.1	61.3	58.2	51.9	52.8	-33.1%
Czech Republic	112.5	115.0	115.8	112.3	108.9	107.3	111.0	100.7	99.4	92.7	93.2	-14.4%
Denmark	90.2	92.4	102.2	102.4	92.4	96.1	85.2	77.6	75.4	63.9	57.4	-37.9%
Estonia	..	..	..	..	146.8	140.9	134.2	131.8	150.3	153.9	130.5	-11.1%
Finland	58.6	60.7	67.7	60.7	57.6	59.5	53.3	51.8	56.0	44.0	41.3	-28.3%
France	80.5	78.1	76.9	61.4	57.6	53.8	53.3	52.7	50.4	46.6	46.9	-18.6%
Germany	107.1	102.7	100.7	96.6	93.3	87.7	83.9	81.5	79.2	79.9	79.2	-15.1%
Greece	88.6	99.9	100.8	109.0	115.2	119.1	113.9	109.4	102.6	101.7	94.1	-18.3%
Hungary	97.3	94.8	91.5	86.7	75.8	77.9	73.9	65.4	59.4	53.8	53.8	-29.1%
Iceland	39.7	36.8	32.5	27.4	33.3	32.4	29.2	27.8	18.4	17.8	17.2	-48.5%
Ireland	102.9	101.5	97.5	97.8	95.2	96.2	90.7	86.7	82.0	79.8	80.4	-15.6%
Italy	80.1	81.4	83.0	81.1	80.9	79.5	77.9	77.1	70.0	65.5	66.3	-18.1%
Latvia	..	..	..	..	69.9	55.1	49.5	44.6	47.4	41.5	43.1	-38.3%
Luxembourg	160.1	119.4	109.6	101.3	92.3	70.2	59.1	67.0	64.6	60.8	58.8	-36.3%
Netherlands	81.1	68.8	63.9	65.4	64.6	66.8	64.3	61.8	61.5	62.5	65.9	1.9%
Norway	44.2	42.1	40.7	36.5	37.6	40.4	38.4	40.3	42.0	41.9	42.7	13.5%
Poland	122.8	121.4	127.4	130.5	134.1	123.4	119.8	114.5	105.0	102.2	102.0	-23.9%
Portugal	68.2	70.2	71.7	64.5	67.6	74.2	71.4	71.6	59.9	63.2	69.1	2.2%
Slovak Republic	94.8	88.6	102.3	100.0	83.1	89.7	77.1	76.0	72.2	71.5	70.1	-15.7%
Slovenia	..	..	..	..	87.6	80.7	72.3	71.5	70.7	64.7	64.0	-26.9%
Spain	86.7	92.6	92.4	87.1	79.8	79.1	77.8	78.1	67.8	70.5	74.0	-7.4%
Sweden	60.2	54.0	50.5	42.7	38.7	38.0	35.2	33.9	31.5	27.9	27.4	-29.1%
Switzerland	61.2	59.8	56.4	55.9	53.1	52.9	51.8	51.4	49.7	48.5	47.1	-11.4%
Turkey	61.6	64.4	64.9	73.8	75.8	76.2	83.1	78.9	81.5	85.6	81.0	6.9%
United Kingdom	110.3	103.3	103.8	97.4	95.0	85.3	82.5	85.4	82.4	79.3	74.3	-21.8%
OECD Europe [2]	**94.2**	**90.8**	**90.6**	**86.1**	**82.6**	**78.4**	**75.6**	**74.2**	**70.8**	**69.1**	**68.5**	**-17.1%**
IEA/Accession/Association	*80.3*	*80.2*	*80.2*	*79.0*	*80.4*	*81.4*	*82.1*	*85.9*	*88.7*	*89.3*	*88.0*	9.5%
European Union - 28	*..*	*..*	*..*	*..*	*84.7*	*80.3*	*76.6*	*75.4*	*71.4*	*69.0*	*68.7*	-18.9%
G20	*..*	*..*	*..*	*..*	*80.8*	*81.3*	*82.1*	*85.8*	*87.8*	*88.3*	*87.1*	7.8%
Africa	*37.3*	*42.2*	*43.5*	*44.7*	*43.3*	*42.4*	*42.6*	*46.8*	*46.8*	*47.9*	*47.5*	9.8%
Americas	*79.1*	*79.5*	*78.3*	*77.9*	*80.5*	*79.9*	*80.3*	*80.1*	*77.5*	*75.4*	*74.0*	-8.0%
Asia	*..*	*..*	*..*	*..*	*73.3*	*78.9*	*81.8*	*89.4*	*95.1*	*96.9*	*95.8*	30.7%
Europe	*..*	*..*	*..*	*..*	*85.3*	*81.1*	*78.9*	*77.8*	*74.4*	*71.8*	*71.3*	-16.4%
Oceania	*88.4*	*95.9*	*97.0*	*97.5*	*99.0*	*97.9*	*103.1*	*112.1*	*110.2*	*100.3*	*101.8*	2.8%

1. The ratio for the world has been calculated to include international marine bunkers and international aviation bunkers.
2. Please refer to the chapter *Geographical Coverage* .

CO_2 emissions / TFC

tonnes CO_2 / terajoule

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Non-OECD Total	**64.3**	**67.2**	**69.8**	**69.9**	**71.6**	**73.3**	**75.1**	**81.6**	**85.8**	**87.1**	**86.3**	**20.6%**
Albania	65.2	62.4	60.4	71.9	62.2	45.1	47.9	47.2	47.0	46.2	45.1	-27.6%
Armenia	..	..	..	..	73.2	70.1	73.8	57.5	53.0	62.3	54.1	-26.1%
Azerbaijan	..	..	..	..	76.5	81.1	99.8	86.0	81.2	85.1	84.4	10.3%
Belarus	..	..	..	..	69.2	74.4	69.5	69.5	72.7	67.4	69.4	0.3%
Bosnia and Herzegovina	..	..	..	..	117.1	63.2	145.1	145.0	152.0	122.8	121.6	3.8%
Bulgaria	103.7	103.6	103.6	104.8	101.9	105.6	105.6	107.1	116.3	106.1	105.0	3.1%
Croatia	..	..	..	..	69.0	58.7	60.7	60.6	56.4	54.1	52.8	-23.4%
Cyprus [1]	95.2	102.0	100.6	102.1	105.9	100.1	104.5	106.0	101.1	99.3	98.5	-7.0%
FYR of Macedonia	..	..	..	..	136.1	134.1	129.8	119.8	109.5	96.4	89.8	-34.0%
Georgia	..	..	..	..	89.1	86.5	48.2	43.8	44.8	46.9	48.9	-45.2%
Gibraltar	63.7	59.6	88.0	79.3	74.7	75.4	74.9	74.9	77.4	77.5	78.2	4.7%
Kazakhstan	..	..	..	..	95.0	101.0	123.8	122.5	136.2	143.4	140.0	47.3%
Kosovo	..	..	..	..	..	..	159.2	161.8	175.0	140.4	148.8	..
Kyrgyzstan	..	..	..	..	78.7	59.8	62.3	63.5	63.5	64.3	70.3	-10.8%
Lithuania	..	..	..	..	73.9	62.9	55.5	55.6	54.4	43.1	42.8	-42.1%
Malta	123.3	127.6	145.2	210.9	207.4	150.5	160.1	210.2	149.8	128.2	85.0	-59.0%
Republic of Moldova	..	..	..	..	109.1	91.1	97.6	77.7	78.0	73.6	77.6	-28.9%
Montenegro	..	..	..	..	..	..	..	62.8	81.8	80.8	81.7	..
Romania	84.0	83.1	73.2	85.9	93.4	104.8	86.6	85.4	76.5	71.4	73.7	-21.1%
Russian Federation	..	..	..	..	82.7	80.7	84.3	85.9	81.8	77.4	76.8	-7.1%
Serbia	..	..	..	..	122.1	172.2	143.8	121.6	115.8	112.1	125.3	2.6%
Tajikistan	..	..	..	..	56.2	30.3	28.9	28.8	28.1	42.0	43.5	-22.6%
Turkmenistan	..	..	..	..	85.4	89.2	94.9	95.5	93.6	89.8	91.7	7.4%
Ukraine	..	..	..	..	109.5	101.9	97.4	84.8	86.0	91.3	89.0	-18.7%
Uzbekistan	..	..	..	..	78.5	68.8	72.5	74.9	74.7	75.9	77.6	-1.1%
Former Soviet Union [1]	92.4	91.8	91.3	88.8	..	..	..	..	..	..	..	..
Former Yugoslavia [1]	88.3	92.5	98.4	119.1	..	..	..	..	..	..	..	..
Non-OECD Europe and Eurasia [1]	**92.1**	**91.6**	**90.5**	**89.7**	**87.8**	**85.6**	**87.0**	**86.8**	**85.2**	**82.3**	**81.9**	**-6.7%**
Algeria	96.5	98.7	112.6	111.1	96.0	99.0	95.4	89.8	86.3	83.8	83.1	-13.5%
Angola	13.3	15.2	18.6	17.6	20.7	19.0	20.0	22.3	37.0	40.1	40.8	97.3%
Benin	7.5	10.1	8.0	8.4	4.3	3.3	20.4	28.3	36.1	33.9	35.2	726.3%
Botswana	..	..	..	48.4	75.3	70.6	68.4	68.5	46.6	87.2	87.0	15.6%
Cameroon	6.8	8.4	11.5	13.4	13.3	11.2	11.2	10.2	20.7	20.3	21.0	58.0%
Congo	32.2	31.6	32.4	30.6	24.8	21.5	24.6	26.7	34.9	31.2	31.2	25.9%
Côte d'Ivoire	33.9	35.7	32.7	28.6	22.2	23.7	34.9	27.5	26.1	28.1	34.0	53.1%
Dem. Rep. of the Congo	9.7	8.9	9.3	8.3	6.7	2.3	1.5	1.9	2.3	5.2	3.0	-54.9%
Egypt	70.2	72.7	73.2	79.9	80.1	77.2	75.7	82.1	79.4	86.0	85.9	7.1%
Eritrea	..	..	..	..	..	25.1	27.6	29.0	23.4	25.6	25.8	..
Ethiopia	2.8	2.3	2.4	2.1	2.8	2.5	3.0	3.6	4.1	6.1	6.0	111.9%
Gabon	18.3	23.7	30.6	32.9	21.5	25.3	25.8	14.8	13.2	16.7	16.4	-24.0%
Ghana	17.7	17.9	15.3	14.4	14.0	14.8	22.1	32.0	46.5	46.8	48.4	245.1%
Kenya	20.7	19.4	20.0	17.5	17.7	16.2	19.7	16.9	20.7	20.0	21.4	20.9%
Libya	114.3	107.0	105.3	102.3	112.3	100.5	93.5	98.7	86.7	122.5	130.3	16.0%
Mauritius	18.1	27.1	35.3	38.4	52.5	61.8	89.5	98.5	117.7	118.1	114.4	117.9%
Morocco	58.1	70.1	73.6	81.5	83.1	88.4	82.6	83.0	83.3	87.5	87.8	5.6%
Mozambique	12.9	10.8	10.6	7.2	5.4	5.4	4.8	4.6	6.3	9.0	11.6	112.5%
Namibia	..	..	..	..	..	48.6	47.8	49.2	52.3	51.9	52.7	..
Niger	..	..	..	..	..	..	11.3	10.8	15.7	17.7	17.4	..
Nigeria	4.3	7.0	13.2	14.5	11.3	11.6	13.3	14.4	12.6	12.3	12.8	13.0%
Senegal	35.6	43.9	46.4	47.8	47.1	49.3	57.2	64.1	51.0	56.2	57.0	21.1%
South Africa	113.0	121.7	113.8	116.5	114.1	118.7	119.5	138.3	142.4	139.4	136.5	19.7%
South Sudan	..	..	..	..	..	..	..	..	..	68.0	60.4	..
Sudan	20.2	18.8	18.8	18.0	20.8	16.0	17.5	25.3	30.7	30.9	34.5	65.5%
United Rep. of Tanzania	5.0	4.9	5.0	4.5	4.6	6.1	5.2	8.1	8.2	11.5	12.4	170.8%
Togo	17.3	14.8	14.8	11.0	16.2	14.2	17.7	15.8	24.4	19.9	20.2	24.4%
Tunisia	69.3	70.7	80.0	78.2	79.9	76.3	76.4	69.4	74.9	78.2	77.6	-2.9%
Zambia	27.9	29.5	21.5	16.4	14.2	10.3	7.9	8.6	5.9	9.5	9.5	-32.7%
Zimbabwe	35.0	31.1	31.2	34.6	48.8	44.9	36.7	30.3	26.1	29.1	29.6	-39.3%
Other Africa	9.0	9.4	11.5	8.8	7.6	7.8	9.1	9.8	11.3	12.8	12.7	66.3%
Africa	**37.3**	**42.2**	**43.5**	**44.7**	**43.3**	**42.4**	**42.6**	**46.8**	**46.8**	**47.9**	**47.5**	**9.8%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions / TFC

tonnes CO_2 / terajoule

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Bangladesh	12.8	16.5	20.2	21.3	25.1	29.3	33.0	41.7	52.2	58.7	60.3	140.4%
Brunei Darussalam	97.6	328.0	297.0	250.2	221.7	202.0	183.8	183.2	124.9	111.3	145.4	-34.4%
Cambodia	..	..	..	..	..	13.8	15.9	22.0	24.2	26.5	32.3	..
DPR of Korea	101.6	103.6	102.7	103.3	102.6	98.3	99.3	98.7	92.2	84.2	81.8	-20.3%
India	31.5	34.0	36.1	44.0	52.1	60.7	67.4	71.4	79.2	86.7	85.4	64.0%
Indonesia	18.8	24.0	32.5	34.9	40.0	49.0	50.7	57.3	60.9	64.1	64.8	62.0%
Malaysia	66.1	71.9	79.1	83.0	85.1	84.3	92.3	97.9	106.7	98.8	102.1	19.9%
Mongolia	..	..	..	117.1	109.8	136.3	146.3	131.2	126.4	131.4	131.7	20.0%
Myanmar	15.1	12.5	14.5	14.5	9.9	15.2	19.3	19.6	15.1	29.2	32.8	230.2%
Nepal	1.2	1.9	2.7	2.6	3.7	6.3	9.2	8.1	9.7	12.0	11.6	211.8%
Pakistan	24.2	25.8	25.8	30.2	36.9	42.6	44.1	44.0	44.1	44.6	44.9	21.6%
Philippines	43.4	45.9	48.1	42.9	46.2	59.3	68.0	74.9	77.7	84.7	83.8	81.3%
Singapore	132.1	135.4	142.0	108.9	138.1	148.0	121.0	67.2	68.4	62.4	62.0	-55.1%
Sri Lanka	18.2	16.0	20.2	17.3	16.6	22.9	34.1	39.7	33.7	43.9	46.8	182.9%
Chinese Taipei	97.4	93.7	92.1	79.7	90.2	94.0	105.1	100.2	90.2	87.7	86.9	-3.7%
Thailand	40.5	39.6	53.1	57.1	66.9	75.3	71.9	68.4	62.9	60.3	60.3	-9.9%
Viet Nam	31.2	31.0	27.2	29.2	25.9	32.8	42.1	53.8	62.4	62.4	69.1	167.2%
Other non-OECD Asia	44.9	48.8	55.1	42.5	40.8	37.0	38.2	47.3	49.9	52.3	50.8	24.5%
Asia (excl. China)	**36.3**	**39.0**	**43.6**	**47.7**	**53.5**	**60.1**	**64.7**	**67.6**	**71.4**	**75.1**	**75.1**	**40.3%**
People's Rep. of China	55.3	60.0	66.8	69.0	75.8	88.3	94.4	108.1	116.6	115.5	113.3	49.5%
Hong Kong, China	104.1	108.9	120.0	144.5	152.3	126.9	102.7	132.3	122.4	127.6	117.0	-23.2%
China	**55.7**	**60.3**	**67.2**	**69.5**	**76.4**	**88.6**	**94.5**	**108.2**	**116.6**	**115.6**	**113.3**	**48.4%**
Argentina	84.8	81.5	77.6	72.0	78.9	67.8	70.5	70.2	73.2	73.3	73.9	-6.3%
Bolivia	60.9	61.9	51.2	49.0	57.0	60.4	59.1	63.5	66.2	66.7	65.0	14.1%
Brazil	33.4	38.9	41.8	36.8	39.5	42.1	45.5	43.2	42.0	48.9	47.5	20.1%
Colombia	54.7	54.4	57.8	59.4	57.8	57.7	61.3	59.0	64.1	67.8	66.6	15.2%
Costa Rica	44.2	47.9	45.1	39.2	42.4	54.5	47.4	43.7	45.3	48.7	44.7	5.6%
Cuba	56.0	60.8	65.2	65.1	58.5	70.1	67.3	86.6	100.5	94.5	95.7	63.7%
Curaçao [1]	163.0	155.9	189.8	122.4	101.5	81.4	154.6	154.8	106.1	164.4	167.9	65.4%
Dominican Republic	46.5	60.5	64.5	70.3	74.4	84.1	88.1	84.3	83.2	87.7	89.2	19.9%
Ecuador	39.3	52.5	62.5	56.4	57.0	67.8	64.4	70.9	75.8	74.2	73.6	29.2%
El Salvador	18.9	23.7	18.5	17.9	24.8	41.8	41.2	45.2	58.0	61.0	62.1	150.2%
Guatemala	22.5	23.4	30.5	22.5	19.0	29.2	34.3	40.1	29.5	37.0	35.1	85.2%
Haiti	7.2	6.9	8.7	12.4	18.1	15.9	19.3	17.7	17.2	21.1	23.4	29.8%
Honduras	20.4	21.4	22.7	20.5	22.3	33.4	39.4	47.8	44.0	49.4	46.5	108.9%
Jamaica	92.3	80.9	87.1	90.5	88.4	121.5	108.1	88.0	89.6	82.9	83.9	-5.1%
Nicaragua	33.1	34.3	32.3	28.5	30.0	37.3	44.4	48.5	49.8	46.1	48.7	62.7%
Panama	74.5	78.1	61.7	53.3	49.6	61.8	58.6	65.5	73.7	73.7	72.8	46.8%
Paraguay	10.6	12.1	16.3	15.7	15.7	22.3	21.5	22.6	25.7	26.5	27.5	74.9%
Peru	46.6	49.3	53.2	47.7	53.4	58.4	59.4	62.3	65.0	67.1	65.4	22.5%
Suriname	..	..	..	..	..	..	63.9	82.5	72.5	79.2	82.1	..
Trinidad and Tobago	145.3	94.9	86.6	54.0	50.8	48.0	33.4	36.9	38.1	40.4	39.5	-22.2%
Uruguay	63.5	67.0	60.2	41.0	44.5	46.5	48.4	51.6	39.2	35.7	34.0	-23.7%
Venezuela	115.4	93.6	92.1	86.1	86.3	79.8	84.3	80.3	83.5	84.1	87.6	1.6%
Other non-OECD Americas	64.5	69.2	66.9	62.9	62.2	63.9	61.5	61.8	68.0	73.1	73.1	17.5%
Non-OECD Americas	**54.4**	**54.6**	**56.3**	**51.3**	**53.2**	**54.2**	**56.3**	**55.3**	**55.5**	**58.9**	**58.1**	**9.4%**
Bahrain	235.8	112.7	136.0	151.0	121.8	123.2	123.9	116.1	119.3	115.8	114.2	-6.3%
Islamic Republic of Iran	74.7	74.8	76.6	78.3	74.7	74.9	78.7	78.7	75.2	73.3	75.1	0.5%
Iraq	95.9	86.6	80.6	80.6	82.1	131.0	88.9	95.0	129.9	156.0	174.6	112.7%
Jordan	84.2	85.6	88.5	97.5	95.4	99.6	96.0	93.5	98.8	109.4	102.4	7.3%
Kuwait	98.4	103.3	100.9	108.1	168.0	109.7	135.7	127.0	122.2	111.3	115.8	-31.1%
Lebanon	77.2	83.7	107.3	96.9	115.9	84.9	101.3	97.8	112.7	111.9	111.0	-4.3%
Oman	75.0	84.8	97.4	97.3	131.7	138.7	159.9	120.7	82.5	76.6	75.2	-42.9%
Qatar	117.1	111.6	87.0	70.6	78.7	93.9	87.3	93.7	103.1	99.5	97.4	23.8%
Saudi Arabia	145.5	136.2	112.3	105.1	91.4	89.6	88.2	85.3	83.0	85.4	87.5	-4.3%
Syrian Arab Republic	77.9	71.7	76.4	78.3	85.5	89.7	86.4	92.2	98.7	92.5	95.0	11.1%
United Arab Emirates	61.0	72.9	82.5	79.9	76.5	77.2	82.8	95.8	81.7	82.2	81.0	5.8%
Yemen	89.3	81.6	83.6	87.2	83.0	88.4	96.1	90.7	99.7	91.9	104.0	25.3%
Middle East	**88.3**	**86.2**	**91.0**	**88.3**	**85.2**	**88.0**	**87.3**	**87.6**	**85.7**	**85.9**	**87.4**	**2.5%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions / GDP using exchange rates

kilogrammes CO_2 / US dollar using 2010 prices

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
World [1]	**0.69**	**0.66**	**0.63**	**0.57**	**0.54**	**0.51**	**0.46**	**0.47**	**0.46**	**0.44**	**0.43**	**-20.8%**
Annex I Parties	*..*	*..*	*..*	*..*	*0.45*	*0.40*	*0.36*	*0.33*	*0.30*	*0.27*	*0.26*	*-43.1%*
Annex II Parties	*0.57*	*0.52*	*0.47*	*0.40*	*0.35*	*0.33*	*0.31*	*0.29*	*0.26*	*0.23*	*0.22*	*-36.8%*
North America	*0.84*	*0.78*	*0.69*	*0.57*	*0.52*	*0.48*	*0.44*	*0.39*	*0.35*	*0.32*	*0.30*	*-41.8%*
Europe	*0.43*	*0.39*	*0.36*	*0.31*	*0.27*	*0.24*	*0.22*	*0.20*	*0.18*	*0.15*	*0.15*	*-43.1%*
Asia Oceania	*0.37*	*0.36*	*0.31*	*0.26*	*0.24*	*0.24*	*0.23*	*0.23*	*0.21*	*0.21*	*0.20*	*-16.4%*
Annex I EIT	*..*	*..*	*..*	*..*	*1.53*	*1.52*	*1.22*	*0.95*	*0.81*	*0.70*	*0.69*	*-54.8%*
Non-Annex I Parties	*..*	*..*	*..*	*..*	*0.79*	*0.78*	*0.72*	*0.77*	*0.74*	*0.70*	*0.68*	*-14.3%*
Annex B Kyoto Parties	*..*	*..*	*..*	*..*	*0.40*	*0.33*	*0.28*	*0.26*	*0.24*	*0.20*	*0.20*	*-50.1%*
Non-OECD Total	**0.98**	**0.99**	**0.99**	**1.00**	**1.03**	**0.95**	**0.84**	**0.85**	**0.80**	**0.75**	**0.73**	**-29.6%**
OECD Total	**0.59**	**0.54**	**0.49**	**0.42**	**0.38**	**0.35**	**0.33**	**0.30**	**0.28**	**0.25**	**0.24**	**-36.0%**
Canada	0.62	0.58	0.54	0.44	0.41	0.41	0.38	0.36	0.33	0.31	0.31	-26.1%
Chile	0.49	0.46	0.41	0.36	0.39	0.32	0.34	0.30	0.32	0.29	0.31	-19.6%
Mexico	0.33	0.36	0.40	0.42	0.42	0.44	0.41	0.43	0.42	0.37	0.37	-11.9%
United States	0.87	0.80	0.70	0.59	0.53	0.49	0.44	0.40	0.36	0.32	0.30	-43.2%
OECD Americas	**0.82**	**0.75**	**0.67**	**0.56**	**0.51**	**0.48**	**0.44**	**0.39**	**0.36**	**0.32**	**0.31**	**-40.2%**
Australia	0.37	0.42	0.41	0.38	0.39	0.36	0.35	0.33	0.30	0.26	0.26	-33.5%
Israel [2]	0.31	0.29	0.29	0.32	0.34	0.34	0.32	0.31	0.29	0.23	0.22	-34.9%
Japan	0.37	0.35	0.29	0.24	0.22	0.22	0.21	0.21	0.20	0.20	0.19	-14.3%
Korea	0.82	0.83	0.89	0.71	0.64	0.66	0.61	0.51	0.50	0.46	0.46	-27.5%
New Zealand	0.23	0.24	0.24	0.23	0.26	0.25	0.26	0.25	0.21	0.19	0.19	-29.2%
OECD Asia Oceania	**0.38**	**0.37**	**0.33**	**0.28**	**0.27**	**0.27**	**0.27**	**0.26**	**0.25**	**0.25**	**0.24**	**-11.0%**
Austria	0.32	0.28	0.26	0.24	0.22	0.21	0.18	0.20	0.18	0.15	0.15	-30.4%
Belgium	0.58	0.50	0.46	0.36	0.32	0.31	0.28	0.24	0.21	0.17	0.18	-43.4%
Czech Republic	1.54	1.36	1.33	1.32	1.04	0.89	0.80	0.65	0.54	0.46	0.44	-57.3%
Denmark	0.36	0.32	0.34	0.29	0.22	0.23	0.17	0.15	0.15	0.10	0.09	-57.8%
Estonia	..	..	..	..	2.40	1.52	1.03	0.85	0.96	0.81	0.67	-72.1%
Finland	0.46	0.42	0.45	0.34	0.32	0.34	0.26	0.23	0.25	0.18	0.17	-47.3%
France	0.38	0.33	0.31	0.22	0.18	0.17	0.16	0.15	0.13	0.10	0.10	-42.2%
Germany	0.62	0.56	0.51	0.46	0.37	0.30	0.26	0.24	0.22	0.20	0.20	-46.1%
Greece	0.20	0.23	0.24	0.29	0.35	0.36	0.35	0.31	0.28	0.27	0.26	-25.3%
Hungary	0.99	0.90	0.89	0.79	0.63	0.61	0.50	0.42	0.36	0.29	0.30	-53.0%
Iceland	0.38	0.36	0.29	0.24	0.24	0.24	0.21	0.18	0.15	0.14	0.14	-43.0%
Ireland	0.57	0.46	0.45	0.40	0.36	0.31	0.25	0.20	0.18	0.14	0.12	-68.0%
Italy	0.30	0.29	0.26	0.23	0.22	0.21	0.20	0.21	0.18	0.16	0.16	-27.9%
Latvia	..	..	..	..	..	0.70	0.42	0.31	0.34	0.24	0.24	..
Luxembourg	1.39	0.96	0.84	0.61	0.45	0.27	0.20	0.24	0.20	0.16	0.14	-68.2%
Netherlands	0.39	0.36	0.34	0.31	0.28	0.28	0.22	0.21	0.20	0.17	0.18	-35.5%
Norway	0.17	0.15	0.14	0.11	0.11	0.10	0.09	0.08	0.09	0.08	0.08	-26.4%
Poland	1.68	1.55	1.82	1.84	1.52	1.32	0.89	0.78	0.64	0.52	0.51	-66.6%
Portugal	0.18	0.19	0.20	0.19	0.23	0.26	0.26	0.27	0.20	0.19	0.21	-9.1%
Slovak Republic	1.12	1.09	1.26	1.14	1.07	0.88	0.66	0.52	0.39	0.30	0.29	-72.9%
Slovenia	..	..	..	..	0.44	0.47	0.38	0.35	0.32	0.27	0.26	-40.4%
Spain	0.25	0.26	0.28	0.25	0.23	0.24	0.24	0.25	0.18	0.17	0.17	-24.7%
Sweden	0.38	0.33	0.28	0.20	0.16	0.17	0.13	0.11	0.09	0.07	0.07	-57.7%
Switzerland	0.12	0.12	0.11	0.11	0.10	0.10	0.09	0.08	0.07	0.06	0.06	-37.3%
Turkey	0.27	0.31	0.33	0.34	0.35	0.36	0.39	0.33	0.34	0.30	0.29	-16.7%
United Kingdom	0.60	0.52	0.46	0.39	0.34	0.29	0.25	0.22	0.20	0.16	0.15	-56.6%
OECD Europe [2]	**0.48**	**0.44**	**0.41**	**0.36**	**0.31**	**0.28**	**0.25**	**0.23**	**0.21**	**0.18**	**0.18**	**-43.5%**
IEA/Accession/Association	*0.63*	*0.59*	*0.55*	*0.48*	*0.44*	*0.44*	*0.40*	*0.41*	*0.41*	*0.40*	*0.38*	-13.8%
European Union - 28	*..*	*..*	*..*	*..*	*0.34*	*0.30*	*0.26*	*0.24*	*0.21*	*0.18*	*0.18*	-47.2%
G20	*..*	*..*	*..*	*..*	*0.50*	*0.47*	*0.43*	*0.43*	*0.43*	*0.41*	*0.40*	-19.2%
Africa	*0.44*	*0.50*	*0.50*	*0.55*	*0.57*	*0.59*	*0.57*	*0.57*	*0.51*	*0.50*	*0.49*	-13.4%
Americas	*0.73*	*0.67*	*0.59*	*0.51*	*0.47*	*0.44*	*0.41*	*0.37*	*0.34*	*0.31*	*0.30*	-36.8%
Asia	*..*	*..*	*..*	*..*	*0.65*	*0.67*	*0.63*	*0.69*	*0.71*	*0.68*	*0.66*	1.6%
Europe	*..*	*..*	*..*	*..*	*0.50*	*0.41*	*0.34*	*0.32*	*0.28*	*0.25*	*0.24*	-51.6%
Oceania	*0.35*	*0.39*	*0.39*	*0.36*	*0.37*	*0.35*	*0.34*	*0.32*	*0.29*	*0.25*	*0.25*	-32.1%

1. The ratio for the world has been calculated to include international marine bunkers and international aviation bunkers.
2. Please refer to the chapter *Geographical Coverage* .

CO_2 emissions / GDP using exchange rates

kilogrammes CO_2 / US dollar using 2010 prices

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Non-OECD Total	**0.98**	**0.99**	**0.99**	**1.00**	**1.03**	**0.95**	**0.84**	**0.85**	**0.80**	**0.75**	**0.73**	**-29.6%**
Albania	1.17	1.05	1.25	1.15	0.92	0.34	0.44	0.41	0.33	0.32	0.29	-68.3%
Armenia	..	..	..	..	3.12	1.00	0.79	0.54	0.44	0.47	0.41	-86.9%
Azerbaijan	..	..	..	..	2.39	3.46	2.08	1.17	0.44	0.53	0.52	-78.2%
Belarus	..	..	..	..	3.27	2.86	1.93	1.42	1.08	0.94	0.91	-72.2%
Bosnia and Herzegovina	..	..	..	..	7.07	0.99	1.21	1.06	1.19	1.22	1.22	-82.8%
Bulgaria	4.11	3.46	2.98	2.44	2.05	1.66	1.29	1.07	0.88	0.79	0.80	-61.0%
Croatia	..	..	..	..	0.35	0.37	0.36	0.34	0.31	0.26	0.27	-24.1%
Cyprus [1]	0.54	0.43	0.38	0.32	0.32	0.32	0.33	0.31	0.28	0.25	0.25	-20.4%
FYR of Macedonia	..	..	..	..	1.12	1.37	1.22	1.15	0.89	0.73	0.68	-38.8%
Georgia	..	..	..	..	1.98	1.70	0.73	0.45	0.43	0.54	0.57	-71.2%
Gibraltar	0.15	0.12	0.17	0.15	0.20	0.36	0.37	0.39	0.45	0.47	0.49	146.5%
Kazakhstan	..	..	..	..	2.46	2.88	1.68	1.43	1.49	1.25	1.21	-50.9%
Kosovo	..	..	..	..	..	..	1.57	1.40	1.49	1.13	1.26	..
Kyrgyzstan	..	..	..	..	4.73	1.83	1.39	1.27	1.26	1.54	1.63	-65.5%
Lithuania	..	..	..	..	1.19	0.70	0.42	0.36	0.33	0.24	0.24	-80.1%
Malta	0.56	0.39	0.34	0.37	0.54	0.43	0.30	0.34	0.30	0.24	0.16	-71.2%
Republic of Moldova	..	..	..	..	3.09	2.98	1.85	1.55	1.35	1.03	1.08	-65.1%
Montenegro	..	..	..	..	..	..	..	0.60	0.63	0.51	0.52	..
Romania	2.15	1.74	1.52	1.29	1.36	1.06	0.78	0.64	0.45	0.37	0.37	-72.9%
Russian Federation	..	..	..	..	1.43	1.65	1.45	1.08	0.94	0.83	0.85	-40.5%
Serbia	..	..	..	..	2.52	1.86	1.68	1.43	1.16	0.96	1.11	-56.1%
Tajikistan	..	..	..	..	1.63	0.96	0.85	0.57	0.41	0.54	0.55	-66.5%
Turkmenistan	..	..	..	..	3.26	3.85	3.41	3.49	2.52	1.92	1.85	-43.2%
Ukraine	..	..	..	..	3.35	4.01	3.30	2.27	1.96	1.75	1.56	-53.2%
Uzbekistan	..	..	..	..	5.62	5.70	5.68	4.11	2.47	1.82	1.64	-70.7%
Former Soviet Union [1]	1.82	1.86	1.80	1.70	..	..	..	..	..	..	..	..
Former Yugoslavia [1]	0.73	0.71	0.60	0.84	..	..	..	..	..	..	..	..
Non-OECD Europe and Eurasia [1]	**1.78**	**1.79**	**1.71**	**1.62**	**1.74**	**1.84**	**1.52**	**1.16**	**0.99**	**0.87**	**0.87**	**-50.2%**
Algeria	0.25	0.26	0.40	0.47	0.56	0.59	0.56	0.54	0.59	0.67	0.69	23.5%
Angola	0.07	0.08	0.11	0.10	0.12	0.15	0.13	0.13	0.18	0.19	0.20	60.4%
Benin	0.18	0.26	0.18	0.17	0.08	0.06	0.30	0.46	0.66	0.56	0.60	615.9%
Botswana	..	..	..	0.49	0.53	0.48	0.47	0.42	0.26	0.43	0.44	-16.6%
Cameroon	0.12	0.13	0.16	0.14	0.18	0.18	0.16	0.14	0.21	0.20	0.20	11.4%
Congo	0.24	0.19	0.17	0.11	0.10	0.08	0.07	0.09	0.15	0.19	0.18	91.6%
Côte d'Ivoire	0.22	0.23	0.20	0.18	0.15	0.17	0.28	0.26	0.25	0.29	0.28	86.8%
Dem. Rep. of the Congo	0.12	0.11	0.15	0.14	0.13	0.07	0.07	0.08	0.09	0.17	0.09	-28.8%
Egypt	0.70	0.78	0.77	0.88	0.87	0.77	0.73	0.89	0.81	0.81	0.80	-7.7%
Eritrea	..	..	..	..	..	0.47	0.32	0.26	0.23	0.22	0.22	..
Ethiopia	0.17	0.15	0.16	0.18	0.22	0.22	0.24	0.25	0.20	0.23	0.21	-3.1%
Gabon	0.10	0.08	0.15	0.17	0.09	0.11	0.12	0.13	0.18	0.18	0.17	103.6%
Ghana	0.19	0.25	0.22	0.22	0.21	0.22	0.27	0.27	0.32	0.29	0.30	43.4%
Kenya	0.39	0.32	0.30	0.28	0.25	0.24	0.30	0.24	0.28	0.25	0.27	6.9%
Libya	0.07	0.19	0.24	0.41	0.55	0.73	0.77	0.70	0.64	1.26	1.32	140.5%
Mauritius	0.20	0.25	0.26	0.22	0.30	0.31	0.37	0.39	0.37	0.34	0.33	11.9%
Morocco	0.38	0.46	0.50	0.49	0.46	0.55	0.51	0.54	0.50	0.49	0.49	6.6%
Mozambique	1.12	1.08	1.04	0.86	0.47	0.43	0.28	0.21	0.23	0.29	0.35	-25.5%
Namibia	..	..	..	..	..	0.30	0.27	0.28	0.27	0.26	0.26	..
Niger	..	..	..	..	..	..	0.18	0.17	0.24	0.27	0.26	..
Nigeria	0.06	0.09	0.18	0.26	0.22	0.25	0.28	0.22	0.15	0.13	0.14	-35.2%
Senegal	0.29	0.34	0.41	0.37	0.33	0.35	0.41	0.43	0.42	0.42	0.42	26.1%
South Africa	1.09	1.23	1.09	1.09	1.09	1.12	1.05	1.16	1.08	1.05	1.02	-6.3%
South Sudan	..	..	..	..	..	..	..	..	..	0.25	0.26	..
Sudan	0.29	0.23	0.24	0.25	0.27	0.17	0.16	0.21	0.23	0.19	0.21	-20.7%
United Rep. of Tanzania	0.23	0.19	0.18	0.16	0.14	0.19	0.16	0.22	0.20	0.25	0.27	94.6%
Togo	0.28	0.22	0.20	0.16	0.28	0.28	0.37	0.36	0.65	0.46	0.46	66.0%
Tunisia	0.53	0.51	0.61	0.61	0.66	0.63	0.61	0.55	0.53	0.53	0.53	-19.9%
Zambia	0.51	0.58	0.43	0.35	0.31	0.24	0.17	0.16	0.08	0.13	0.13	-58.5%
Zimbabwe	1.08	0.92	0.95	0.95	1.26	1.11	0.87	0.99	0.98	0.91	0.93	-26.7%
Other Africa	0.20	0.22	0.27	0.21	0.22	0.25	0.23	0.19	0.19	0.19	0.19	-11.5%
Africa	**0.44**	**0.50**	**0.50**	**0.55**	**0.57**	**0.59**	**0.57**	**0.57**	**0.51**	**0.50**	**0.49**	**-13.4%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions / GDP using exchange rates

kilogrammes CO_2 / US dollar using 2010 prices

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Bangladesh	0.12	0.19	0.23	0.22	0.27	0.31	0.31	0.37	0.43	0.43	0.45	67.1%
Brunei Darussalam	0.07	0.20	0.23	0.31	0.34	0.40	0.37	0.36	0.50	0.49	0.44	29.0%
Cambodia	..	..	..	..	..	0.40	0.38	0.32	0.41	0.41	0.50	..
DPR of Korea	8.35	6.05	4.83	3.61	2.74	2.28	2.35	2.61	1.84	1.08	0.84	-69.3%
India	0.87	0.92	0.95	1.06	1.12	1.17	1.10	0.96	0.96	0.95	0.90	-20.0%
Indonesia	0.27	0.31	0.37	0.37	0.43	0.47	0.56	0.56	0.50	0.46	0.45	3.5%
Malaysia	0.56	0.53	0.52	0.56	0.61	0.62	0.71	0.76	0.74	0.70	0.67	10.2%
Mongolia	..	..	..	3.67	3.34	3.06	2.34	2.09	1.97	1.57	1.47	-56.0%
Myanmar	0.66	0.52	0.49	0.44	0.34	0.43	0.40	0.25	0.13	0.24	0.28	-17.8%
Nepal	0.06	0.08	0.12	0.10	0.13	0.20	0.28	0.24	0.26	0.30	0.28	113.1%
Pakistan	0.57	0.62	0.56	0.61	0.70	0.79	0.80	0.77	0.73	0.69	0.68	-3.4%
Philippines	0.49	0.49	0.42	0.38	0.40	0.54	0.54	0.46	0.39	0.38	0.39	-2.9%
Singapore	0.40	0.40	0.39	0.37	0.43	0.37	0.31	0.22	0.19	0.16	0.15	-63.9%
Sri Lanka	0.31	0.25	0.26	0.20	0.18	0.20	0.31	0.32	0.22	0.23	0.26	43.3%
Chinese Taipei	0.94	0.85	0.87	0.69	0.72	0.69	0.72	0.70	0.57	0.50	0.49	-31.2%
Thailand	0.45	0.47	0.51	0.49	0.57	0.67	0.70	0.71	0.66	0.64	0.63	10.4%
Viet Nam	1.03	1.06	0.88	0.75	0.59	0.63	0.72	0.93	1.09	0.99	1.09	84.6%
Other non-OECD Asia	0.50	0.52	0.58	0.33	0.30	0.24	0.27	0.27	0.26	0.24	0.24	-19.0%
Asia (excl. China)	**0.72**	**0.73**	**0.73**	**0.74**	**0.75**	**0.75**	**0.77**	**0.73**	**0.70**	**0.67**	**0.65**	**-13.4%**
People's Rep. of China	3.90	4.14	4.00	2.87	2.50	1.95	1.38	1.50	1.26	1.08	1.01	-59.5%
Hong Kong, China	0.37	0.35	0.27	0.31	0.32	0.27	0.26	0.22	0.18	0.19	0.17	-48.1%
China	**3.51**	**3.71**	**3.48**	**2.58**	**2.26**	**1.81**	**1.31**	**1.44**	**1.22**	**1.06**	**0.99**	**-56.2%**
Argentina	0.46	0.43	0.42	0.44	0.51	0.44	0.46	0.45	0.41	0.42	0.42	-17.9%
Bolivia	0.33	0.39	0.46	0.52	0.55	0.61	0.53	0.58	0.70	0.75	0.71	28.7%
Brazil	0.18	0.18	0.17	0.15	0.15	0.16	0.19	0.17	0.17	0.20	0.19	25.2%
Colombia	0.41	0.35	0.33	0.34	0.31	0.30	0.28	0.23	0.21	0.21	0.20	-34.9%
Costa Rica	0.17	0.19	0.18	0.16	0.17	0.22	0.18	0.18	0.18	0.17	0.16	-8.9%
Cuba	0.98	0.95	1.02	0.71	0.76	0.72	0.71	0.51	0.51	0.42	0.40	-47.0%
Curaçao [1]	13.74	8.53	6.31	3.09	1.55	1.37	2.40	2.39	1.64	2.53	2.63	69.4%
Dominican Republic	0.43	0.46	0.43	0.39	0.40	0.47	0.55	0.46	0.36	0.31	0.31	-22.4%
Ecuador	0.22	0.25	0.35	0.35	0.35	0.38	0.39	0.41	0.46	0.45	0.43	23.8%
El Salvador	0.13	0.16	0.14	0.16	0.19	0.30	0.29	0.31	0.27	0.26	0.27	47.2%
Guatemala	0.20	0.22	0.23	0.18	0.16	0.24	0.29	0.31	0.25	0.34	0.30	88.2%
Haiti	0.08	0.08	0.09	0.12	0.15	0.16	0.21	0.31	0.32	0.36	0.41	179.2%
Honduras	0.31	0.31	0.28	0.26	0.29	0.40	0.43	0.54	0.47	0.49	0.49	72.6%
Jamaica	0.63	0.79	0.82	0.58	0.70	0.67	0.79	0.76	0.53	0.53	0.51	-26.7%
Nicaragua	0.27	0.28	0.33	0.32	0.39	0.49	0.54	0.52	0.49	0.42	0.46	17.8%
Panama	0.44	0.48	0.34	0.26	0.26	0.31	0.30	0.33	0.31	0.27	0.25	-1.9%
Paraguay	0.17	0.16	0.18	0.17	0.17	0.25	0.23	0.22	0.23	0.21	0.22	30.6%
Peru	0.33	0.31	0.32	0.28	0.33	0.31	0.31	0.27	0.28	0.27	0.26	-19.4%
Suriname	..	..	..	..	..	..	0.54	0.47	0.39	0.40	0.42	..
Trinidad and Tobago	0.78	0.59	0.62	0.74	0.99	0.95	0.81	0.96	1.01	1.02	1.00	1.5%
Uruguay	0.32	0.31	0.25	0.17	0.17	0.17	0.17	0.17	0.15	0.13	0.13	-20.8%
Venezuela	0.27	0.29	0.38	0.41	0.40	0.38	0.40	0.42	0.44	0.37	0.34	-13.5%
Other non-OECD Americas	0.50	0.63	0.46	0.40	0.42	0.43	0.39	0.36	0.41	0.45	0.45	6.7%
Non-OECD Americas	**0.30**	**0.28**	**0.27**	**0.26**	**0.26**	**0.26**	**0.28**	**0.27**	**0.26**	**0.26**	**0.26**	**-1.1%**
Bahrain	1.15	1.12	0.95	1.28	1.20	1.09	1.04	1.05	0.99	0.99	0.98	-18.6%
Islamic Republic of Iran	0.21	0.28	0.54	0.72	0.83	1.03	1.11	1.13	1.07	1.20	1.19	42.9%
Iraq	0.67	0.72	0.57	0.93	0.74	2.03	0.69	0.70	0.75	0.78	0.71	-3.7%
Jordan	0.39	0.63	0.60	0.81	1.07	1.00	0.99	0.92	0.71	0.81	0.79	-26.5%
Kuwait	0.23	0.30	0.50	0.89	0.68	0.48	0.63	0.59	0.67	0.58	0.61	-10.6%
Lebanon	0.27	0.34	0.46	0.33	0.48	0.63	0.64	0.55	0.48	0.55	0.55	14.2%
Oman	0.04	0.08	0.20	0.24	0.38	0.41	0.48	0.57	0.72	0.88	0.90	138.4%
Qatar	0.12	0.25	0.31	0.56	0.66	0.79	0.59	0.62	0.46	0.49	0.48	-27.2%
Saudi Arabia	0.12	0.12	0.38	0.57	0.62	0.68	0.73	0.73	0.80	0.78	0.79	28.3%
Syrian Arab Republic	0.67	0.60	0.65	0.91	1.13	0.86	0.96	1.13	0.93	1.17	1.54	37.1%
United Arab Emirates	0.11	0.09	0.16	0.33	0.42	0.47	0.41	0.44	0.54	0.51	0.50	19.8%
Yemen	0.43	0.44	0.50	0.49	0.54	0.60	0.66	0.75	0.72	0.78	0.54	-0.1%
Middle East	**0.22**	**0.25**	**0.41**	**0.62**	**0.67**	**0.79**	**0.76**	**0.78**	**0.79**	**0.80**	**0.79**	**17.6%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions / GDP using purchasing power parities

kilogrammes CO_2 / US dollar using 2010 prices

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
World [1]	**0.60**	**0.56**	**0.53**	**0.48**	**0.45**	**0.42**	**0.38**	**0.37**	**0.34**	**0.32**	**0.31**	**-31.4%**
Annex I Parties	*..*	*..*	*..*	*..*	*0.45*	*0.41*	*0.37*	*0.33*	*0.30*	*0.27*	*0.26*	*-42.7%*
Annex II Parties	*0.63*	*0.57*	*0.51*	*0.43*	*0.39*	*0.37*	*0.34*	*0.31*	*0.28*	*0.25*	*0.24*	*-37.0%*
North America	*0.86*	*0.79*	*0.70*	*0.58*	*0.53*	*0.49*	*0.44*	*0.40*	*0.36*	*0.32*	*0.31*	*-41.8%*
Europe	*0.47*	*0.42*	*0.39*	*0.33*	*0.29*	*0.26*	*0.23*	*0.22*	*0.20*	*0.17*	*0.17*	*-42.8%*
Asia Oceania	*0.48*	*0.47*	*0.40*	*0.33*	*0.32*	*0.32*	*0.31*	*0.30*	*0.28*	*0.28*	*0.27*	*-14.5%*
Annex I EIT	*..*	*..*	*..*	*..*	*0.84*	*0.85*	*0.69*	*0.54*	*0.46*	*0.40*	*0.39*	*-53.3%*
Non-Annex I Parties	*..*	*..*	*..*	*..*	*0.40*	*0.39*	*0.36*	*0.38*	*0.36*	*0.34*	*0.33*	*-17.6%*
Annex B Kyoto Parties	*..*	*..*	*..*	*..*	*0.40*	*0.34*	*0.29*	*0.27*	*0.24*	*0.21*	*0.20*	*-49.3%*
Non-OECD Total	**0.49**	**0.50**	**0.51**	**0.50**	**0.50**	**0.46**	**0.41**	**0.41**	**0.38**	**0.35**	**0.34**	**-32.6%**
OECD Total	**0.62**	**0.56**	**0.51**	**0.44**	**0.39**	**0.37**	**0.34**	**0.31**	**0.28**	**0.25**	**0.25**	**-37.4%**
Canada	0.74	0.69	0.64	0.52	0.49	0.48	0.46	0.42	0.39	0.37	0.36	-26.1%
Chile	0.34	0.32	0.28	0.25	0.27	0.22	0.24	0.21	0.22	0.21	0.22	-19.6%
Mexico	0.20	0.22	0.24	0.26	0.25	0.27	0.25	0.26	0.25	0.22	0.22	-11.9%
United States	0.87	0.80	0.70	0.59	0.53	0.49	0.44	0.40	0.36	0.32	0.30	-43.2%
OECD Americas	**0.80**	**0.73**	**0.65**	**0.55**	**0.50**	**0.47**	**0.42**	**0.38**	**0.35**	**0.31**	**0.30**	**-40.6%**
Australia	0.51	0.57	0.57	0.52	0.53	0.50	0.48	0.45	0.41	0.36	0.35	-33.5%
Israel [2]	0.33	0.31	0.30	0.34	0.37	0.36	0.34	0.33	0.31	0.24	0.24	-34.9%
Japan	0.49	0.46	0.38	0.31	0.29	0.29	0.29	0.28	0.26	0.27	0.26	-12.1%
Korea	0.60	0.60	0.65	0.51	0.46	0.48	0.44	0.37	0.37	0.33	0.34	-27.5%
New Zealand	0.25	0.25	0.25	0.25	0.28	0.27	0.28	0.27	0.22	0.21	0.20	-29.3%
OECD Asia Oceania	**0.49**	**0.48**	**0.42**	**0.35**	**0.34**	**0.34**	**0.34**	**0.32**	**0.30**	**0.29**	**0.29**	**-14.7%**
Austria	0.35	0.31	0.29	0.26	0.24	0.23	0.21	0.23	0.20	0.17	0.17	-30.3%
Belgium	0.65	0.55	0.51	0.39	0.36	0.34	0.30	0.26	0.24	0.19	0.20	-43.4%
Czech Republic	1.10	0.97	0.95	0.94	0.75	0.64	0.57	0.46	0.39	0.33	0.32	-57.4%
Denmark	0.48	0.43	0.46	0.39	0.30	0.31	0.23	0.20	0.20	0.14	0.13	-57.9%
Estonia	..	..	..	..	1.63	1.03	0.70	0.57	0.65	0.55	0.45	-72.1%
Finland	0.55	0.50	0.53	0.41	0.38	0.41	0.31	0.27	0.30	0.22	0.20	-47.2%
France	0.43	0.38	0.34	0.25	0.20	0.19	0.18	0.16	0.15	0.12	0.12	-42.2%
Germany	0.66	0.60	0.55	0.49	0.39	0.32	0.28	0.26	0.24	0.21	0.21	-46.1%
Greece	0.19	0.22	0.23	0.28	0.34	0.35	0.33	0.30	0.27	0.26	0.25	-25.3%
Hungary	0.60	0.55	0.54	0.48	0.38	0.37	0.30	0.25	0.22	0.18	0.18	-53.0%
Iceland	0.41	0.39	0.31	0.26	0.26	0.26	0.23	0.19	0.16	0.15	0.15	-43.1%
Ireland	0.64	0.51	0.50	0.45	0.41	0.35	0.28	0.23	0.20	0.16	0.13	-68.0%
Italy	0.31	0.29	0.26	0.23	0.23	0.22	0.21	0.22	0.19	0.16	0.16	-27.9%
Latvia	..	..	..	..	0.54	0.45	0.27	0.20	0.22	0.16	0.16	-70.9%
Luxembourg	1.70	1.17	1.02	0.75	0.54	0.33	0.24	0.30	0.24	0.19	0.17	-68.2%
Netherlands	0.44	0.40	0.39	0.35	0.31	0.31	0.25	0.24	0.23	0.20	0.20	-35.5%
Norway	0.26	0.22	0.21	0.17	0.16	0.15	0.13	0.13	0.13	0.12	0.12	-26.5%
Poland	1.00	0.93	1.09	1.10	0.91	0.79	0.53	0.47	0.38	0.31	0.30	-66.7%
Portugal	0.15	0.16	0.16	0.16	0.19	0.21	0.22	0.22	0.16	0.16	0.17	-9.1%
Slovak Republic	0.74	0.72	0.84	0.76	0.71	0.59	0.44	0.35	0.26	0.20	0.19	-72.9%
Slovenia	..	..	..	..	0.37	0.40	0.32	0.30	0.27	0.22	0.22	-40.4%
Spain	0.24	0.25	0.27	0.24	0.22	0.23	0.23	0.24	0.18	0.16	0.17	-24.8%
Sweden	0.48	0.41	0.35	0.26	0.20	0.21	0.16	0.14	0.12	0.09	0.09	-57.7%
Switzerland	0.17	0.16	0.16	0.16	0.13	0.13	0.12	0.12	0.10	0.09	0.08	-37.2%
Turkey	0.16	0.19	0.20	0.21	0.21	0.22	0.24	0.20	0.21	0.18	0.18	-16.7%
United Kingdom	0.65	0.57	0.50	0.43	0.36	0.31	0.27	0.24	0.21	0.17	0.16	-56.6%
OECD Europe [2]	**0.50**	**0.45**	**0.43**	**0.37**	**0.32**	**0.29**	**0.25**	**0.24**	**0.21**	**0.18**	**0.18**	**-44.7%**
IEA/Accession/Association	*0.62*	*0.58*	*0.54*	*0.47*	*0.43*	*0.41*	*0.37*	*0.36*	*0.35*	*0.32*	*0.31*	-28.2%
European Union - 28	*..*	*..*	*..*	*..*	*0.34*	*0.31*	*0.26*	*0.25*	*0.22*	*0.18*	*0.18*	-47.4%
G20	*..*	*..*	*..*	*..*	*0.45*	*0.42*	*0.38*	*0.37*	*0.35*	*0.32*	*0.31*	-30.5%
Africa	*0.20*	*0.23*	*0.23*	*0.25*	*0.25*	*0.26*	*0.24*	*0.25*	*0.22*	*0.22*	*0.21*	-15.3%
Americas	*0.67*	*0.60*	*0.53*	*0.46*	*0.43*	*0.41*	*0.38*	*0.34*	*0.31*	*0.28*	*0.27*	-37.7%
Asia	*..*	*..*	*..*	*..*	*0.44*	*0.43*	*0.39*	*0.41*	*0.39*	*0.37*	*0.35*	-19.7%
Europe	*..*	*..*	*..*	*..*	*0.46*	*0.39*	*0.33*	*0.30*	*0.27*	*0.23*	*0.23*	-50.3%
Oceania	*0.46*	*0.51*	*0.51*	*0.48*	*0.49*	*0.46*	*0.45*	*0.43*	*0.39*	*0.34*	*0.33*	-32.0%

1. The ratio for the world has been calculated to include international marine bunkers and international aviation bunkers.
2. Please refer to the chapter *Geographical Coverage* .

CO_2 emissions / GDP using purchasing power parities

kilogrammes CO_2 / US dollar using 2010 prices

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Non-OECD Total	**0.49**	**0.50**	**0.51**	**0.50**	**0.50**	**0.46**	**0.41**	**0.41**	**0.38**	**0.35**	**0.34**	**-32.6%**
Albania	0.52	0.46	0.55	0.51	0.40	0.15	0.19	0.18	0.15	0.14	0.13	-68.3%
Armenia	..	..	..	..	1.53	0.49	0.39	0.26	0.21	0.23	0.20	-86.9%
Azerbaijan	..	..	..	..	0.90	1.29	0.78	0.44	0.17	0.20	0.20	-78.2%
Belarus	..	..	..	..	1.24	1.08	0.73	0.54	0.41	0.36	0.34	-72.2%
Bosnia and Herzegovina	..	..	..	..	3.54	0.49	0.61	0.53	0.60	0.61	0.61	-82.8%
Bulgaria	1.86	1.57	1.35	1.11	0.93	0.75	0.58	0.49	0.40	0.36	0.36	-61.0%
Croatia	..	..	..	..	0.25	0.27	0.26	0.24	0.22	0.19	0.19	-24.1%
Cyprus [1]	0.49	0.39	0.35	0.29	0.29	0.29	0.30	0.28	0.26	0.23	0.23	-20.4%
FYR of Macedonia	..	..	..	..	0.44	0.54	0.47	0.45	0.35	0.28	0.27	-38.8%
Georgia	..	..	..	..	0.89	0.76	0.33	0.20	0.19	0.24	0.26	-71.2%
Gibraltar	0.18	0.15	0.21	0.18	0.25	0.45	0.44	0.45	0.52	0.55	0.57	133.7%
Kazakhstan	..	..	..	..	1.09	1.27	0.74	0.63	0.66	0.55	0.53	-50.9%
Kosovo	..	..	..	..	..	..	0.66	0.59	0.63	0.48	0.53	..
Kyrgyzstan	..	..	..	..	1.52	0.59	0.45	0.41	0.41	0.50	0.53	-65.5%
Lithuania	..	..	..	..	0.71	0.41	0.25	0.21	0.20	0.14	0.14	-80.1%
Malta	0.45	0.31	0.27	0.29	0.43	0.34	0.24	0.27	0.23	0.19	0.12	-71.2%
Republic of Moldova	..	..	..	..	1.30	1.26	0.79	0.66	0.57	0.44	0.46	-65.0%
Montenegro	..	..	..	..	..	..	..	0.30	0.31	0.25	0.26	..
Romania	1.08	0.87	0.76	0.64	0.68	0.53	0.39	0.32	0.22	0.19	0.18	-72.9%
Russian Federation	..	..	..	..	0.80	0.92	0.81	0.60	0.52	0.46	0.47	-40.6%
Serbia	..	..	..	..	1.16	0.85	0.77	0.66	0.53	0.44	0.51	-56.1%
Tajikistan	..	..	..	..	0.58	0.34	0.30	0.20	0.15	0.19	0.20	-66.5%
Turkmenistan	..	..	..	..	1.49	1.75	1.55	1.59	1.15	0.87	0.85	-43.2%
Ukraine	..	..	..	..	1.29	1.55	1.27	0.88	0.76	0.67	0.60	-53.2%
Uzbekistan	..	..	..	..	1.89	1.91	1.91	1.38	0.83	0.61	0.55	-70.7%
Former Soviet Union [1]	1.01	1.03	1.00	0.94	..	..	..	..	..	..	..	..
Former Yugoslavia [1]	0.45	0.44	0.37	0.52	..	..	..	..	..	..	..	..
Non-OECD Europe and Eurasia [1]	**0.99**	**0.99**	**0.94**	**0.89**	**0.90**	**0.95**	**0.79**	**0.60**	**0.51**	**0.45**	**0.44**	**-50.6%**
Algeria	0.09	0.09	0.14	0.17	0.20	0.21	0.20	0.19	0.21	0.24	0.24	23.5%
Angola	0.04	0.05	0.07	0.06	0.07	0.09	0.08	0.08	0.11	0.12	0.12	60.4%
Benin	0.08	0.11	0.08	0.07	0.04	0.03	0.13	0.20	0.28	0.24	0.26	616.4%
Botswana	..	..	..	0.24	0.26	0.23	0.23	0.20	0.12	0.21	0.21	-16.6%
Cameroon	0.06	0.06	0.07	0.06	0.08	0.08	0.07	0.07	0.10	0.09	0.09	11.4%
Congo	0.13	0.10	0.09	0.06	0.05	0.04	0.04	0.05	0.08	0.10	0.10	91.5%
Côte d'Ivoire	0.10	0.10	0.09	0.08	0.07	0.08	0.13	0.12	0.12	0.13	0.13	86.9%
Dem. Rep. of the Congo	0.06	0.06	0.08	0.07	0.07	0.04	0.03	0.04	0.05	0.09	0.05	-28.8%
Egypt	0.19	0.21	0.21	0.24	0.23	0.21	0.20	0.24	0.22	0.22	0.22	-7.7%
Eritrea	..	..	..	..	..	0.16	0.11	0.09	0.08	0.08	0.08	..
Ethiopia	0.05	0.05	0.05	0.06	0.07	0.07	0.08	0.08	0.06	0.07	0.07	-3.3%
Gabon	0.06	0.05	0.08	0.10	0.05	0.06	0.07	0.07	0.11	0.11	0.10	103.6%
Ghana	0.08	0.11	0.10	0.10	0.09	0.09	0.12	0.12	0.14	0.13	0.13	43.3%
Kenya	0.16	0.13	0.12	0.11	0.10	0.10	0.12	0.10	0.11	0.10	0.11	6.8%
Libya	0.03	0.08	0.10	0.17	0.23	0.30	0.32	0.29	0.27	0.52	0.55	140.5%
Mauritius	0.11	0.13	0.14	0.12	0.16	0.16	0.19	0.20	0.19	0.18	0.17	11.9%
Morocco	0.17	0.21	0.23	0.22	0.20	0.25	0.23	0.24	0.22	0.22	0.22	6.6%
Mozambique	0.52	0.50	0.48	0.40	0.22	0.20	0.13	0.10	0.11	0.13	0.16	-25.5%
Namibia	..	..	..	..	..	0.19	0.17	0.17	0.17	0.16	0.16	..
Niger	..	..	..	..	..	..	0.08	0.07	0.10	0.12	0.11	..
Nigeria	0.03	0.04	0.08	0.12	0.10	0.11	0.13	0.10	0.07	0.06	0.06	-35.2%
Senegal	0.14	0.16	0.19	0.17	0.16	0.16	0.19	0.20	0.20	0.20	0.20	26.2%
South Africa	0.68	0.77	0.68	0.68	0.68	0.70	0.66	0.72	0.68	0.66	0.64	-6.3%
South Sudan	..	..	..	..	..	..	..	..	..	0.07	0.05	..
Sudan	0.13	0.10	0.11	0.11	0.12	0.08	0.07	0.10	0.10	0.09	0.09	-20.7%
United Rep. of Tanzania	0.08	0.07	0.06	0.05	0.05	0.06	0.05	0.07	0.07	0.09	0.09	94.4%
Togo	0.12	0.09	0.08	0.07	0.11	0.12	0.15	0.15	0.27	0.19	0.19	66.0%
Tunisia	0.21	0.21	0.25	0.25	0.27	0.26	0.24	0.22	0.21	0.21	0.21	-19.9%
Zambia	0.23	0.27	0.20	0.16	0.14	0.11	0.08	0.07	0.04	0.06	0.06	-58.5%
Zimbabwe	0.54	0.46	0.47	0.47	0.63	0.55	0.43	0.49	0.49	0.45	0.46	-26.7%
Other Africa	0.08	0.09	0.11	0.09	0.09	0.10	0.10	0.09	0.08	0.08	0.08	-10.4%
Africa	**0.20**	**0.23**	**0.23**	**0.25**	**0.25**	**0.26**	**0.24**	**0.25**	**0.22**	**0.22**	**0.21**	**-15.3%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions / GDP using purchasing power parities

kilogrammes CO_2 / US dollar using 2010 prices

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Bangladesh	0.04	0.06	0.07	0.07	0.09	0.10	0.10	0.12	0.14	0.14	0.14	67.1%
Brunei Darussalam	0.03	0.10	0.11	0.15	0.17	0.20	0.18	0.18	0.25	0.24	0.22	29.0%
Cambodia	..	..	..	..	..	0.13	0.12	0.10	0.13	0.13	0.16	..
DPR of Korea	2.23	1.61	1.29	0.96	0.73	0.61	0.63	0.70	0.49	0.29	0.22	-69.3%
India	0.27	0.29	0.30	0.33	0.35	0.37	0.34	0.30	0.30	0.30	0.28	-20.0%
Indonesia	0.10	0.11	0.14	0.14	0.16	0.18	0.21	0.21	0.19	0.17	0.17	3.6%
Malaysia	0.25	0.23	0.23	0.25	0.27	0.27	0.31	0.33	0.33	0.31	0.29	10.2%
Mongolia	..	..	..	1.29	1.17	1.07	0.82	0.73	0.69	0.55	0.52	-56.0%
Myanmar	0.19	0.15	0.14	0.13	0.10	0.12	0.11	0.07	0.04	0.07	0.08	-17.9%
Nepal	0.02	0.03	0.04	0.03	0.04	0.06	0.09	0.07	0.08	0.09	0.09	113.0%
Pakistan	0.14	0.15	0.14	0.15	0.17	0.20	0.20	0.19	0.18	0.17	0.17	-3.5%
Philippines	0.19	0.19	0.16	0.15	0.16	0.21	0.21	0.18	0.15	0.15	0.15	-2.9%
Singapore	0.26	0.26	0.26	0.25	0.28	0.24	0.21	0.15	0.12	0.11	0.10	-63.9%
Sri Lanka	0.10	0.08	0.09	0.07	0.06	0.07	0.10	0.11	0.07	0.08	0.09	43.4%
Chinese Taipei	0.48	0.44	0.44	0.36	0.37	0.35	0.37	0.36	0.29	0.26	0.25	-31.1%
Thailand	0.17	0.18	0.19	0.19	0.22	0.26	0.27	0.27	0.25	0.25	0.24	10.4%
Viet Nam	0.31	0.32	0.27	0.23	0.18	0.19	0.22	0.28	0.33	0.30	0.33	84.6%
Other non-OECD Asia	0.25	0.26	0.29	0.17	0.16	0.13	0.15	0.14	0.13	0.12	0.12	-24.7%
Asia (excl. China)	**0.25**	**0.26**	**0.26**	**0.26**	**0.27**	**0.27**	**0.28**	**0.26**	**0.25**	**0.24**	**0.23**	**-14.3%**
People's Rep. of China	1.93	2.04	1.97	1.42	1.24	0.96	0.68	0.74	0.62	0.54	0.50	-59.5%
Hong Kong, China	0.26	0.24	0.19	0.21	0.22	0.19	0.18	0.15	0.13	0.13	0.11	-48.1%
China	**1.79**	**1.89**	**1.79**	**1.32**	**1.15**	**0.92**	**0.66**	**0.72**	**0.61**	**0.53**	**0.49**	**-57.2%**
Argentina	0.30	0.28	0.27	0.28	0.33	0.28	0.30	0.29	0.26	0.27	0.27	-17.9%
Bolivia	0.12	0.15	0.17	0.19	0.21	0.23	0.20	0.22	0.26	0.28	0.27	28.7%
Brazil	0.14	0.14	0.13	0.12	0.12	0.13	0.15	0.14	0.13	0.15	0.15	25.1%
Colombia	0.24	0.21	0.20	0.20	0.18	0.18	0.16	0.14	0.12	0.12	0.12	-34.9%
Costa Rica	0.12	0.13	0.12	0.11	0.11	0.15	0.12	0.12	0.12	0.11	0.10	-8.8%
Cuba	0.31	0.30	0.32	0.22	0.24	0.23	0.22	0.16	0.16	0.13	0.13	-47.0%
Curaçao [1]	15.32	9.51	7.03	3.45	1.73	1.53	2.67	2.67	1.82	2.82	2.93	69.3%
Dominican Republic	0.21	0.23	0.21	0.19	0.20	0.23	0.27	0.23	0.18	0.15	0.15	-22.4%
Ecuador	0.11	0.13	0.18	0.18	0.18	0.19	0.20	0.21	0.23	0.23	0.22	23.8%
El Salvador	0.06	0.08	0.07	0.08	0.09	0.15	0.14	0.15	0.13	0.12	0.13	47.2%
Guatemala	0.09	0.09	0.10	0.08	0.07	0.10	0.12	0.13	0.11	0.14	0.13	88.3%
Haiti	0.04	0.04	0.04	0.06	0.07	0.07	0.09	0.14	0.14	0.16	0.19	179.3%
Honduras	0.15	0.15	0.14	0.13	0.14	0.20	0.21	0.27	0.23	0.24	0.24	72.6%
Jamaica	0.38	0.47	0.49	0.34	0.42	0.40	0.47	0.45	0.31	0.32	0.31	-26.7%
Nicaragua	0.11	0.11	0.13	0.12	0.15	0.19	0.21	0.20	0.19	0.16	0.18	17.9%
Panama	0.23	0.25	0.18	0.14	0.14	0.17	0.16	0.17	0.16	0.14	0.13	-1.9%
Paraguay	0.08	0.07	0.08	0.08	0.08	0.11	0.10	0.10	0.11	0.10	0.10	30.6%
Peru	0.17	0.16	0.16	0.15	0.17	0.16	0.16	0.14	0.14	0.14	0.14	-19.4%
Suriname	..	..	..	..	..	..	0.32	0.28	0.23	0.24	0.25	..
Trinidad and Tobago	0.44	0.33	0.36	0.42	0.56	0.54	0.46	0.55	0.57	0.58	0.57	1.6%
Uruguay	0.23	0.22	0.18	0.12	0.12	0.12	0.12	0.12	0.11	0.09	0.10	-20.8%
Venezuela	0.23	0.24	0.32	0.34	0.33	0.32	0.34	0.35	0.36	0.31	0.29	-13.5%
Other non-OECD Americas	0.47	0.60	0.44	0.39	0.41	0.41	0.40	0.37	0.41	0.47	0.45	9.8%
Non-OECD Americas	**0.21**	**0.20**	**0.19**	**0.18**	**0.18**	**0.18**	**0.20**	**0.19**	**0.18**	**0.18**	**0.18**	**-3.1%**
Bahrain	0.59	0.58	0.49	0.66	0.62	0.56	0.54	0.54	0.51	0.51	0.51	-18.6%
Islamic Republic of Iran	0.08	0.10	0.20	0.26	0.31	0.38	0.41	0.42	0.39	0.44	0.44	42.9%
Iraq	0.24	0.26	0.21	0.34	0.27	0.73	0.25	0.25	0.27	0.28	0.26	-3.7%
Jordan	0.15	0.25	0.24	0.32	0.42	0.40	0.39	0.36	0.28	0.32	0.31	-26.4%
Kuwait	0.12	0.16	0.26	0.46	0.36	0.25	0.33	0.31	0.35	0.30	0.32	-10.6%
Lebanon	0.15	0.19	0.25	0.18	0.26	0.35	0.35	0.30	0.26	0.30	0.30	14.2%
Oman	0.02	0.04	0.09	0.11	0.16	0.18	0.21	0.25	0.31	0.38	0.39	138.4%
Qatar	0.07	0.14	0.17	0.32	0.37	0.45	0.33	0.35	0.26	0.28	0.27	-27.2%
Saudi Arabia	0.05	0.05	0.16	0.25	0.27	0.29	0.32	0.32	0.34	0.34	0.34	28.2%
Syrian Arab Republic	0.30	0.27	0.29	0.41	0.51	0.39	0.43	0.51	0.42	0.53	0.70	37.1%
United Arab Emirates	0.07	0.05	0.10	0.20	0.26	0.28	0.25	0.27	0.33	0.31	0.31	19.7%
Yemen	0.13	0.13	0.15	0.15	0.16	0.18	0.20	0.23	0.22	0.24	0.16	-0.1%
Middle East	**0.09**	**0.10**	**0.18**	**0.27**	**0.29**	**0.35**	**0.33**	**0.34**	**0.34**	**0.35**	**0.35**	**21.0%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions / population

tonnes CO_2 / capita

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
World [1]	**3.71**	**3.81**	**3.99**	**3.77**	**3.88**	**3.75**	**3.79**	**4.16**	**4.40**	**4.46**	**4.40**	**13.4%**
Annex I Parties	*..*	*..*	*..*	*..*	*11.66*	*10.75*	*11.00*	*11.04*	*10.28*	*9.66*	*9.45*	*-19.0%*
Annex II Parties	*12.16*	*12.12*	*12.47*	*11.69*	*12.08*	*12.12*	*12.70*	*12.61*	*11.44*	*10.70*	*10.46*	*-13.4%*
North America	*20.15*	*19.79*	*19.89*	*18.56*	*18.79*	*18.66*	*19.67*	*19.02*	*17.09*	*16.13*	*15.51*	*-17.5%*
Europe	*8.58*	*8.48*	*8.99*	*8.23*	*8.24*	*8.03*	*8.11*	*8.19*	*7.29*	*6.26*	*6.31*	*-23.4%*
Asia Oceania	*7.50*	*8.12*	*8.10*	*7.88*	*9.18*	*9.64*	*10.04*	*10.40*	*9.90*	*10.23*	*9.98*	*8.7%*
Annex I EIT	*..*	*..*	*..*	*..*	*12.24*	*8.73*	*8.00*	*8.32*	*8.40*	*7.93*	*7.74*	*-36.8%*
Non-Annex I Parties	*..*	*..*	*..*	*..*	*1.50*	*1.71*	*1.79*	*2.32*	*2.86*	*3.12*	*3.11*	*107.0%*
Annex B Kyoto Parties	*..*	*..*	*..*	*..*	*9.21*	*8.12*	*7.86*	*8.14*	*7.59*	*6.69*	*6.66*	*-27.7%*
Non-OECD Total	**1.43**	**1.67**	**1.90**	**1.93**	**2.11**	**1.99**	**1.99**	**2.49**	**2.99**	**3.24**	**3.20**	**52.0%**
OECD Total	**10.40**	**10.39**	**10.74**	**10.08**	**10.27**	**10.30**	**10.77**	**10.73**	**9.95**	**9.34**	**9.18**	**-10.6%**
Canada	15.49	16.29	17.22	15.24	15.15	15.32	16.82	16.79	15.54	15.60	15.32	1.1%
Chile	2.16	1.64	1.92	1.62	2.23	2.57	3.16	3.34	4.01	4.25	4.52	102.6%
Mexico	1.75	2.21	2.91	3.06	2.95	3.08	3.56	3.85	3.85	3.63	3.66	23.9%
United States	20.65	20.16	20.18	18.92	19.20	19.03	19.98	19.26	17.26	16.19	15.53	-19.1%
OECD Americas	**16.20**	**15.74**	**15.71**	**14.55**	**14.57**	**14.45**	**15.29**	**14.86**	**13.44**	**12.66**	**12.22**	**-16.1%**
Australia	10.86	12.85	13.96	13.85	15.13	15.73	17.45	18.28	17.51	15.78	15.83	4.6%
Israel [2]	4.52	4.75	4.86	5.74	7.04	8.09	8.70	8.45	8.98	7.46	7.44	5.6%
Japan	7.15	7.60	7.43	7.15	8.43	8.85	9.00	9.22	8.68	9.32	8.99	6.7%
Korea	1.61	2.20	3.29	3.82	5.41	7.92	9.18	9.50	11.15	11.26	11.58	114.2%
New Zealand	4.71	5.32	5.24	5.78	6.45	6.48	7.50	8.13	6.96	6.89	6.74	4.5%
OECD Asia Oceania	**6.21**	**6.80**	**6.99**	**6.94**	**8.28**	**9.20**	**9.80**	**10.13**	**10.16**	**10.37**	**10.26**	**23.8%**
Austria	6.48	6.53	7.20	6.96	7.33	7.50	7.72	9.01	8.21	7.10	7.20	-1.8%
Belgium	12.21	11.81	12.73	10.24	10.66	10.99	11.10	10.25	9.52	7.83	8.25	-22.6%
Czech Republic	15.62	15.41	16.28	16.97	14.51	11.93	11.81	11.58	10.70	9.35	9.44	-34.9%
Denmark	11.16	10.40	12.30	11.93	9.92	11.16	9.51	8.94	8.51	6.10	5.63	-43.3%
Estonia	..	..	..	..	22.67	11.02	10.36	12.37	13.99	14.13	11.83	-47.8%
Finland	8.64	9.38	11.47	9.85	10.79	10.90	10.55	10.47	11.56	8.32	7.68	-28.9%
France	8.07	7.84	8.25	6.21	5.93	5.77	5.99	5.89	5.25	4.29	4.37	-26.4%
Germany	12.49	12.37	13.39	12.93	11.85	10.54	9.97	9.67	9.45	8.93	8.93	-24.6%
Greece	2.81	3.73	4.64	5.43	6.81	7.25	8.14	8.67	7.50	6.04	5.95	-12.7%
Hungary	5.82	6.66	7.72	7.54	6.34	5.45	5.22	5.42	4.71	4.05	4.32	-31.9%
Iceland	6.81	7.40	7.66	6.75	7.43	7.35	7.69	7.55	6.13	6.25	6.20	-16.5%
Ireland	7.27	6.65	7.61	7.47	8.59	9.06	10.73	10.63	8.62	7.34	7.61	-11.4%
Italy	5.35	5.72	6.29	6.04	6.86	7.05	7.38	7.84	6.55	5.26	5.45	-20.7%
Latvia	..	..	..	..	7.05	3.58	2.89	3.38	3.86	3.37	3.46	-50.9%
Luxembourg	48.10	35.45	34.18	28.14	28.11	20.05	18.44	24.63	20.96	16.62	15.47	-45.0%
Netherlands	9.67	9.66	10.27	9.55	9.88	10.57	10.14	10.24	10.23	8.81	9.21	-6.7%
Norway	5.89	5.89	6.66	6.36	6.47	7.20	7.10	7.46	7.67	6.89	7.07	9.3%
Poland	8.76	9.96	11.69	11.36	9.07	8.71	7.57	7.77	7.99	7.25	7.34	-19.0%
Portugal	1.65	1.96	2.41	2.37	3.79	4.71	5.62	5.84	4.50	4.12	4.54	19.8%
Slovak Republic	8.53	9.11	11.21	10.55	10.35	7.69	6.83	6.92	6.37	5.38	5.43	-47.5%
Slovenia	..	..	..	..	6.78	7.07	7.07	7.72	7.54	6.19	6.22	-8.2%
Spain	3.44	4.33	4.90	4.45	5.15	5.74	6.87	7.64	5.63	4.99	5.32	3.4%
Sweden	10.13	9.64	8.80	6.99	6.08	6.45	5.86	5.44	4.91	3.84	3.78	-37.8%
Switzerland	6.13	5.74	6.15	6.39	5.99	5.84	5.79	5.88	5.50	4.62	4.51	-24.8%
Turkey	1.15	1.49	1.61	1.90	2.31	2.55	3.14	3.16	3.64	4.00	4.10	77.1%
United Kingdom	11.10	10.24	10.13	9.61	9.60	8.85	8.84	8.80	7.60	6.30	5.99	-37.6%
OECD Europe [2]	**8.08**	**8.09**	**8.65**	**8.01**	**7.80**	**7.45**	**7.44**	**7.50**	**6.87**	**6.04**	**6.10**	**-21.8%**
IEA/Accession/Association	*4.17*	*4.15*	*4.28*	*4.03*	*4.14*	*4.34*	*4.47*	*5.00*	*5.37*	*5.52*	*5.46*	31.7%
European Union - 28	*..*	*..*	*..*	*..*	*8.43*	*7.89*	*7.77*	*7.92*	*7.17*	*6.22*	*6.28*	*-25.5%*
G20	*..*	*..*	*..*	*..*	*4.59*	*4.54*	*4.64*	*5.14*	*5.51*	*5.66*	*5.60*	22.0%
Africa	*0.67*	*0.78*	*0.84*	*0.85*	*0.84*	*0.80*	*0.81*	*0.93*	*0.96*	*0.97*	*0.96*	14.1%
Americas	*9.73*	*9.42*	*9.35*	*8.46*	*8.39*	*8.34*	*8.81*	*8.55*	*7.92*	*7.61*	*7.34*	*-12.6%*
Asia	*..*	*..*	*..*	*..*	*1.83*	*2.12*	*2.20*	*2.87*	*3.56*	*3.95*	*3.94*	115.0%
Europe	*..*	*..*	*..*	*..*	*9.93*	*8.18*	*7.92*	*8.12*	*7.66*	*6.87*	*6.84*	*-31.2%*
Oceania	*8.11*	*9.44*	*10.04*	*9.94*	*10.79*	*11.02*	*12.10*	*12.63*	*11.94*	*10.89*	*10.90*	1.0%

1. The ratio for the world has been calculated to include international marine bunkers and international aviation bunkers.
2. Please refer to the chapter *Geographical Coverage* .

CO_2 emissions / population

tonnes CO_2 / capita

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Non-OECD Total	**1.43**	**1.67**	**1.90**	**1.93**	**2.11**	**1.99**	**1.99**	**2.49**	**2.99**	**3.24**	**3.20**	**52.0%**
Albania	1.77	1.80	2.55	2.34	1.73	0.58	1.00	1.27	1.35	1.42	1.32	-23.3%
Armenia	..	..	..	..	5.60	1.04	1.11	1.37	1.37	1.74	1.56	-72.2%
Azerbaijan	..	..	..	..	7.47	4.21	3.39	3.46	2.60	3.23	3.19	-57.3%
Belarus	..	..	..	..	9.80	5.59	5.22	5.69	6.31	6.06	5.61	-42.8%
Bosnia and Herzegovina	..	..	..	..	5.30	0.85	3.62	4.14	5.34	5.66	5.84	10.1%
Bulgaria	7.48	8.41	9.60	9.18	8.55	6.27	5.16	6.07	6.00	5.76	6.10	-28.7%
Croatia	..	..	..	..	4.25	3.17	3.79	4.48	4.13	3.57	3.69	-13.2%
Cyprus [1]	2.83	3.28	5.09	5.14	6.79	7.82	9.13	9.61	8.86	6.73	6.96	2.6%
FYR of Macedonia	..	..	..	..	4.31	4.26	4.24	4.37	4.04	3.59	3.48	-19.1%
Georgia	..	..	..	..	6.97	1.72	1.05	0.97	1.27	2.07	2.26	-67.7%
Gibraltar	2.63	2.39	3.34	3.22	5.10	9.68	11.72	13.08	15.29	16.25	17.39	241.2%
Kazakhstan	..	..	..	..	14.51	10.78	7.53	10.36	13.55	13.29	12.83	-11.6%
Kosovo	..	..	..	..	..	..	3.01	3.90	4.90	4.06	4.78	..
Kyrgyzstan	..	..	..	..	5.18	0.98	0.91	0.95	1.11	1.55	1.66	-68.0%
Lithuania	..	..	..	..	8.71	3.70	2.92	3.74	3.98	3.57	3.63	-58.3%
Malta	2.16	2.14	3.13	3.45	6.54	6.31	5.46	6.74	6.22	5.51	3.81	-41.7%
Republic of Moldova	..	..	..	..	8.26	3.24	1.80	2.14	2.20	2.04	2.13	-74.2%
Montenegro	..	..	..	..	..	..	..	3.27	4.18	3.57	3.80	..
Romania	5.60	6.60	7.97	7.68	7.25	5.19	3.84	4.35	3.69	3.43	3.51	-51.6%
Russian Federation	..	..	..	..	14.59	10.43	10.06	10.32	10.70	10.34	10.19	-30.1%
Serbia	..	..	..	..	6.16	4.35	5.30	6.66	6.29	5.34	6.27	1.8%
Tajikistan	..	..	..	..	2.08	0.43	0.35	0.34	0.30	0.49	0.51	-75.5%
Turkmenistan	..	..	..	..	12.17	7.94	8.14	10.13	11.29	12.62	12.86	5.6%
Ukraine	..	..	..	..	13.27	7.68	6.00	6.24	5.80	5.19	4.20	-68.4%
Uzbekistan	..	..	..	..	5.60	4.15	4.62	4.09	3.40	3.18	3.05	-45.5%
Former Soviet Union [1]	7.98	9.82	11.12	11.15	..	..	..	..	..	..	..	..
Former Yugoslavia [1]	3.09	3.54	3.87	5.29	..	..	..	..	..	..	..	..
Non-OECD Europe and Eurasia [1]	**7.41**	**9.05**	**10.28**	**10.37**	**11.50**	**7.67**	**7.00**	**7.37**	**7.54**	**7.25**	**7.05**	**-38.7%**
Algeria	0.57	0.81	1.43	1.86	1.97	1.91	1.97	2.33	2.65	3.16	3.29	66.5%
Angola	0.25	0.28	0.32	0.29	0.35	0.30	0.31	0.34	0.71	0.80	0.82	131.6%
Benin	0.10	0.14	0.11	0.11	0.05	0.04	0.20	0.33	0.48	0.45	0.49	848.9%
Botswana	..	..	..	1.27	2.03	2.02	2.32	2.30	1.60	3.13	3.12	53.3%
Cameroon	0.11	0.13	0.19	0.23	0.22	0.18	0.18	0.16	0.25	0.25	0.26	17.7%
Congo	0.42	0.39	0.38	0.36	0.27	0.20	0.16	0.24	0.45	0.59	0.59	118.5%
Côte d'Ivoire	0.44	0.46	0.41	0.30	0.22	0.23	0.38	0.32	0.31	0.40	0.43	91.4%
Dem. Rep. of the Congo	0.13	0.11	0.12	0.11	0.09	0.03	0.02	0.02	0.03	0.06	0.04	-58.6%
Egypt	0.56	0.66	0.94	1.31	1.38	1.31	1.46	1.93	2.15	2.16	2.17	57.3%
Eritrea	..	..	..	..	..	0.25	0.17	0.14	0.10	0.11	0.12	..
Ethiopia	0.04	0.04	0.04	0.03	0.05	0.04	0.05	0.06	0.07	0.10	0.10	127.0%
Gabon	0.79	1.16	1.77	2.03	0.96	1.21	1.19	1.26	1.72	1.93	1.88	96.9%
Ghana	0.22	0.23	0.20	0.16	0.17	0.19	0.26	0.30	0.43	0.49	0.51	195.4%
Kenya	0.28	0.26	0.27	0.23	0.24	0.21	0.25	0.21	0.28	0.28	0.31	30.5%
Libya	1.68	3.31	5.51	5.53	5.87	6.75	6.89	7.41	7.67	7.65	7.22	22.8%
Mauritius	0.31	0.47	0.59	0.60	1.10	1.38	2.05	2.41	2.93	3.14	3.14	185.8%
Morocco	0.40	0.54	0.68	0.72	0.79	0.96	1.02	1.29	1.44	1.58	1.60	102.9%
Mozambique	0.31	0.23	0.20	0.11	0.08	0.07	0.07	0.07	0.10	0.14	0.18	122.4%
Namibia	..	..	..	..	..	1.08	1.00	1.23	1.40	1.50	1.55	..
Niger	..	..	..	..	..	..	0.06	0.05	0.08	0.10	0.10	..
Nigeria	0.10	0.17	0.34	0.38	0.29	0.30	0.36	0.40	0.35	0.34	0.35	20.6%
Senegal	0.28	0.33	0.37	0.33	0.28	0.28	0.36	0.41	0.42	0.43	0.44	54.8%
South Africa	6.80	7.90	7.17	6.76	6.63	6.27	6.25	7.82	7.98	8.03	7.77	17.3%
South Sudan	..	..	..	..	..	..	..	..	..	0.13	0.09	..
Sudan	0.22	0.20	0.19	0.18	0.21	0.14	0.16	0.25	0.32	0.34	0.38	86.3%
United Rep. of Tanzania	0.10	0.09	0.08	0.07	0.07	0.08	0.08	0.13	0.13	0.20	0.22	231.1%
Togo	0.16	0.13	0.13	0.09	0.15	0.14	0.19	0.17	0.32	0.25	0.26	68.7%
Tunisia	0.72	0.86	1.24	1.32	1.48	1.54	1.82	1.93	2.19	2.25	2.28	53.7%
Zambia	0.78	0.87	0.55	0.38	0.31	0.22	0.16	0.18	0.12	0.20	0.20	-35.3%
Zimbabwe	1.35	1.16	1.09	1.10	1.55	1.29	1.06	0.79	0.66	0.76	0.75	-51.3%
Other Africa	0.12	0.13	0.15	0.11	0.11	0.11	0.12	0.13	0.14	0.15	0.15	33.9%
Africa	**0.67**	**0.78**	**0.84**	**0.85**	**0.84**	**0.80**	**0.81**	**0.93**	**0.96**	**0.97**	**0.96**	**14.1%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions / population

tonnes CO_2 / capita

	1971	1975	1980	1985	1990	1995	2000	2005	2010	2014	2015	% change 90-15
Bangladesh	0.04	0.06	0.08	0.08	0.11	0.14	0.16	0.22	0.33	0.40	0.44	306.0%
Brunei Darussalam	2.93	8.74	13.67	13.21	12.68	15.26	13.37	13.32	17.46	16.06	14.13	11.4%
Cambodia	..	..	..	..	..	0.14	0.16	0.20	0.32	0.40	0.51	..
DPR of Korea	4.67	4.83	6.22	6.89	5.79	3.52	3.06	3.16	2.01	1.15	0.90	-84.5%
India	0.32	0.35	0.38	0.48	0.61	0.74	0.85	0.94	1.30	1.56	1.58	158.7%
Indonesia	0.21	0.29	0.46	0.51	0.74	1.04	1.21	1.41	1.56	1.71	1.72	132.5%
Malaysia	1.14	1.32	1.71	2.09	2.72	3.84	4.91	6.04	6.75	7.37	7.27	166.9%
Mongolia	..	..	..	6.13	5.89	4.46	3.75	4.35	5.22	6.16	5.80	-1.5%
Myanmar	0.16	0.13	0.15	0.15	0.09	0.15	0.19	0.21	0.15	0.37	0.45	385.3%
Nepal	0.02	0.02	0.03	0.03	0.05	0.08	0.13	0.12	0.15	0.21	0.20	311.5%
Pakistan	0.27	0.30	0.31	0.40	0.52	0.65	0.68	0.75	0.76	0.77	0.77	48.7%
Philippines	0.62	0.70	0.70	0.52	0.61	0.82	0.87	0.83	0.83	0.97	1.03	68.0%
Singapore	2.87	3.73	5.24	6.07	9.50	10.66	10.46	8.87	8.72	8.29	8.03	-15.5%
Sri Lanka	0.22	0.20	0.25	0.22	0.22	0.30	0.56	0.69	0.62	0.81	0.93	331.9%
Chinese Taipei	2.00	2.53	4.01	3.59	5.49	7.28	9.77	11.17	11.04	10.69	10.65	93.9%
Thailand	0.43	0.50	0.71	0.81	1.43	2.36	2.43	3.04	3.35	3.60	3.64	154.8%
Viet Nam	0.37	0.35	0.28	0.30	0.26	0.38	0.57	0.96	1.45	1.58	1.83	596.9%
Other non-OECD Asia	0.38	0.42	0.54	0.34	0.31	0.31	0.33	0.38	0.48	0.52	0.48	54.4%
Asia (excl. China)	**0.40**	**0.44**	**0.53**	**0.60**	**0.74**	**0.90**	**1.03**	**1.16**	**1.40**	**1.57**	**1.59**	**114.2%**
People's Rep. of China	0.93	1.12	1.39	1.55	1.83	2.40	2.44	4.11	5.76	6.62	6.59	260.5%
Hong Kong, China	2.28	2.44	2.88	4.09	5.84	5.93	6.05	6.07	5.98	6.62	6.01	2.9%
China	**0.93**	**1.13**	**1.40**	**1.56**	**1.85**	**2.41**	**2.46**	**4.12**	**5.76**	**6.62**	**6.59**	**256.5%**
Argentina	3.39	3.27	3.39	2.89	3.04	3.35	3.76	3.82	4.21	4.32	4.41	45.2%
Bolivia	0.47	0.64	0.75	0.69	0.75	0.91	0.85	0.99	1.38	1.73	1.70	126.8%
Brazil	0.89	1.20	1.37	1.14	1.23	1.40	1.66	1.65	1.87	2.30	2.17	77.0%
Colombia	1.18	1.14	1.25	1.27	1.34	1.45	1.34	1.24	1.31	1.52	1.50	12.2%
Costa Rica	0.67	0.83	0.90	0.71	0.84	1.27	1.15	1.28	1.46	1.53	1.44	71.5%
Cuba	2.35	2.56	3.10	3.19	3.22	2.06	2.46	2.22	2.89	2.58	2.62	-18.7%
Curaçao [1]	90.11	60.30	50.13	24.57	14.09	13.23	26.73	27.22	19.13	30.43	30.72	117.9%
Dominican Republic	0.75	1.01	1.09	0.96	1.03	1.42	2.14	1.97	1.98	1.93	2.03	97.0%
Ecuador	0.56	0.85	1.30	1.29	1.30	1.46	1.44	1.74	2.15	2.44	2.33	78.5%
El Salvador	0.35	0.46	0.35	0.33	0.40	0.82	0.89	1.05	0.96	0.96	1.05	162.9%
Guatemala	0.41	0.48	0.59	0.39	0.35	0.57	0.73	0.81	0.70	1.01	0.93	164.6%
Haiti	0.08	0.08	0.11	0.12	0.13	0.12	0.16	0.21	0.21	0.26	0.30	127.8%
Honduras	0.41	0.43	0.47	0.39	0.44	0.64	0.72	1.04	0.98	1.10	1.14	157.6%
Jamaica	2.91	3.69	3.05	2.02	3.04	3.38	3.76	3.84	2.53	2.56	2.50	-17.5%
Nicaragua	0.60	0.66	0.56	0.49	0.44	0.54	0.70	0.75	0.75	0.75	0.85	90.6%
Panama	1.59	1.77	1.47	1.20	1.04	1.49	1.61	2.04	2.44	2.74	2.72	162.1%
Paraguay	0.23	0.25	0.42	0.39	0.46	0.73	0.62	0.60	0.75	0.79	0.86	86.9%
Peru	1.12	1.20	1.17	0.92	0.88	0.97	1.02	1.04	1.40	1.55	1.57	78.6%
Suriname	..	..	..	..	..	..	3.03	3.36	3.27	3.70	3.80	..
Trinidad and Tobago	5.61	4.52	5.87	5.68	6.46	6.50	7.97	13.52	16.83	17.16	16.76	159.3%
Uruguay	1.81	1.88	1.83	1.00	1.16	1.36	1.53	1.55	1.77	1.83	1.86	60.6%
Venezuela	3.84	4.20	5.43	4.86	4.71	4.78	4.75	5.12	5.91	5.04	4.40	-6.6%
Other non-OECD Americas	3.14	4.04	3.65	3.18	4.11	4.15	4.65	4.59	5.05	5.52	5.56	35.5%
Non-OECD Americas	**1.47**	**1.63**	**1.80**	**1.55**	**1.61**	**1.74**	**1.93**	**1.97**	**2.22**	**2.43**	**2.33**	**45.2%**
Bahrain	13.09	19.58	20.10	21.71	21.53	23.85	23.75	23.71	20.26	21.80	21.83	1.4%
Islamic Republic of Iran	1.33	2.08	2.29	3.07	3.05	4.05	4.74	5.96	6.71	7.12	6.98	129.1%
Iraq	1.01	1.33	1.92	2.44	3.00	4.71	2.99	2.71	3.35	4.00	3.63	21.0%
Jordan	0.78	1.08	1.89	2.68	2.77	2.84	2.99	3.36	2.88	3.24	3.13	13.0%
Kuwait	17.37	14.37	19.09	21.18	13.50	19.76	24.00	28.59	25.17	21.05	21.93	62.5%
Lebanon	1.95	2.22	2.55	2.47	2.04	4.22	4.32	3.63	4.20	3.99	3.88	90.2%
Oman	0.34	0.82	1.95	3.76	5.61	6.70	9.12	10.04	14.39	14.14	14.32	155.3%
Qatar	18.82	30.04	31.16	28.79	26.11	33.59	35.84	39.67	32.33	36.10	35.77	37.0%
Saudi Arabia	2.08	3.03	10.03	8.81	9.23	10.16	10.97	12.04	14.92	16.40	16.85	82.5%
Syrian Arab Republic	0.82	1.09	1.38	1.83	2.19	2.17	2.26	2.95	2.70	1.47	1.42	-35.1%
United Arab Emirates	8.95	9.26	18.90	26.39	28.64	29.63	26.17	24.79	18.54	19.40	19.68	-31.3%
Yemen	0.19	0.26	0.43	0.50	0.53	0.62	0.75	0.92	0.95	0.86	0.42	-21.1%
Middle East	**1.49**	**2.10**	**3.43**	**4.06**	**4.22**	**5.18**	**5.45**	**6.35**	**7.26**	**7.73**	**7.66**	**81.8%**

1. Please refer to the chapter *Geographical Coverage* in Part I.

Per capita emissions by sector in 2015 [1]

kilogrammes CO_2 / capita

	Total CO_2 emissions from fuel combustion	Electricity and heat production	Other energy ind. own use [2]	Manufacturing industries and construction	Transport	*of which: road*	Other sectors	*of which: residential*
World [3]	**4 403**	**1 846**	**226**	**827**	**1 055**	**790**	**449**	**254**
Annex I Parties	*9 450*	*3 860*	*548*	*1 089*	*2 672*	*2 309*	*1 281*	*749*
Annex II Parties	*10 457*	*3 978*	*647*	*1 158*	*3 253*	*2 855*	*1 421*	*788*
North America	*15 513*	*5 838*	*1 032*	*1 379*	*5 386*	*4 567*	*1 879*	*991*
Europe	*6 313*	*2 061*	*356*	*797*	*1 884*	*1 786*	*1 215*	*759*
Asia Oceania	*9 980*	*4 856*	*548*	*1 619*	*2 036*	*1 796*	*922*	*400*
Annex I EIT	*7 737*	*4 082*	*337*	*1 012*	*1 328*	*997*	*977*	*721*
Non-Annex I Parties	*3 106*	*1 407*	*155*	*770*	*505*	*459*	*268*	*147*
Annex B Kyoto Parties	*6 659*	*2 528*	*427*	*885*	*1 713*	*1 604*	*1 106*	*693*
Non-OECD Total	**3 201**	**1 478**	**152**	**780**	**506**	**445**	**286**	**165**
OECD Total	**9 180**	**3 596**	**577**	**1 052**	**2 730**	**2 423**	**1 225**	**680**
Canada	15 319	2 871	3 272	1 731	4 848	3 905	2 598	1 126
Chile	4 525	1 831	128	856	1 398	1 252	312	172
Mexico	3 655	1 182	418	546	1 244	1 206	267	147
United States	15 534	6 169	782	1 339	5 446	4 640	1 798	976
OECD Americas	**12 224**	**4 558**	**849**	**1 157**	**4 232**	**3 627**	**1 429**	**756**
Australia	15 829	7 915	1 359	1 743	3 936	3 310	876	381
Israel [4]	7 435	4 655	266	304	2 018	2 011	192	41
Japan	8 990	4 410	401	1 604	1 637	1 473	939	413
Korea	11 577	6 037	902	1 592	1 918	1 824	1 129	610
New Zealand	6 738	1 187	359	1 397	3 113	2 803	682	123
OECD Asia Oceania	**10 258**	**5 127**	**620**	**1 561**	**2 007**	**1 811**	**942**	**435**
Austria	7 201	1 589	750	1 266	2 633	2 538	962	655
Belgium	8 246	1 556	527	1 639	2 347	2 272	2 177	1 440
Czech Republic	9 442	5 138	411	1 129	1 642	1 598	1 123	741
Denmark	5 628	1 855	390	596	2 026	1 876	760	372
Estonia	11 830	8 934	96	465	1 748	1 673	587	125
Finland	7 676	3 060	609	1 319	1 982	1 861	706	197
France	4 368	490	251	611	1 840	1 774	1 175	653
Germany	8 934	3 952	289	1 150	1 929	1 866	1 614	1 037
Greece	5 947	2 810	378	580	1 536	1 322	643	493
Hungary	4 318	1 204	124	642	1 212	1 187	1 136	683
Iceland	6 205	10	-	1 571	2 558	2 417	2 065	27
Ireland	7 608	2 528	80	845	2 385	2 309	1 771	1 296
Italy	5 446	1 793	197	594	1 696	1 604	1 167	770
Latvia	3 462	939	-	380	1 546	1 437	596	213
Luxembourg	15 469	846	-	1 708	10 133	10 105	2 781	1 858
Netherlands	9 213	3 699	614	1 296	1 777	1 700	1 826	951
Norway	7 074	398	2 361	1 077	2 755	2 096	483	58
Poland	7 344	3 900	211	712	1 206	1 177	1 315	875
Portugal	4 541	1 834	257	543	1 522	1 453	385	172
Slovak Republic	5 429	1 244	928	1 308	1 100	1 042	848	471
Slovenia	6 222	2 235	3	786	2 556	2 537	641	342
Spain	5 323	1 754	405	623	1 843	1 687	697	350
Sweden	3 783	630	290	701	2 010	1 947	152	16
Switzerland	4 505	310	52	612	1 956	1 922	1 574	1 022
Turkey	4 096	1 595	184	579	936	863	801	390
United Kingdom	5 986	1 888	411	571	1 813	1 716	1 303	955
OECD Europe [4]	***6 097***	***2 169***	***322***	***768***	***1 685***	***1 599***	***1 153***	***707***
IEA/Accession/Association	*5 458*	*2 392*	*268*	*1 114*	*1 105*	*972*	*578*	*312*
European Union - 28	*6 282*	*2 285*	*318*	*781*	*1 740*	*1 660*	*1 157*	*727*
G20	*5 596*	*2 488*	*279*	*1 109*	*1 138*	*992*	*583*	*324*
Africa	*961*	*408*	*70*	*121*	*264*	*253*	*98*	*61*
Americas	*7 336*	*2 591*	*524*	*804*	*2 569*	*2 234*	*848*	*446*
Asia	*3 938*	*1 859*	*176*	*1 012*	*546*	*487*	*345*	*184*
Europe	*6 835*	*2 907*	*340*	*873*	*1 625*	*1 435*	*1 091*	*725*
Oceania	*10 897*	*5 197*	*880*	*1 287*	*2 890*	*2 450*	*642*	*258*

1. This table shows per capita emissions for the same sectors which are present throughout this publication. In particular, the emissions from electricity and heat production are shown separately and not reallocated. 2. Includes emissions from own use in petroleum refining, the manufacture of solid fuels, coal mining, oil and gas extraction and other energy-producing industries. 3. World includes international bunkers in the transport sector. 4. Please refer to the chapter *Geographical Coverage*.

Per capita emissions by sector in 2015

kilogrammes CO_2 / capita

	Total CO_2 emissions from fuel combustion	Electricity and heat production	Other energy ind. own use	Manufacturing industries and construction	Transport	*of which: road*	Other sectors	*of which: residential*
Non-OECD Total	**3 201**	**1 478**	**152**	**780**	**506**	**445**	**286**	**165**
Albania	1 323	-	27	235	844	806	217	81
Armenia	1 556	423	-	136	487	484	511	276
Azerbaijan	3 192	1 292	201	242	724	654	732	571
Belarus	5 605	2 902	380	474	1 102	926	747	444
Bosnia and Herzegovina	5 838	3 891	192	586	813	813	356	148
Bulgaria	6 100	3 948	162	519	1 253	1 193	219	104
Croatia	3 689	785	347	519	1 391	1 339	647	352
Cyprus [1]	6 965	3 474	-	693	2 140	2 140	658	410
FYR of Macedonia	3 484	1 944	3	514	888	885	135	18
Georgia	2 255	343	-	443	968	961	501	381
Gibraltar	17 390	4 783	-	-	12 607	12 607	-	-
Kazakhstan	12 833	4 960	2 773	2 902	844	756	1 353	826
Kosovo	4 783	3 578	-	366	634	631	204	47
Kyrgyzstan	1 659	485	10	304	449	448	411	294
Lithuania	3 631	570	539	404	1 739	1 655	379	203
Malta	3 809	1 966	-	71	1 347	1 231	425	102
Republic of Moldova	2 132	1 019	-	217	542	530	354	234
Montenegro	3 796	2 499	-	285	899	884	113	27
Romania	3 509	1 457	157	623	779	749	493	315
Russian Federation	10 194	5 634	472	1 281	1 669	1 044	1 138	904
Serbia	6 274	4 462	101	561	823	814	328	164
Tajikistan	510	34	3	1	272	272	201	-
Turkmenistan	12 855	3 858	975	437	2 189	1 465	5 396	86
Ukraine	4 195	2 040	97	927	513	419	619	500
Uzbekistan	3 054	1 276	93	403	206	114	1 076	828
Non-OECD Europe and Eurasia [1]	**7 047**	**3 594**	**421**	**975**	**1 112**	**798**	**945**	**645**
Algeria	3 286	927	324	271	1 172	1 117	592	515
Angola	816	151	9	89	365	333	202	75
Benin	487	21	-	38	421	421	7	6
Botswana	3 118	1 686	-	317	1 045	1 031	70	20
Cameroon	258	50	18	19	148	142	22	20
Congo	585	103	-	17	447	362	18	18
Côte d'Ivoire	425	167	7	63	139	124	49	20
Dem. Rep. of the Congo	35	-	-	1	35	29	-	-
Egypt	2 170	939	129	292	601	571	209	178
Eritrea	115	66	-	4	36	36	10	9
Ethiopia	103	-	-	35	50	47	18	8
Gabon	1 881	507	26	676	466	466	206	104
Ghana	512	120	1	65	287	266	40	28
Kenya	307	24	2	74	176	172	32	28
Libya	7 216	3 962	85	142	2 841	2 840	185	185
Mauritius	3 141	1 893	-	269	822	785	156	116
Morocco	1 598	629	19	225	462	459	262	180
Mozambique	180	46	1	27	91	84	15	4
Namibia	1 554	16	-	137	857	810	545	3
Niger	100	26	-	10	60	60	3	3
Nigeria	354	71	62	41	135	135	45	9
Senegal	439	161	3	81	171	163	23	21
South Africa	7 772	4 442	792	1 017	974	906	547	279
South Sudan	86	23	6	1	54	53	3	-
Sudan	383	98	4	45	197	195	38	13
United Rep. of Tanzania	217	52	-	27	132	132	7	6
Togo	256	3	-	23	200	200	30	30
Tunisia	2 275	819	44	476	597	574	339	174
Zambia	204	18	2	95	71	68	18	1
Zimbabwe	755	457	5	67	161	150	66	12
Other Africa	148	40	4	20	67	64	18	7
Africa	**961**	**408**	**70**	**121**	**264**	**253**	**98**	**61**

1. Please refer to the chapter *Geographical Coverage* in Part I.

Per capita emissions by sector in 2015

kilogrammes CO_2 / capita

	Total CO_2 emissions from fuel combustion	Electricity and heat production	Other energy ind. own use	Manufacturing industries and construction	Transport	*of which: road*	Other sectors	*of which: residential*
Bangladesh	438	208	1	104	57	44	67	46
Brunei Darussalam	14 128	5 624	4 025	980	3 208	3 208	292	201
Cambodia	514	161	-	15	271	229	68	32
DPR of Korea	896	143	2	529	56	56	166	5
India	1 576	814	28	408	194	180	132	66
Indonesia	1 716	666	93	351	499	439	106	78
Malaysia	7 267	3 401	672	950	2 024	1 944	220	59
Mongolia	5 801	3 980	7	490	674	491	650	362
Myanmar	452	90	15	97	190	165	60	-
Nepal	196	-	-	78	80	80	39	14
Pakistan	773	241	8	206	216	209	102	83
Philippines	1 031	503	12	140	306	262	70	26
Singapore	8 028	3 963	814	1 940	1 199	1 170	111	36
Sri Lanka	930	323	2	141	414	401	50	25
Chinese Taipei	10 648	6 349	622	1 694	1 565	1 533	418	184
Thailand	3 642	1 336	287	800	951	906	269	61
Viet Nam	1 835	802	-	552	350	340	131	75
Other non-OECD Asia	480	149	-	103	195	162	32	12
Asia (excl. China)	**1 594**	**757**	**51**	**373**	**289**	**268**	**123**	**63**
People's Rep. of China	6 593	3 205	246	2 019	610	504	513	262
Hong Kong, China	6 006	3 823	-	970	997	995	216	105
China	**6 590**	**3 209**	**245**	**2 014**	**612**	**506**	**511**	**261**
Argentina	4 409	1 283	420	723	1 077	961	906	546
Bolivia	1 704	314	76	179	717	679	416	135
Brazil	2 169	438	138	451	949	859	192	86
Colombia	1 499	287	108	307	617	592	181	75
Costa Rica	1 441	15	6	214	1 105	1 101	102	34
Cuba	2 622	1 372	57	746	121	116	326	50
Curaçao [1]	30 716	3 760	16 620	2 500	6 779	6 779	1 057	1 057
Dominican Republic	2 029	1 051	9	288	528	412	154	120
Ecuador	2 327	536	89	270	1 049	998	383	150
El Salvador	1 054	259	-	127	549	549	118	96
Guatemala	926	288	7	121	455	454	55	54
Haiti	299	88	-	56	131	131	25	24
Honduras	1 143	428	-	160	507	484	48	34
Jamaica	2 504	951	-	825	608	608	120	51
Nicaragua	845	270	8	103	365	329	100	23
Panama	2 718	820	-	600	1 101	1 099	198	142
Paraguay	856	-	-	23	800	796	32	32
Peru	1 566	376	123	283	662	647	122	74
Suriname	3 804	1 647	40	129	1 244	783	745	77
Trinidad and Tobago	16 758	4 422	6 064	3 485	2 481	2 211	306	287
Uruguay	1 859	206	119	231	1 022	1 016	281	122
Venezuela	4 399	1 067	706	975	1 462	1 461	189	144
Other non-OECD Americas	5 562	2 915	1	217	1 672	1 587	757	117
Non-OECD Americas	**2 334**	**579**	**191**	**443**	**868**	**807**	**253**	**129**
Bahrain	21 833	14 843	2 699	1 519	2 574	2 497	198	198
Islamic Republic of Iran	6 983	1 955	479	1 111	1 727	1 534	1 712	1 335
Iraq	3 626	2 158	307	238	695	695	227	227
Jordan	3 131	1 472	79	242	1 031	1 027	307	200
Kuwait	21 933	10 902	3 527	4 086	3 266	3 266	151	151
Lebanon	3 879	2 207	-	188	950	950	534	534
Oman	14 317	3 713	1 685	5 322	2 925	2 925	672	110
Qatar	35 768	9 030	13 813	6 070	6 701	6 701	155	155
Saudi Arabia	16 850	7 790	852	3 556	4 506	4 417	147	147
Syrian Arab Republic	1 418	603	31	193	346	341	246	125
United Arab Emirates	19 680	7 899	282	8 020	3 372	3 262	106	106
Yemen	416	146	28	43	115	115	84	68
Middle East	**7 664**	**3 040**	**600**	**1 521**	**1 772**	**1 687**	**730**	**572**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions per kWh from electricity generation [1]

grammes CO_2 / kilowatt hour

	1990	1995	2000	2005	2009	2010	2011	2012	2013	2014	2015	average 13-15
World	**532**	**533**	**533**	**546**	**530**	**530**	**537**	**531**	**526**	**519**	**506**	**517**
Annex I Parties	*503*	*482*	*476*	*471*	*433*	*432*	*435*	*428*	*422*	*410*	*395*	*409*
Annex II Parties	*494*	*479*	*476*	*469*	*426*	*426*	*424*	*418*	*413*	*405*	*387*	*401*
North America	*541*	*544*	*554*	*537*	*481*	*488*	*467*	*445*	*444*	*441*	*415*	*433*
Europe	*416*	*376*	*342*	*338*	*302*	*295*	*294*	*296*	*280*	*265*	*259*	*268*
Asia Oceania	*499*	*471*	*482*	*513*	*506*	*493*	*551*	*593*	*594*	*574*	*567*	*578*
Annex I EIT	*535*	*492*	*472*	*483*	*456*	*461*	*485*	*473*	*468*	*427*	*429*	*442*
Non-Annex I Parties	*624*	*658*	*649*	*662*	*646*	*640*	*643*	*633*	*623*	*616*	*603*	*614*
Annex B Kyoto Parties	*509*	*458*	*417*	*409*	*381*	*370*	*374*	*372*	*357*	*341*	*332*	*343*
Non-OECD Total	**577**	**606**	**608**	**639**	**625**	**621**	**628**	**617**	**611**	**601**	**589**	**600**
OECD Total	**508**	**493**	**489**	**478**	**442**	**442**	**441**	**436**	**429**	**421**	**404**	**418**
Canada	200	179	220	199	172	181	166	157	149	149	151	150
Chile	452	261	342	320	377	415	448	490	482	413	438	444
Mexico	552	547	591	538	511	502	486	501	486	464	460	470
United States	593	601	604	586	526	530	511	488	489	486	456	477
OECD Americas	**541**	**542**	**554**	**535**	**481**	**488**	**468**	**449**	**447**	**442**	**417**	**435**
Australia	834	826	853	883	895	834	798	803	767	734	755	752
Israel [2]	840	833	779	790	706	698	738	780	666	635	607	636
Japan	454	424	422	448	430	430	510	561	571	554	540	555
Korea	543	573	546	497	537	546	558	552	536	517	526	526
New Zealand	110	90	168	242	172	155	144	176	155	131	124	137
OECD Asia Oceania	**509**	**492**	**501**	**517**	**520**	**512**	**559**	**588**	**580**	**560**	**557**	**565**
Austria	245	211	175	227	168	200	218	168	165	152	164	160
Belgium	357	373	299	281	215	222	197	217	194	208	226	209
Czech Republic	760	811	731	625	600	585	570	536	505	509	521	512
Denmark	682	596	452	374	404	362	318	259	300	255	174	243
Estonia	962	1 094	1 082	1 067	1 096	1 031	963	927	1 014	1 081	1 026	1 040
Finland	193	227	178	168	193	234	195	137	175	147	107	143
France	108	74	77	81	77	80	64	67	62	43	46	50
Germany	624	601	542	506	480	475	483	486	489	474	450	471
Greece	1 007	964	836	793	737	730	718	695	649	668	584	634
Hungary	503	519	473	374	315	320	319	317	292	277	274	281
Iceland	1	1	0	0	0	0	0	0	0	0	0	0
Ireland	750	736	650	590	455	466	433	465	439	429	418	428
Italy	581	551	502	491	415	410	406	392	343	331	342	339
Latvia	115	132	134	86	95	118	131	89	131	128	145	135
Luxembourg	..	..	467	345	344	341	339	337	308	306	281	298
Netherlands	545	561	500	479	427	421	409	441	445	472	489	469
Norway	1	1	1	2	11	16	13	8	8	9	9	8
Poland	1 009	923	884	838	818	800	799	772	771	755	730	752
Portugal	527	585	493	527	383	257	306	368	281	271	346	299
Slovak Republic	397	371	250	225	214	201	204	198	176	162	169	169
Slovenia	438	390	350	356	325	331	345	338	319	226	265	270
Spain	436	462	441	402	299	240	296	310	245	255	293	264
Sweden	12	22	22	20	19	26	17	12	13	11	11	12
Switzerland	22	21	23	29	24	25	27	25	24	23	24	24
Turkey	582	523	538	446	505	468	480	468	443	498	441	460
United Kingdom	691	538	480	501	448	453	444	490	457	414	349	406
OECD Europe [2]	**461**	**419**	**385**	**373**	**344**	**336**	**338**	**336**	**321**	**312**	**302**	**311**
IEA/Accession/Association	*547*	*551*	*554*	*568*	*550*	*549*	*557*	*549*	*543*	*536*	*517*	532
European Union - 28	*502*	*453*	*410*	*396*	*361*	*352*	*356*	*355*	*336*	*322*	*315*	324
G20	*541*	*543*	*547*	*561*	*543*	*542*	*550*	*543*	*538*	*530*	*515*	528
Africa	*681*	*699*	*663*	*645*	*641*	*625*	*598*	*611*	*605*	*622*	*620*	616
Americas	*500*	*496*	*503*	*483*	*431*	*438*	*418*	*404*	*404*	*402*	*383*	396
Asia	*640*	*673*	*672*	*693*	*677*	*668*	*684*	*675*	*664*	*653*	*635*	651
Europe	*476*	*425*	*394*	*395*	*364*	*361*	*372*	*368*	*356*	*332*	*329*	339
Oceania	*705*	*691*	*740*	*780*	*786*	*731*	*701*	*710*	*678*	*648*	*664*	663

1. CO_2 emissions from fossil fuels consumed for electricity generation, in both electricity-only and combined heat and power (CHP) plants, divided by the output of electricity generated from all fossil and non-fossil sources. Both main activity producers and autoproducers have been included in the calculation. This indicator is set as not available when the electricity output is very small or when values do not fall within expected ranges due to data quality. 2. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions per kWh from electricity generation

grammes CO_2 / kilowatt hour

	1990	1995	2000	2005	2009	2010	2011	2012	2013	2014	2015	average 13-15
Non-OECD Total	**577**	**606**	**608**	**639**	**625**	**621**	**628**	**617**	**611**	**601**	**589**	**600**
Albania	149	55	52	26	1	2	7	-	-	-	-	-
Armenia	499	212	239	132	103	93	124	177	170	199	163	178
Azerbaijan	579	702	746	540	484	433	457	496	483	477	487	483
Belarus	553	503	474	461	468	451	443	427	419	404	387	403
Bosnia and Herzegovina	726	180	841	813	822	737	994	994	792	858	901	850
Bulgaria	773	589	487	517	552	553	603	545	506	493	498	499
Croatia	369	254	301	317	279	227	323	310	221	193	233	215
Cyprus [1]	847	831	846	796	754	712	740	734	646	658	649	651
FYR of Macedonia	935	897	815	806	813	697	844	871	758	804	692	751
Georgia	580	514	226	101	124	69	102	118	85	109	118	104
Gibraltar	744	745	767	747	765	752	760	756	753	750	762	755
Kazakhstan	621	632	743	608	449	416	439	471	500	514	416	477
Kosovo	..	..	1 342	1 144	1 312	1 314	1 130	1 046	982	1 019	1 053	1 018
Kyrgyzstan	167	100	78	55	75	37	32	35	33	49	92	58
Lithuania	159	65	99	101	84	340	271	272	204	184	186	191
Malta	1 609	968	827	1 044	859	879	874	879	727	713	652	697
Republic of Moldova	732	720	646	490	499	488	488	500	474	492	497	488
Montenegro	..	..	..	392	296	431	667	555	389	469	518	459
Romania	865	753	588	501	479	417	506	487	355	319	340	338
Russian Federation	412	368	400	444	407	418	443	434	439	385	395	406
Serbia	910	1 022	904	779	753	722	796	771	753	693	757	734
Tajikistan	68	25	26	21	4	1	1	1	1	5	8	5
Turkmenistan	689	936	876	876	870	958	988	992	945	890	893	909
Ukraine	664	576	407	409	420	425	460	471	473	442	407	441
Uzbekistan	630	575	633	591	570	553	561	549	548	547	551	549
Non-OECD Europe and Eurasia [1]	**508**	**457**	**448**	**460**	**433**	**434**	**466**	**459**	**454**	**415**	**416**	**428**
Algeria	635	636	623	609	641	549	549	539	502	508	535	515
Angola	347	179	504	275	470	435	394	297	283	363	387	344
Benin	1 212	960	607	717	727	725	730	668	697	725	675	699
Botswana	1 681	1 681	1 457	1 595	1 513	1 066	2 242	5 896	2 509	1 622	1 286	1 806
Cameroon	13	10	10	41	198	209	161	184	159	173	171	168
Congo	7	9	-	104	246	269	231	246	254	266	274	264
Côte d'Ivoire	208	278	381	460	393	463	439	493	449	454	435	446
Dem. Rep. of the Congo	5	4	1	1	7	7	7	0	0	1	1	1
Egypt	529	448	346	478	470	427	424	446	447	459	472	460
Eritrea	..	1 721	1 347	985	841	859	858	858	858	859	859	859
Ethiopia	137	42	11	3	221	11	8	3	1	1	0	1
Gabon	272	257	328	381	356	395	423	402	396	419	411	409
Ghana	-	3	66	148	190	297	217	251	273	247	285	268
Kenya	51	64	481	258	406	281	301	229	279	168	114	187
Libya	787	1 142	1 017	910	727	690	680	673	653	660	660	657
Mauritius	560	544	651	691	784	821	803	809	812	827	798	812
Morocco	794	943	846	843	709	695	746	708	647	708	702	685
Mozambique	245	64	5	1	1	1	1	1	12	41	65	39
Namibia	..	38	5	26	73	24	14	56	57	9	25	30
Niger	..	..	1 100	1 083	935	1 116	1 107	1 070	851	1 053	988	964
Nigeria	423	339	456	338	389	382	395	405	412	416	413	414
Senegal	898	889	914	749	727	680	626	609	615	616	617	616
South Africa	866	902	911	869	924	945	887	925	941	1 002	990	978
South Sudan	..	..	..	..	..	..	..	850	856	854	855	855
Sudan	328	470	513	621	417	145	196	204	171	187	303	220
United Rep. of Tanzania	154	286	132	381	254	279	376	446	479	389	440	436
Togo	426	187	567	356	232	375	125	173	207	132	237	192
Tunisia	656	591	578	471	490	483	471	463	465	477	469	470
Zambia	12	7	7	6	2	2	3	3	2	18	21	14
Zimbabwe	728	929	755	639	372	558	645	603	701	675	734	703
Other Africa	345	281	370	418	444	445	442	454	430	459	456	448
Africa	**681**	**699**	**663**	**645**	**641**	**625**	**598**	**611**	**605**	**622**	**620**	**616**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions per kWh from electricity generation

grammes CO_2 / kilowatt hour

	1990	1995	2000	2005	2009	2010	2011	2012	2013	2014	2015	average 13-15
Bangladesh	558	605	558	554	573	591	569	579	582	587	567	579
Brunei Darussalam	928	885	799	804	793	734	720	726	620	626	566	604
Cambodia	..	813	843	801	818	807	796	535	379	396	569	448
DPR of Korea	577	491	595	532	391	352	287	290	218	254	263	245
India	737	816	806	784	830	806	776	821	783	808	771	787
Indonesia	688	599	664	729	757	722	762	719	665	741	733	713
Malaysia	699	580	541	662	636	769	683	681	693	666	687	682
Mongolia	733	1 318	1 139	1 188	1 099	1 161	1 171	1 201	1 347	1 313	1 249	1 303
Myanmar	513	511	460	398	201	265	192	218	215	279	304	266
Nepal	-	26	12	5	3	1	-	4	2	-	-	2
Pakistan	411	439	483	383	461	428	413	420	418	412	410	414
Philippines	345	469	501	499	483	489	500	510	577	604	614	598
Singapore	917	942	769	515	477	485	488	468	456	441	435	444
Sri Lanka	2	51	450	481	408	312	441	544	336	545	514	465
Chinese Taipei	470	542	635	659	644	633	609	591	575	581	583	580
Thailand	634	613	573	541	519	518	528	506	529	535	511	525
Viet Nam	562	306	433	452	389	437	387	353	355	380	480	405
Other non-OECD Asia	352	267	281	415	319	318	337	352	341	367	367	359
Asia (excl. China)	**634**	**673**	**685**	**671**	**692**	**685**	**668**	**682**	**660**	**684**	**672**	**672**
People's Rep. of China	912	916	893	877	772	758	766	726	712	683	657	684
Hong Kong, China	845	872	723	769	777	734	780	771	782	795	734	771
China	**909**	**915**	**889**	**875**	**772**	**758**	**766**	**726**	**712**	**683**	**657**	**684**
Argentina	400	341	341	310	362	363	388	400	373	384	384	380
Bolivia	309	402	315	331	395	432	436	429	394	414	395	401
Brazil	57	57	90	85	65	87	69	100	135	160	157	151
Colombia	213	208	163	133	178	181	106	124	166	188	200	184
Costa Rica	20	156	8	28	40	56	64	55	81	73	7	53
Cuba	773	867	697	832	778	914	830	814	782	770	770	774
Curaçao [1]	724	715	716	698	695	696	695	689	688	688	689	688
Dominican Republic	877	904	714	628	604	594	595	554	517	577	599	564
Ecuador	189	311	217	347	328	414	337	313	349	353	335	346
El Salvador	68	395	328	306	276	222	235	237	259	264	265	263
Guatemala	75	299	397	396	353	286	272	258	290	306	426	341
Haiti	412	330	349	310	361	472	294	625	629	783	911	774
Honduras	10	330	284	413	345	333	379	236	271	446	386	368
Jamaica	765	897	832	577	648	659	670	697	663	615	644	641
Nicaragua	348	478	597	486	511	465	476	411	338	328	358	341
Panama	172	320	233	277	351	369	395	326	325	352	313	330
Paraguay	0	3	-	-	-	-	-	-	-	0	0	0
Peru	186	188	156	211	255	292	300	287	250	253	244	249
Suriname	..	..	234	447	237	304	393	372	405	375	396	392
Trinidad and Tobago	712	714	689	764	713	703	706	680	651	620	584	618
Uruguay	43	54	57	104	255	80	198	276	124	43	51	73
Venezuela	282	185	190	209	209	246	223	254	248	243	282	258
Other non-OECD Americas	..	..	..	..	..	..	..	..	..	..	..	..
Non-OECD Americas	**182**	**172**	**178**	**179**	**179**	**193**	**182**	**199**	**213**	**228**	**232**	**224**
Bahrain	845	795	820	773	789	754	754	759	760	754	718	744
Islamic Republic of Iran	607	610	578	545	583	569	582	574	582	567	551	567
Iraq	575	1 695	661	795	1 212	1 094	970	1 282	1 183	1 177	1 141	1 167
Jordan	823	841	715	665	587	579	643	642	639	656	588	628
Kuwait	895	582	788	807	878	764	738	614	731	597	625	651
Lebanon	1 854	685	745	596	724	716	714	814	740	713	702	719
Oman	767	836	800	696	647	639	614	602	568	549	509	542
Qatar	1 082	1 137	775	621	510	495	492	495	497	497	486	493
Saudi Arabia	837	820	812	745	763	743	761	744	727	711	726	721
Syrian Arab Republic	558	590	572	612	634	599	602	595	556	554	624	578
United Arab Emirates	747	741	732	848	635	601	600	641	620	607	568	598
Yemen	754	955	934	849	829	789	853	822	748	737	734	740
Middle East	**742**	**814**	**708**	**688**	**705**	**678**	**680**	**683**	**685**	**668**	**659**	**671**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions per kWh from electricity generation using coal [1]

grammes CO_2 / kilowatt hour

	1990	1995	2000	2005	2009	2010	2011	2012	2013	2014	2015	average 13-15
World	**1 000**	**1 010**	**987**	**999**	**968**	**964**	**958**	**953**	**943**	**945**	**937**	**941**
Annex I Parties	*974*	*968*	*940*	*953*	*938*	*940*	*945*	*944*	*941*	*937*	*939*	*939*
Annex II Parties	*947*	*964*	*942*	*943*	*932*	*930*	*933*	*935*	*931*	*932*	*931*	*932*
North America	*932*	*967*	*941*	*940*	*928*	*927*	*929*	*934*	*930*	*928*	*929*	*929*
Europe	*953*	*944*	*924*	*938*	*919*	*923*	*930*	*931*	*926*	*935*	*922*	*928*
Asia Oceania	*1 036*	*991*	*979*	*965*	*968*	*954*	*953*	*945*	*944*	*947*	*945*	*945*
Annex I EIT	*1 111*	*983*	*914*	*1 028*	*959*	*976*	*998*	*976*	*985*	*942*	*972*	*966*
Non-Annex I Parties	*1 080*	*1 106*	*1 072*	*1 054*	*992*	*982*	*967*	*958*	*944*	*949*	*936*	*943*
Annex B Kyoto Parties	*979*	*972*	*941*	*956*	*936*	*927*	*934*	*933*	*926*	*931*	*912*	*923*
Non-OECD Total	**1 089**	**1 081**	**1 051**	**1 062**	**992**	**983**	**968**	**961**	**945**	**948**	**936**	**943**
OECD Total	**961**	**973**	**948**	**945**	**938**	**938**	**943**	**939**	**938**	**939**	**938**	**938**
Canada	979	962	925	937	966	972	951	998	971	941	941	951
Chile	1 018	863	974	942	883	905	966	887	869	860	927	886
Mexico	893	1 152	1 118	1 052	1 075	1 066	1 030	1 024	1 025	1 062	1 078	1 055
United States	929	967	942	940	926	926	928	931	928	927	929	928
OECD Americas	**932**	**968**	**942**	**941**	**929**	**929**	**931**	**935**	**931**	**929**	**932**	**931**
Australia	967	952	963	1 026	1 064	1 018	1 013	1 005	1 010	1 002	998	1 003
Israel [2]	900	864	868	814	849	855	864	869	869	864	863	865
Japan	1 109	1 025	989	927	904	913	915	909	911	920	918	917
Korea	2 144	1 315	1 127	1 033	982	1 006	1 053	963	1 004	989	1 001	998
New Zealand	913	802	1 391	1 081	1 172	1 365	1 322	1 178	1 309	1 397	1 403	1 370
OECD Asia Oceania	**1 104**	**1 027**	**1 003**	**972**	**966**	**964**	**980**	**947**	**958**	**956**	**959**	**958**
Austria	990	1 121	931	1 042	1 102	1 116	1 091	1 122	1 205	1 293	1 221	1 240
Belgium	1 040	1 082	1 030	1 230	1 067	1 279	1 339	1 349	1 381	1 489	1 493	1 454
Czech Republic	982	1 083	948	962	993	992	987	986	976	980	963	973
Denmark	719	671	627	650	670	654	647	592	624	640	567	610
Estonia	1 056	1 118	1 151	1 128	1 182	1 145	1 079	1 069	1 130	1 227	1 226	1 194
Finland	658	683	728	745	698	738	741	682	726	705	659	697
France	1 089	1 143	1 053	998	995	951	988	1 099	996	1 283	1 215	1 165
Germany	959	967	907	920	923	925	923	921	915	915	900	910
Greece	1 160	1 149	1 012	1 030	1 020	1 046	1 039	1 045	1 071	1 023	1 019	1 038
Hungary	1 193	1 088	1 043	1 117	1 087	1 118	1 083	1 103	1 062	1 076	1 086	1 075
Iceland	-	-	-	-	-	-	-	-	-	-	-	-
Ireland	932	939	914	887	841	978	946	947	928	956	936	940
Italy	985	1 007	1 003	1 033	990	997	985	947	952	961	945	953
Latvia	864	1 254	1 538	-	..	..	..	..	..	-	-	..
Luxembourg	..	..	-	-	-	-	-	-	-	-	-	-
Netherlands	825	900	874	894	837	858	868	950	943	932	882	919
Norway	1 506	926	1 125	1 143	1 232	1 231	1 361	1 263	1 154	1 304	1 300	1 253
Poland	1 022	940	905	886	894	887	898	892	885	890	878	884
Portugal	905	872	884	874	870	891	888	879	881	884	873	879
Slovak Republic	985	1 060	973	1 006	1 041	1 035	1 040	1 080	1 094	1 091	1 098	1 094
Slovenia	1 277	1 013	1 009	995	988	977	994	976	989	993	860	947
Spain	957	931	938	906	948	961	979	949	933	947	932	938
Sweden	755	567	938	1 039	823	764	696	745	746	841	802	797
Switzerland	679	..	-	-	-	-	-	-	-	-	-	-
Turkey	1 234	1 162	1 111	943	1 050	1 087	1 064	1 051	1 041	1 057	1 020	1 039
United Kingdom	938	899	950	964	911	902	916	914	922	931	954	936
OECD Europe [2]	**974**	**960**	**934**	**936**	**933**	**937**	**942**	**940**	**934**	**946**	**931**	**937**
IEA/Accession/Association	*990*	*1 015*	*989*	*998*	*969*	*962*	*958*	*952*	*939*	*941*	*931*	937
European Union - 28	*976*	*965*	*932*	*944*	*933*	*935*	*942*	*939*	*932*	*940*	*928*	933
G20	*995*	*1 007*	*984*	*999*	*970*	*965*	*960*	*954*	*943*	*944*	*936*	941
Africa	*942*	*981*	*989*	*933*	*989*	*1 013*	*961*	*995*	*1 018*	*1 084*	*1 077*	1 060
Americas	*936*	*972*	*946*	*945*	*933*	*934*	*933*	*940*	*936*	*935*	*940*	937
Asia	*1 105*	*1 104*	*1 064*	*1 046*	*984*	*973*	*963*	*952*	*937*	*940*	*926*	934
Europe	*1 019*	*971*	*933*	*982*	*946*	*957*	*970*	*958*	*958*	*945*	*953*	952
Oceania	*967*	*951*	*967*	*1 028*	*1 066*	*1 022*	*1 017*	*1 009*	*1 015*	*1 007*	*1 003*	1 008

1. CO_2 emissions from coal, peat and oil shale consumed for electricity generation, in both electricity-only and combined heat and power (CHP) plants, divided by the output of electricity generated from coal, peat and oil shale. Both main activity producers and autoproducers have been included in the calculation. This indicator is set as not available when the electricity output is very small or when values do not fall within expected ranges due to data quality. 2. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions per kWh from electricity generation using coal

grammes CO_2 / kilowatt hour

	1990	1995	2000	2005	2009	2010	2011	2012	2013	2014	2015	average 13-15
Non-OECD Total	**1 089**	**1 081**	**1 051**	**1 062**	**992**	**983**	**968**	**961**	**945**	**948**	**936**	**943**
Albania	-	-	-	-	-	-	-	-	-	-	-	-
Armenia	-	-	-	-	-	-	-	-	-	-	-	-
Azerbaijan	-	-	-	-	-	-	-	-	-	-	-	-
Belarus	-	-	-	1 499	1 411	1 121	1 508	1 431	1 477	1 275	1 062	1 271
Bosnia and Herzegovina	915	997	1 648	1 563	1 372	1 396	1 400	1 424	1 358	1 361	1 402	1 373
Bulgaria	1 296	1 151	1 057	1 172	1 069	1 092	1 070	1 070	1 078	1 049	1 049	1 058
Croatia	989	1 064	912	915	900	884	857	886	916	911	900	909
Cyprus [1]	-	-	-	-	-	-	-	-	-	-	-	-
FYR of Macedonia	984	1 030	992	1 027	1 010	1 055	1 084	1 091	1 094	1 106	1 132	1 111
Georgia	-	-	-	-	-	-	-	-	-	-	-	-
Gibraltar	-	-	-	-	-	-	-	-	-	-	-	-
Kazakhstan	645	708	844	661	466	444	469	501	535	554	421	503
Kosovo	..	..	1 368	1 174	1 346	1 357	1 150	1 062	1 004	1 048	1 078	1 043
Kyrgyzstan	588	692	831	..	1 074	..	..	..	..	617	663	640
Lithuania	-	-	-	-	-	-	-	-	-	731	-	731
Malta	1 191	1 410	-	-	-	-	-	-	-	-	-	-
Republic of Moldova	895	832	1 202	-	-	-	-	-	-	-	-	-
Montenegro	..	..	..	1 124	1 186	1 361	1 220	1 156	1 066	1 047	1 028	1 047
Romania	1 058	1 297	1 081	1 088	1 111	1 084	1 127	1 077	1 029	997	1 026	1 018
Russian Federation	1 145	784	803	1 078	920	967	1 006	953	1 004	866	974	948
Serbia	1 238	1 605	1 416	1 185	1 046	1 061	1 038	1 049	1 027	1 042	1 042	1 037
Tajikistan	-	-	-	-	-	-	-	-	544	510	499	518
Turkmenistan	-	-	-	-	-	-	-	-	-	-	-	-
Ukraine	1 206	1 282	1 091	1 242	1 032	1 059	1 096	1 081	1 065	1 076	1 101	1 081
Uzbekistan	1 854	1 614	1 598	1 599	1 597	1 598	1 598	1 598	1 598	1 597	1 597	1 597
Non-OECD Europe and Eurasia [1]	**1 090**	**982**	**945**	**1 062**	**919**	**932**	**959**	**938**	**945**	**891**	**911**	**915**
Algeria	-	-	-	-	-	-	-	-	-	-	-	-
Angola	-	-	-	-	-	-	-	-	-	-	-	-
Benin	-	-	-	-	-	-	-	-	-	-	-	-
Botswana	1 760	1 694	1 466	1 598	1 513	1 066	2 350	7 831	2 820	1 647	1 294	1 920
Cameroon	-	-	-	-	-	-	-	-	-	-	-	-
Congo	-	-	-	-	-	-	-	-	-	-	-	-
Côte d'Ivoire	-	-	-	-	-	-	-	-	-	-	-	-
Dem. Rep. of the Congo	-	-	-	-	-	-	-	-	-	-	-	-
Egypt	-	-	-	-	-	-	-	-	-	-	-	-
Eritrea	..	-	-	-	-	-	-	-	-	-	-	-
Ethiopia	-	-	-	-	-	-	-	-	-	-	-	-
Gabon	-	-	-	-	-	-	-	-	-	-	-	-
Ghana	-	-	-	-	-	-	-	-	-	-	-	-
Kenya	-	-	-	-	-	-	-	-	-	-	-	-
Libya	-	-	-	-	-	-	-	-	-	-	-	-
Mauritius	1 831	1 382	1 540	1 364	1 380	1 509	1 359	1 377	1 373	1 377	1 412	1 388
Morocco	1 268	1 041	957	970	981	1 010	1 019	1 007	972	1 006	1 025	1 001
Mozambique	901	-	-	-	-	-	-	-	-	-	-	-
Namibia	..	1 374	..	..	1 349	..	..	..	1 361	-	1 227	1 294
Niger	..	..	1 276	1 326	1 108	1 365	1 171	1 152	1 148	1 292	1 204	1 215
Nigeria	1 690	-	-	-	-	-	-	-	-	-	-	-
Senegal	-	-	-	-	-	-	-	-	-	-	-	-
South Africa	918	963	979	918	982	1 002	945	977	1 003	1 075	1 068	1 049
South Sudan	..	..	..	..	..	..	..	-	-	-	-	-
Sudan	-	-	-	-	-	-	-	-	-	-	-	-
United Rep. of Tanzania	-	1 139	1 129	1 131	-	-	-	-	-	-	-	-
Togo	-	-	-	-	-	-	-	-	-	-	-	-
Tunisia	-	-	-	-	-	-	-	-	-	-	-	-
Zambia	1 738	1 753	1 669	1 607	-	-	-	-	-	-	-	-
Zimbabwe	1 365	1 313	1 386	1 341	1 521	1 742	1 524	1 513	1 513	1 513	1 547	1 524
Other Africa	973	973	973	973	973	973	973	973	973	973	973	973
Africa	**942**	**981**	**989**	**933**	**989**	**1 013**	**961**	**995**	**1 018**	**1 084**	**1 077**	**1 060**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions per kWh from electricity generation using coal

grammes CO_2 / kilowatt hour

	1990	1995	2000	2005	2009	2010	2011	2012	2013	2014	2015	average 13-15
Bangladesh	-	-	-	1 421	890	1 280	1 022	998	1 008	1 019	1 084	1 037
Brunei Darussalam	-	-	-	-	-	-	-	-	-	-	-	-
Cambodia	..	-	-	-	1 092	1 048	1 068	1 084	1 085	1 085	1 085	1 085
DPR of Korea	1 320	1 278	1 241	1 232	925	889	863	929	828	865	846	847
India	1 001	1 044	1 049	1 057	1 107	1 070	1 045	1 056	1 012	1 026	969	1 002
Indonesia	957	961	994	1 043	1 091	1 106	1 087	946	864	996	969	943
Malaysia	1 099	1 099	770	1 098	1 091	1 197	973	1 004	1 004	968	975	982
Mongolia	725	1 342	1 147	1 193	1 101	1 166	1 179	1 210	1 389	1 371	1 300	1 353
Myanmar	1 220	-	-	1 057	1 053	1 055	978	959	961	964	968	964
Nepal	-	-	-	-	-	-	-	-	-	-	-	-
Pakistan	1 873	1 614	1 521	2 483	2 502	2 507	2 510	2 382	2 365	2 402	2 397	2 388
Philippines	1 041	1 465	979	1 161	1 161	939	974	956	1 045	1 073	1 082	1 066
Singapore	-	-	-	-	-	-	-	1 627	1 722	1 675	1 680	1 692
Sri Lanka	-	-	-	-	-	-	1 055	1 234	1 280	1 181	1 173	1 211
Chinese Taipei	1 004	871	961	944	947	946	904	897	888	901	906	898
Thailand	977	1 004	986	994	942	951	1 033	1 032	1 054	1 040	1 032	1 042
Viet Nam	1 826	1 444	1 509	1 008	1 007	1 008	1 008	1 008	894	1 075	1 196	1 055
Other non-OECD Asia	-	-	1 000	1 003	1 000	1 000	1 003	1 003	1 002	1 002	1 002	1 002
Asia (excl. China)	**1 017**	**1 029**	**1 030**	**1 041**	**1 076**	**1 053**	**1 025**	**1 023**	**987**	**1 014**	**977**	**993**
People's Rep. of China	1 191	1 181	1 104	1 084	973	962	951	940	926	919	912	919
Hong Kong, China	849	873	887	899	906	903	911	905	894	903	897	898
China	**1 170**	**1 171**	**1 100**	**1 082**	**972**	**962**	**951**	**939**	**925**	**919**	**911**	**919**
Argentina	3 868	2 101	1 268	1 428	1 281	1 188	1 161	1 193	1 206	1 291	1 273	1 256
Bolivia	-	-	-	-	-	-	-	-	-	-	-	-
Brazil	1 780	1 634	1 555	1 527	1 486	1 586	1 202	1 446	1 317	1 255	1 257	1 276
Colombia	1 205	1 187	1 135	1 185	1 116	1 129	1 068	982	961	956	955	958
Costa Rica	-	-	-	-	-	-	-	-	-	-	-	-
Cuba	-	-	-	-	-	-	-	-	-	-	-	-
Curaçao [1]	-	-	-	-	-	-	-	-	-	-	-	-
Dominican Republic	965	971	-	973	973	973	973	973	973	973	973	973
Ecuador	-	-	-	-	-	-	-	-	-	-	-	-
El Salvador	-	-	-	-	-	-	-	-	-	-	-	-
Guatemala	-	-	974	937	979	1 024	1 009	980	891	947	1 579	1 139
Haiti	-	-	-	-	-	-	-	-	-	-	-	-
Honduras	-	-	-	-	-	-	942	945	945	952	945	947
Jamaica	-	-	-	-	-	-	-	-	-	-	-	-
Nicaragua	-	-	-	-	-	-	-	-	-	-	-	-
Panama	-	-	-	-	-	-	1 226	1 129	1 169	1 197	1 162	1 176
Paraguay	-	-	-	-	-	-	-	-	-	-	-	-
Peru	-	-	1 135	1 135	1 305	1 336	1 342	736	1 072	2 442	1 616	1 710
Suriname	..	..	-	-	-	-	-	-	-	-	-	-
Trinidad and Tobago	-	-	-	-	-	-	-	-	-	-	-	-
Uruguay	-	-	-	-	-	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other non-OECD Americas	..	..	..	..	..	..	..	..	..	..	..	..
Non-OECD Americas	**1 694**	**1 537**	**1 436**	**1 379**	**1 307**	**1 359**	**1 155**	**1 248**	**1 197**	**1 185**	**1 206**	**1 196**
Bahrain	-	-	-	-	-	-	-	-	-	-	-	-
Islamic Republic of Iran	571	574	2 877	3 017	3 670	3 733	3 742	3 741	3 717	3 653	3 687	3 686
Iraq	-	-	-	-	-	-	-	-	-	-	-	-
Jordan	-	-	-	-	-	-	-	-	-	-	-	-
Kuwait	-	-	-	-	-	-	-	-	-	-	-	-
Lebanon	-	-	-	-	-	-	-	-	-	-	-	-
Oman	-	-	-	-	-	-	-	-	-	-	-	-
Qatar	-	-	-	-	-	-	-	-	-	-	-	-
Saudi Arabia	-	-	-	-	-	-	-	-	-	-	-	-
Syrian Arab Republic	-	-	-	-	-	-	-	-	-	-	-	-
United Arab Emirates	-	-	-	-	-	-	-	-	-	-	-	-
Yemen	-	-	-	-	-	-	-	-	-	-	-	-
Middle East	**571**	**574**	**2 877**	**3 017**	**3 670**	**3 733**	**3 742**	**3 741**	**3 717**	**3 653**	**3 687**	**3 686**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions per kWh from electricity generation using oil [1]

grammes CO_2 / kilowatt hour

	1990	1995	2000	2005	2009	2010	2011	2012	2013	2014	2015	average 13-15
World	**751**	**751**	**745**	**756**	**786**	**784**	**773**	**771**	**790**	**789**	**799**	**793**
Annex I Parties	*697*	*651*	*706*	*698*	*679*	*679*	*672*	*658*	*659*	*682*	*684*	*675*
Annex II Parties	*674*	*644*	*692*	*691*	*669*	*670*	*654*	*639*	*648*	*670*	*668*	*662*
North America	*682*	*572*	*805*	*761*	*709*	*719*	*708*	*687*	*730*	*737*	*714*	*727*
Europe	*691*	*671*	*659*	*695*	*705*	*711*	*715*	*700*	*673*	*695*	*716*	*694*
Asia Oceania	*657*	*649*	*637*	*626*	*617*	*618*	*619*	*612*	*618*	*635*	*626*	*627*
Annex I EIT	*757*	*663*	*790*	*721*	*698*	*724*	*775*	*779*	*806*	*753*	*845*	*801*
Non-Annex I Parties	*844*	*863*	*776*	*803*	*831*	*822*	*815*	*819*	*837*	*822*	*833*	*831*
Annex B Kyoto Parties	*783*	*722*	*691*	*698*	*701*	*702*	*715*	*702*	*678*	*689*	*699*	*688*
Non-OECD Total	**823**	**847**	**788**	**816**	**843**	**833**	**821**	**828**	**844**	**828**	**836**	**836**
OECD Total	**689**	**670**	**703**	**695**	**675**	**681**	**675**	**665**	**675**	**684**	**693**	**684**
Canada	722	629	619	740	753	786	812	763	808	768	775	784
Chile	858	1 566	934	1 069	653	674	756	985	742	674	798	738
Mexico	789	778	803	772	778	786	791	725	827	873	800	833
United States	677	564	828	764	700	708	691	671	714	730	701	715
OECD Americas	**715**	**661**	**805**	**769**	**731**	**743**	**751**	**726**	**778**	**786**	**751**	**771**
Australia	841	907	922	909	792	711	714	703	726	690	625	680
Israel [2]	780	785	583	857	805	849	1 140	878	737	700	868	768
Japan	655	646	635	622	610	612	615	610	613	633	626	624
Korea	773	721	595	606	574	637	607	684	705	557	909	723
New Zealand	..	866	-	788	701	-	-	1 051	1 051	1 051	-	1 051
OECD Asia Oceania	**668**	**664**	**628**	**631**	**614**	**625**	**630**	**634**	**629**	**626**	**656**	**637**
Austria	762	590	509	536	600	535	603	573	632	545	482	553
Belgium	460	443	714	759	676	537	540	609	456	391	308	385
Czech Republic	855	578	1 054	731	1 203	470	472	505	597	547	731	625
Denmark	611	655	686	486	501	660	614	579	712	600	548	620
Estonia	473	..	589	841	771	826	596	849	531	828	398	585
Finland	459	421	498	572	484	438	497	578	621	575	566	587
France	609	511	556	873	975	885	938	662	867	758	668	764
Germany	1 012	824	951	640	637	574	575	605	603	657	625	628
Greece	748	742	735	717	760	762	750	729	750	751	796	766
Hungary	1 054	887	774	777	669	870	1 049	882	756	714	709	726
Iceland	526	701	631	631	..	..	..	1 051	631	1 051	788	823
Ireland	762	737	702	747	734	708	724	716	700	715	659	691
Italy	678	668	706	713	714	820	776	757	657	711	834	734
Latvia	508	495	714	309	560	775	304	606	..	-	3 155	3 155
Luxembourg	1 032	1 238	-	-	768	-	..	..	-	-	-	-
Netherlands	378	391	487	404	466	512	609	655	567	536	402	502
Norway	..	-	391	343	417	341	385	398	274	465	419	386
Poland	828	644	608	504	477	463	483	490	503	476	504	495
Portugal	714	742	640	653	612	565	530	531	554	603	614	590
Slovak Republic	382	523	475	407	617	679	715	774	788	691	716	732
Slovenia	485	1 390	696	641	693	1 058	769	1 052	901	587	742	744
Spain	812	799	637	702	670	677	716	712	685	706	690	694
Sweden	327	341	367	397	683	395	368	402	397	352	373	374
Switzerland	717	690	389	409	403	398	392	425	452	503	503	486
Turkey	908	961	880	688	804	787	774	649	675	724	561	654
United Kingdom	666	665	463	677	800	701	719	842	787	773	787	782
OECD Europe [2]	**694**	**684**	**674**	**691**	**703**	**704**	**708**	**694**	**668**	**690**	**701**	**686**
IEA/Accession/Association	*712*	*706*	*735*	*719*	*713*	*715*	*704*	*696*	*711*	*723*	*734*	723
European Union - 28	*755*	*710*	*686*	*699*	*702*	*705*	*717*	*707*	*674*	*692*	*707*	691
G20	*718*	*697*	*749*	*733*	*741*	*746*	*741*	*730*	*751*	*762*	*784*	765
Africa	*863*	*934*	*677*	*907*	*848*	*844*	*848*	*829*	*815*	*832*	*840*	829
Americas	*709*	*665*	*753*	*725*	*681*	*704*	*702*	*692*	*707*	*710*	*699*	706
Asia	*776*	*810*	*764*	*773*	*843*	*821*	*795*	*795*	*826*	*819*	*838*	828
Europe	*733*	*673*	*693*	*710*	*709*	*721*	*743*	*735*	*706*	*719*	*753*	726
Oceania	*845*	*757*	*866*	*993*	*929*	*845*	*864*	*917*	*851*	*890*	*834*	858

1. CO_2 emissions from oil consumed for electricity generation, in both electricity-only and combined heat and power (CHP) plants, divided by the output of electricity generated from oil. Both main activity producers and autoproducers have been included in the calculation. This indicator is set as not available when the electricity output is very small or when values do not fall within expected ranges due to data quality. 2. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions per kWh from electricity generation using oil

grammes CO_2 / kilowatt hour

	1990	1995	2000	2005	2009	2010	2011	2012	2013	2014	2015	average 13-15
Non-OECD Total	**823**	**847**	**788**	**816**	**843**	**833**	**821**	**828**	**844**	**828**	**836**	**836**
Albania	1 100	910	1 352	2 034	..	..	..	-	-	-	-	-
Armenia	584	309	-	-	-	-	-	-	-	-	-	-
Azerbaijan	1 006	845	848	848	822	680	779	634	701	722	759	727
Belarus	694	703	659	587	592	614	543	569	560	559	577	565
Bosnia and Herzegovina	957	1 997	1 096	1 053	844	774	733	774	884	844	884	871
Bulgaria	2 474	1 623	719	715	691	801	937	749	844	798	682	774
Croatia	708	647	711	684	653	549	611	642	609	577	550	579
Cyprus [1]	847	831	846	797	758	722	767	776	699	709	712	707
FYR of Macedonia	2 946	1 222	876	888	768	812	831	821	842	852	868	854
Georgia	..	..	..	..	..	..	..	-	-	-	-	-
Gibraltar	744	745	767	747	765	752	760	756	753	750	762	755
Kazakhstan	1 230	1 044	928	925	928	928	929	296	367	368	612	449
Kosovo	..	..	1 150	1 041	829	850	1 321	1 410	1 040	1 040	1 040	1 040
Kyrgyzstan	-	-	-	926	944	927	925	946	..	..	636	636
Lithuania	516	600	546	779	526	527	564	916	551	471	502	508
Malta	2 141	942	827	1 044	859	880	878	889	739	737	706	727
Republic of Moldova	936	2 850	4 257	771	671	..	..	..	..	266	449	358
Montenegro	..	..	..	-	-	-	-	-	-	-	-	-
Romania	1 699	1 662	1 616	597	626	588	829	681	710	765	719	731
Russian Federation	638	515	743	776	765	855	809	811	893	804	964	887
Serbia	911	923	923	787	1 007	756	656	472	375	580	378	444
Tajikistan	-	-	-	-	-	-	-	-	-	-	-	-
Turkmenistan	-	-	-	-	-	-	-	-	-	-	-	-
Ukraine	865	813	636	786	931	693	952	808	914	1 245	845	1 001
Uzbekistan	3 042	967	926	927	924	933	925	924	924	924	926	925
Non-OECD Europe and Eurasia [1]	**822**	**723**	**835**	**809**	**755**	**799**	**807**	**793**	**794**	**753**	**834**	**794**
Algeria	1 060	1 190	871	957	946	1 008	952	1 063	1 262	1 835	1 487	1 528
Angola	..	..	1 366	1 353	1 356	1 356	1 356	758	674	775	825	758
Benin	1 212	960	622	723	732	731	730	668	697	725	715	712
Botswana	1 102	1 064	1 062	1 037	-	-	1 095	1 058	1 069	1 069	1 079	1 072
Cameroon	860	902	928	705	718	867	723	776	753	744	745	747
Congo	1 069	1 603	-	-	1 103	1 061	1 069	-	-	-	-	-
Côte d'Ivoire	623	699	979	1 347	794	954	948	938	916	950	841	902
Dem. Rep. of the Congo	1 022	1 231	1 069	916	1 069	1 069	802	..	..	802	802	802
Egypt	974	826	..	829	843	843	843	843	843	842	839	842
Eritrea	..	1 721	1 353	988	847	865	863	863	863	863	864	863
Ethiopia	1 175	648	837	802	1 990	1 777	1 305	1 894	1 203	2 169	802	1 391
Gabon	904	811	785	799	878	808	777	626	892	894	946	911
Ghana	-	844	779	868	820	1 056	880	880	880	880	660	807
Kenya	719	625	908	910	909	908	908	907	909	910	909	909
Libya	787	1 303	1 136	1 005	853	832	902	915	813	799	799	804
Mauritius	714	702	673	675	650	641	642	635	628	642	636	636
Morocco	781	941	748	925	750	741	786	731	689	601	847	712
Mozambique	510	916	1 069	916	-	-	-	-	-	-	527	527
Namibia	..	841	-	-	1 122	1 122	1 122	1 122	1 122	1 035	1 122	1 093
Niger	..	..	767	556	486	583	917	926	521	768	845	712
Nigeria	780	555	-	-	-	-	-	-	-	-	-	-
Senegal	951	990	1 017	928	826	793	731	717	710	711	712	711
South Africa	-	828	-	-	778	758	758	754	762	757	764	761
South Sudan	..	..	..	..	..	..	..	854	860	858	860	859
Sudan	893	982	951	927	829	838	835	683	892	864	854	870
United Rep. of Tanzania	3 166	1 500	932	1 108	979	1 021	1 016	1 044	987	1 013	996	999
Togo	1 069	1 069	1 323	595	927	819	942	1 130	1 130	960	960	1 017
Tunisia	839	931	916	789	734	..	..	..	937	845	831	871
Zambia	1 102	927	931	856	1 848	1 950	2 323	1 760	1 667	648	713	1 009
Zimbabwe	-	-	1 555	2 004	2 138	2 138	2 138	2 138	2 138	2 138	2 138	2 138
Other Africa	680	550	767	805	753	759	756	760	754	961	961	892
Africa	**863**	**934**	**677**	**907**	**848**	**844**	**848**	**829**	**815**	**832**	**840**	**829**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions per kWh from electricity generation using oil

grammes CO_2 / kilowatt hour

	1990	1995	2000	2005	2009	2010	2011	2012	2013	2014	2015	average 13-15
Bangladesh	1 112	1 014	1 088	952	633	788	568	571	589	594	444	542
Brunei Darussalam	875	855	697	774	780	760	867	867	802	820	840	821
Cambodia	..	813	845	853	859	848	849	848	848	849	850	849
DPR of Korea	1 318	1 393	1 393	1 393	1 393	1 391	1 394	1 392	1 392	1 393	1 392	1 393
India	1 191	1 226	961	862	989	943	952	1 101	1 075	1 056	1 062	1 064
Indonesia	825	896	792	743	760	778	763	769	767	780	760	769
Malaysia	916	840	855	826	784	631	740	728	613	825	777	738
Mongolia	828	773	891	1 022	1 037	1 042	1 033	1 049	1 053	1 051	1 050	1 051
Myanmar	749	903	876	849	855	778	844	818	789	789	816	798
Nepal	-	835	763	858	789	1 140	-	720	684	..	-	684
Pakistan	899	863	761	705	769	774	714	708	713	721	721	719
Philippines	568	662	692	759	702	669	751	734	769	774	771	771
Singapore	919	1 163	843	769	844	750	769	809	984	1 952	1 667	1 534
Sri Lanka	1 244	703	831	766	672	666	690	675	644	689	664	665
Chinese Taipei	697	702	693	806	911	880	841	908	816	793	707	772
Thailand	794	748	756	736	769	722	689	695	706	756	739	734
Viet Nam	933	909	924	1 037	1 172	1 092	1 086	1 091	1 092	1 084	1 100	1 092
Other non-OECD Asia	779	589	704	904	945	962	1 014	1 086	1 023	1 173	1 174	1 124
Asia (excl. China)	**841**	**851**	**807**	**789**	**827**	**817**	**794**	**820**	**810**	**823**	**799**	**811**
People's Rep. of China	787	785	781	784	752	792	799	810	803	805	832	814
Hong Kong, China	626	833	796	806	1 040	1 117	1 038	767	912	839	921	890
China	**785**	**786**	**781**	**784**	**755**	**794**	**801**	**807**	**805**	**806**	**834**	**815**
Argentina	1 102	643	1 015	811	750	740	734	738	738	740	738	739
Bolivia	951	957	962	952	956	955	948	952	953	953	952	953
Brazil	835	828	809	765	678	718	683	727	668	673	685	675
Colombia	899	900	873	885	902	903	925	931	912	911	904	909
Costa Rica	815	906	975	861	828	841	734	673	689	712	663	688
Cuba	862	924	773	913	859	1 013	905	891	855	855	855	855
Curaçao [1]	724	721	721	716	712	713	712	713	713	713	716	714
Dominican Republic	976	1 027	786	761	686	692	695	652	609	676	700	662
Ecuador	882	802	768	881	727	838	839	753	770	796	827	798
El Salvador	994	937	781	733	632	636	633	596	656	656	629	647
Guatemala	897	890	788	693	640	657	625	647	876	1 007	484	789
Haiti	2 000	676	723	593	507	676	337	782	726	857	990	858
Honduras	561	853	745	616	625	638	706	..	..	792	663	728
Jamaica	827	946	875	600	700	714	734	783	736	682	718	712
Nicaragua	901	877	759	743	739	738	721	718	708	711	717	712
Panama	1 168	1 037	789	777	810	861	781	813	685	716	838	746
Paraguay	907	934	-	-	-	-	-	-	-	529	3 175	1 852
Peru	810	973	890	1 142	918	955	986	1 367	1 502	1 647	1 335	1 495
Suriname	..	..	2 015	945	1 019	1 019	998	1 011	1 012	995	991	999
Trinidad and Tobago	..	..	..	..	..	668	668	668	668	668	913	750
Uruguay	853	834	869	832	819	652	714	722	649	464	449	521
Venezuela	904	1 212	860	906	898	909	922	952	951	966	971	963
Other non-OECD Americas	..	..	..	..	..	..	..	..	..	..	..	..
Non-OECD Americas	**689**	**672**	**636**	**636**	**637**	**674**	**668**	**670**	**663**	**671**	**674**	**669**
Bahrain	-	-	-	-	-	-	-	-	1 333	1 333	1 382	1 349
Islamic Republic of Iran	916	919	921	917	915	913	911	918	917	910	910	913
Iraq	674	2 046	713	1 448	2 269	1 519	1 265	1 677	1 486	1 411	1 376	1 425
Jordan	863	869	724	738	932	762	694	677	693	667	688	683
Kuwait	1 209	672	926	927	1 018	864	837	635	830	608	652	697
Lebanon	2 780	792	781	651	762	774	751	873	798	721	721	747
Oman	1 066	1 067	1 066	1 065	867	915	825	774	763	758	751	757
Qatar	-	-	-	-	-	-	-	-	-	-	-	-
Saudi Arabia	843	840	884	849	840	831	851	829	880	859	902	880
Syrian Arab Republic	797	785	737	810	769	758	804	805	822	852	858	844
United Arab Emirates	983	977	963	1 207	1 203	1 207	1 208	1 207	1 207	1 207	1 207	1 207
Yemen	754	955	934	849	829	841	902	897	798	797	795	797
Middle East	**886**	**1 045**	**851**	**902**	**960**	**912**	**893**	**900**	**945**	**900**	**926**	**923**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions per kWh from electricity generation using natural gas [1]

grammes CO_2 / kilowatt hour

	1990	1995	2000	2005	2009	2010	2011	2012	2013	2014	2015	average 13-15
World	**483**	**509**	**488**	**471**	**457**	**456**	**456**	**457**	**453**	**448**	**445**	**449**
Annex I Parties	*449*	*478*	*455*	*435*	*418*	*419*	*424*	*423*	*426*	*412*	*410*	*416*
Annex II Parties	*509*	*497*	*449*	*421*	*403*	*404*	*404*	*405*	*403*	*400*	*399*	*401*
North America	*549*	*538*	*485*	*451*	*407*	*411*	*410*	*408*	*405*	*405*	*404*	*404*
Europe	*446*	*426*	*392*	*366*	*368*	*369*	*361*	*354*	*349*	*351*	*348*	*349*
Asia Oceania	*476*	*471*	*457*	*458*	*460*	*456*	*454*	*458*	*458*	*435*	*439*	*444*
Annex I EIT	*379*	*437*	*483*	*488*	*486*	*481*	*506*	*503*	*519*	*466*	*457*	*481*
Non-Annex I Parties	*603*	*590*	*561*	*534*	*516*	*510*	*503*	*507*	*489*	*493*	*489*	*490*
Annex B Kyoto Parties	*461*	*444*	*413*	*382*	*381*	*380*	*374*	*375*	*370*	*374*	*372*	*372*
Non-OECD Total	**462**	**524**	**539**	**531**	**520**	**515**	**518**	**516**	**512**	**502**	**496**	**503**
OECD Total	**509**	**496**	**448**	**421**	**404**	**405**	**403**	**407**	**400**	**397**	**397**	**398**
Canada	405	407	457	437	454	496	469	461	454	483	490	476
Chile	781	577	371	468	452	385	412	440	438	392	401	410
Mexico	557	516	571	472	471	468	446	465	433	436	436	435
United States	552	543	486	451	405	407	406	405	402	400	400	401
OECD Americas	**549**	**537**	**489**	**453**	**416**	**418**	**415**	**414**	**408**	**408**	**408**	**408**
Australia	568	561	587	533	539	514	483	535	512	493	532	512
Israel [2]	-	518	544	562	435	445	439	366	427	420	399	415
Japan	467	463	449	452	451	449	451	450	452	428	427	436
Korea	498	438	381	370	366	372	370	422	336	328	330	331
New Zealand	510	513	466	430	403	417	420	405	412	418	415	415
OECD Asia Oceania	**477**	**468**	**450**	**444**	**444**	**438**	**436**	**449**	**428**	**413**	**415**	**419**
Austria	444	501	403	346	321	306	304	298	276	281	303	287
Belgium	515	438	387	374	340	333	300	324	319	317	312	316
Czech Republic	252	416	467	462	452	318	334	284	299	296	319	305
Denmark	293	273	287	283	281	262	259	273	268	282	299	283
Estonia	254	254	254	246	238	274	268	241	269	233	237	246
Finland	271	333	243	241	237	237	240	243	236	232	226	231
France	339	337	290	266	466	522	475	343	351	308	325	328
Germany	466	448	417	353	360	348	343	333	334	334	329	332
Greece	461	437	508	461	387	492	403	390	426	444	340	403
Hungary	564	546	460	398	362	367	368	372	337	313	320	324
Iceland	-	-	-	-	-	-	-	-	-	-	-	-
Ireland	501	483	463	414	397	391	379	376	374	366	360	367
Italy	477	468	433	394	376	376	374	373	362	365	355	361
Latvia	307	374	315	282	255	259	260	258	298	278	289	288
Luxembourg	665	636	583	350	356	356	353	359	349	356	352	352
Netherlands	402	390	350	361	342	337	321	297	293	300	296	296
Norway	-	303	304	304	304	376	337	353	309	347	334	330
Poland	529	447	509	349	344	327	339	338	342	345	327	338
Portugal	-	-	373	359	363	361	357	353	340	344	352	345
Slovak Republic	817	841	492	317	341	387	348	338	326	307	310	315
Slovenia	..	347	274	292	397	380	376	374	362	264	267	298
Spain	426	471	312	321	355	362	362	359	350	349	370	356
Sweden	218	219	250	219	210	210	209	215	219	219	212	217
Switzerland	312	252	247	257	275	271	284	281	281	257	282	274
Turkey	490	421	358	376	373	378	373	375	367	357	366	363
United Kingdom	523	429	398	395	392	391	384	394	389	392	387	390
OECD Europe [2]	**453**	**432**	**391**	**368**	**368**	**369**	**362**	**357**	**351**	**351**	**350**	**351**
IEA/Accession/Association	*514*	*497*	*449*	*424*	*413*	*415*	*412*	*415*	*407*	*404*	*403*	405
European Union - 28	*481*	*442*	*398*	*368*	*368*	*368*	*361*	*354*	*347*	*349*	*346*	348
G20	*468*	*494*	*465*	*445*	*434*	*435*	*437*	*439*	*436*	*425*	*423*	428
Africa	*557*	*542*	*563*	*528*	*507*	*469*	*470*	*470*	*457*	*462*	*470*	463
Americas	*559*	*543*	*496*	*459*	*427*	*428*	*429*	*426*	*420*	*423*	*418*	420
Asia	*553*	*552*	*522*	*518*	*501*	*502*	*491*	*495*	*483*	*479*	*480*	481
Europe	*393*	*434*	*439*	*423*	*420*	*421*	*431*	*433*	*445*	*419*	*410*	425
Oceania	*551*	*548*	*541*	*504*	*514*	*497*	*474*	*515*	*497*	*484*	*518*	500

1. CO_2 emissions from natural gas consumed for electricity generation, in both electricity-only and combined heat and power (CHP) plants, divided by the output of electricity generated from natural gas. Both main activity producers and autoproducers have been included in the calculation. This indicator is set as not available when the electricity output is very small or when values do not fall within expected ranges due to data quality. 2. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions per kWh from electricity generation using natural gas

grammes CO_2 / kilowatt hour

	1990	1995	2000	2005	2009	2010	2011	2012	2013	2014	2015	average 13-15
Non-OECD Total	**462**	**524**	**539**	**531**	**520**	**515**	**518**	**516**	**512**	**502**	**496**	**503**
Albania	-	-	-	-	-	-	-	-	-	-	-	-
Armenia	603	361	528	457	506	418	386	419	414	469	455	446
Azerbaijan	398	492	685	527	543	531	522	537	515	502	502	506
Belarus	423	426	462	457	441	448	443	425	420	404	387	404
Bosnia and Herzegovina	-	-	-	-	633	636	702	698	704	700	700	701
Bulgaria	648	641	574	271	300	239	290	313	309	303	280	297
Croatia	463	570	493	405	419	369	365	367	357	357	347	354
Cyprus [1]	-	-	-	-	-	-	-	-	-	-	-	-
FYR of Macedonia	-	-	..	..	581	485	492	353	329	330	301	320
Georgia	524	858	891	523	770	731	436	461	479	554	536	523
Gibraltar	-	-	-	-	-	-	-	-	-	-	-	-
Kazakhstan	383	562	..	782	577	577	577	577	571	583	582	579
Kosovo	..	..	-	-	-	-	-	-	-	-	-	-
Kyrgyzstan	385	385	436	..	450	..	..	450	..	..	224	224
Lithuania	352	..	463	378	403	426	388	352	324	331	311	322
Malta	-	-	-	-	-	-	-	-	-	-	-	-
Republic of Moldova	518	569	653	522	528	524	521	524	510	526	525	520
Montenegro	..	..	..	-	-	-	-	-	-	-	-	-
Romania	707	516	509	474	371	333	333	395	315	326	360	334
Russian Federation	358	431	490	505	501	496	526	523	542	481	471	498
Serbia	404	581	583	309	..	..	659	476	301	334	353	329
Tajikistan	..	..	..	..	266	339	332	295	-	-	-	-
Turkmenistan	724	936	876	876	870	958	988	992	945	890	893	909
Ukraine	385	402	424	395	350	372	411	374	352	342	360	352
Uzbekistan	470	568	647	647	645	645	646	646	645	645	644	645
Non-OECD Europe and Eurasia [1]	**393**	**457**	**514**	**515**	**515**	**509**	**533**	**531**	**543**	**497**	**492**	**511**
Algeria	616	624	617	612	641	541	546	535	494	497	523	505
Angola	-	-	-	-	-	-	-	-	-	-	-	-
Benin	-	-	-	-	-	-	-	-	-	-	-	-
Botswana	-	-	-	-	-	-	-	-	-	-	-	-
Cameroon	-	-	-	-	541	541	439	662	316	570	633	506
Congo	-	-	-	577	577	577	587	587	587	587	587	587
Côte d'Ivoire	-	740	601	631	628	639	626	646	563	566	501	543
Dem. Rep. of the Congo	-	-	-	-	577	577	577	-	-	577	581	579
Egypt	493	493	493	493	455	409	416	419	406	412	419	412
Eritrea	..	-	-	-	-	-	-	-	-	-	-	-
Ethiopia	-	-	-	-	-	-	-	-	-	-	-	-
Gabon	1 043	880	933	793	689	735	711	723	656	652	684	664
Ghana	-	-	-	-	527	759	596	566	460	530	560	517
Kenya	-	-	-	-	-	-	-	-	-	-	-	-
Libya	-	594	594	665	531	531	531	515	539	539	539	539
Mauritius	-	-	-	-	-	-	-	-	-	-	-	-
Morocco	-	-	-	399	372	416	389	379	384	387	384	385
Mozambique	-	..	..	728	715	603	767	858	502	467	473	481
Namibia	..	-	-	-	-	-	-	-	-	-	-	-
Niger	..	..	-	-	-	-	-	-	-	-	-	-
Nigeria	587	505	738	505	505	505	505	505	505	505	505	505
Senegal	594	607	438	516	736	583	593	390	515	516	516	516
South Africa	-	-	-	-	-	-	-	-	-	-	-	-
South Sudan	..	..	..	..	..	..	..	-	-	-	-	-
Sudan	-	-	-	-	-	-	-	-	-	-	-	-
United Rep. of Tanzania	-	-	-	571	552	540	551	545	544	550	504	533
Togo	-	-	-	-	-	-	-	-	-	-	-	-
Tunisia	562	536	538	472	487	503	481	477	480	492	470	481
Zambia	-	-	-	-	-	-	-	-	-	-	-	-
Zimbabwe	-	-	-	-	-	-	-	-	-	-	-	-
Other Africa	-	-	-	505	505	505	503	503	505	505	505	505
Africa	**557**	**542**	**563**	**528**	**507**	**469**	**470**	**470**	**457**	**462**	**470**	**463**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 emissions per kWh from electricity generation using natural gas

grammes CO_2 / kilowatt hour

	1990	1995	2000	2005	2009	2010	2011	2012	2013	2014	2015	average 13-15
Bangladesh	605	589	550	541	567	581	573	581	583	584	590	586
Brunei Darussalam	929	885	800	805	793	734	719	725	619	624	564	602
Cambodia	..	-	-	-	-	-	-	-	-	-	-	-
DPR of Korea	-	-	-	-	-	-	-	-	-	-	-	-
India	816	541	388	445	488	550	524	543	515	512	470	499
Indonesia	673	512	521	506	575	505	508	533	525	524	510	520
Malaysia	577	562	558	560	488	598	511	497	576	558	570	568
Mongolia	-	-	-	-	-	-	-	-	-	-	-	-
Myanmar	1 046	847	690	729	729	729	729	729	729	729	729	729
Nepal	-	-	-	-	-	-	-	-	-	-	-	-
Pakistan	666	597	553	539	565	560	543	583	552	539	539	543
Philippines	-	858	..	347	350	331	356	358	342	361	338	347
Singapore	-	449	449	427	398	400	402	401	406	403	400	403
Sri Lanka	-	-	-	-	-	-	-	-	-	-	-	-
Chinese Taipei	507	510	467	431	424	425	428	386	385	383	384	384
Thailand	506	471	485	467	448	446	423	412	421	438	428	429
Viet Nam	..	517	594	437	417	406	406	406	396	377	364	379
Other non-OECD Asia	-	504	504	505	505	505	505	504	505	505	505	505
Asia (excl. China)	**635**	**536**	**496**	**480**	**476**	**495**	**475**	**471**	**473**	**473**	**463**	**470**
People's Rep. of China	525	518	520	490	462	460	455	452	442	430	422	432
Hong Kong, China	-	864	470	456	456	456	456	434	446	445	424	438
China	**525**	**526**	**487**	**474**	**461**	**460**	**455**	**450**	**443**	**431**	**422**	**432**
Argentina	618	599	517	450	498	473	545	530	501	526	494	507
Bolivia	584	699	646	555	644	644	655	623	570	564	564	566
Brazil	516	744	490	475	440	426	463	430	448	461	459	456
Colombia	649	649	537	499	471	473	504	450	453	561	424	479
Costa Rica	-	-	-	-	-	-	-	-	-	-	-	-
Cuba	505	505	505	505	505	505	505	505	505	505	505	505
Curaçao [1]	-	-	-	-	-	-	-	-	-	-	-	-
Dominican Republic	-	-	-	454	454	454	454	454	454	454	454	454
Ecuador	-	-	-	454	454	454	454	494	429	408	390	409
El Salvador	-	-	-	-	-	-	-	-	-	-	-	-
Guatemala	-	-	-	-	-	-	-	-	-	-	-	-
Haiti	-	-	-	-	-	-	-	-	-	-	-	-
Honduras	-	-	-	-	-	-	-	-	-	-	-	-
Jamaica	-	-	-	-	-	-	-	-	-	-	-	-
Nicaragua	-	-	-	-	-	-	-	-	-	-	-	-
Panama	-	-	-	-	-	-	-	-	-	-	-	-
Paraguay	-	-	-	-	-	-	-	-	-	-	-	-
Peru	674	673	673	550	553	601	615	589	467	471	471	470
Suriname	..	..	-	-	-	-	-	-	-	-	-	-
Trinidad and Tobago	718	720	691	712	708	703	706	680	651	619	583	618
Uruguay	-	-	-	471	507	502	503	499	453	471	-	462
Venezuela	682	548	649	661	610	610	610	610	610	610	610	610
Other non-OECD Americas	508	508	505	505	505	507	505	505	505	505	505	505
Non-OECD Americas	**650**	**600**	**555**	**507**	**524**	**505**	**551**	**522**	**496**	**509**	**491**	**499**
Bahrain	845	795	820	773	789	754	754	759	760	754	717	744
Islamic Republic of Iran	508	527	495	523	512	504	482	475	463	509	522	498
Iraq	505	505	505	332	474	622	622	622	622	622	622	622
Jordan	551	684	674	613	558	511	518	502	491	545	496	510
Kuwait	505	505	505	449	531	577	577	577	577	577	577	577
Lebanon	-	-	-	-	505	505	-	-	-	-	-	-
Oman	700	780	745	688	643	632	609	598	563	543	503	536
Qatar	1 082	1 137	775	621	510	495	492	495	497	497	486	493
Saudi Arabia	831	796	727	665	669	640	643	640	590	570	587	582
Syrian Arab Republic	546	546	546	546	546	546	546	546	546	546	546	546
United Arab Emirates	738	734	725	840	625	592	592	633	613	601	561	592
Yemen	-	-	-	-	-	645	675	657	642	642	642	642
Middle East	**696**	**677**	**625**	**627**	**584**	**573**	**569**	**573**	**558**	**560**	**556**	**558**

1. Please refer to the chapter *Geographical Coverage* in Part I.

CO_2 EMISSIONS STATISTICS AND INDICATORS

GLOBAL AND REGIONAL TOTALS

World

Figure 1. CO_2 emissions by fuel

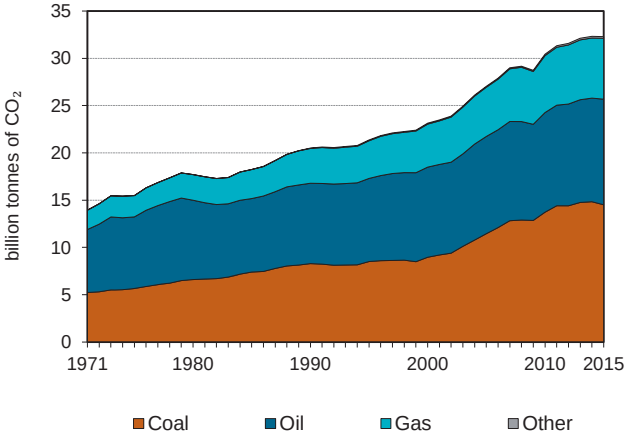


Figure 2. CO_2 emissions by sector

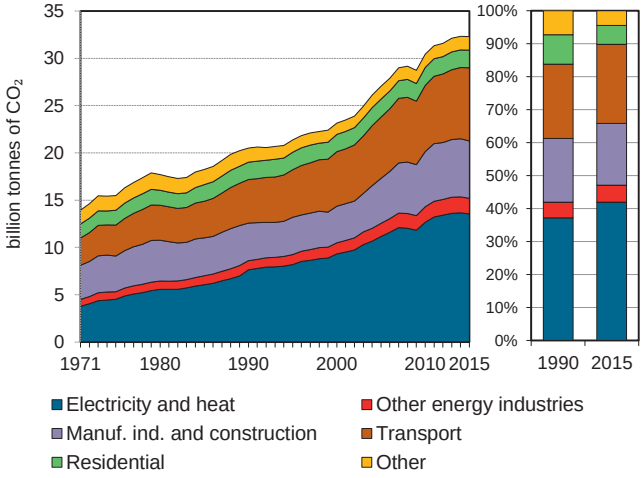


Figure 3. Electricity generation by fuel

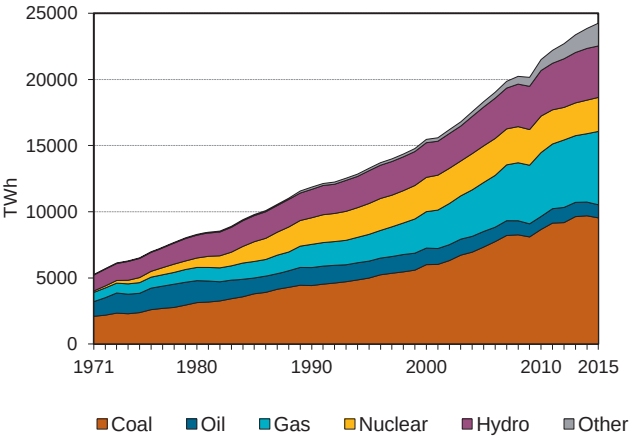


Figure 4. CO_2 from electricity generation: driving factors[1]

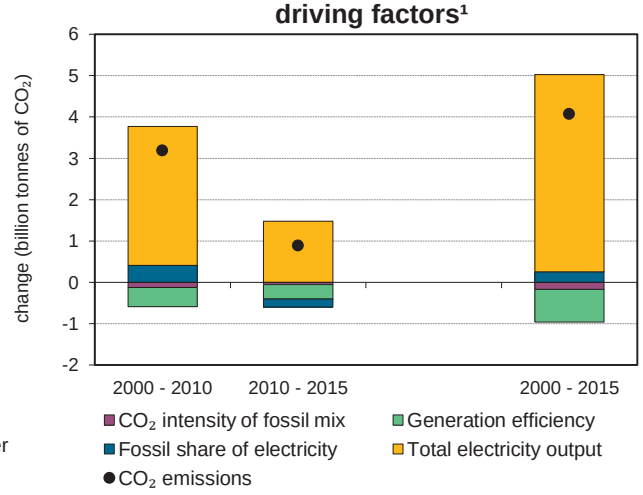


Figure 5. Changes in selected indicators

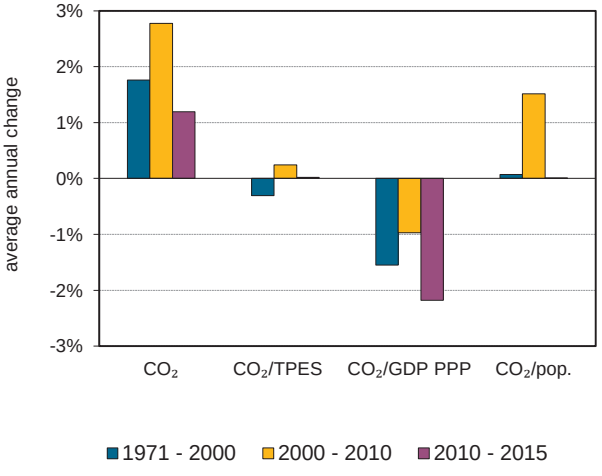
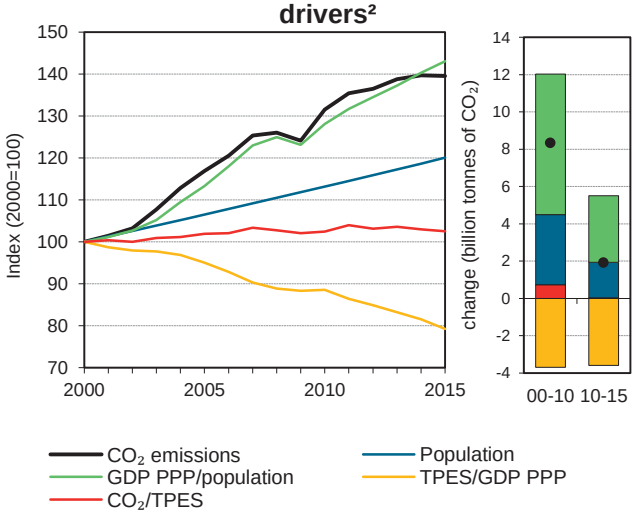


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

World

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	20509	21 365.0	23 144.3	27 045.0	30 434.4	32 324.7	32 294.2	57%
Share of World CO_2 from fuel combustion	100%	100%	100%	100%	100%	100%	100%	
TPES (PJ)	367351	386 343	419 833	481 445	538 969	569 596	571 388	56%
GDP (billion 2010 USD)	37949	42 135.9	49 923.6	58 086.8	66 018.1	73 547.2	75 489.0	99%
GDP PPP (billion 2010 USD)	45734.9	50 972.6	61 152.2	73 790.8	88 652.4	101 773.3	105 035.2	130%
Population (millions)	5279.5	5 703.6	6 108.6	6 505.0	6 913.3	7 247.3	7 333.8	39%
CO_2 / TPES (tCO_2 per TJ)	55.8	55.3	55.1	56.2	56.5	56.8	56.5	1%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.54	0.5	0.5	0.5	0.5	0.4	0.4	-21%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.45	0.4	0.4	0.4	0.3	0.3	0.3	-31%
CO_2 / population (tCO_2 per capita)	3.9	3.7	3.8	4.2	4.4	4.5	4.4	13%
Share of electricity output from fossil fuels	64%	63%	65%	67%	68%	67%	67%	
CO_2 / kWh of electricity (gCO_2/kWh)	532	533	533	546	530	519	506	-5%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	104	113	132	148	158	157	57%
Population index	100	108	116	123	131	137	139	39%
GDP PPP per population index	100	103	116	131	148	162	165	65%
Energy intensity index - TPES / GDP PPP	100	94	85	81	76	70	68	-32%
Carbon intensity index - CO_2 / TPES	100	99	99	101	101	102	101	1%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**14 512.7**	**11 169.1**	**6 437.0**	**175.4**	**32 294.2**	**57%**
Electricity and heat generation	9 728.6	844.4	2 843.7	123.8	13 540.6	77%
Other energy industry own use	373.2	600.7	679.0	1.8	1 654.8	71%
Manufacturing industries and construction	3 792.1	984.5	1 244.4	45.1	6 066.1	53%
Transport	10.0	7 498.5	229.2	..	7 737.8	68%
of which: road	*x*	*5 695.7*	*96.3*	*x*	*5 792.0*	75%
Other	608.8	1 240.8	1 440.6	4.6	3 294.8	-1%
of which: residential	*291.2*	*588.6*	*986.1*	*0.0*	*1 865.9*	2%
of which: services	*142.2*	*254.8*	*426.2*	*4.4*	*827.5*	9%
Memo: international marine bunkers	..	*657.0*	..	..	*657.0*	*77%*
Memo: international aviation bunkers	..	*529.7*	..	..	*529.7*	*105%*

2. Other includes industrial waste and non-renewable municipal waste. 3. World includes international marine bunkers and international aviation bunkers.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	8999.7	94.9	16.2	16.2
Road - oil	5695.7	72.7	10.3	26.5
Manufacturing industries - coal	3792.1	82.5	6.8	33.4
Main activity prod. elec. and heat - gas	2377.9	129.8	4.3	37.7
Other transport - oil	1802.9	60.0	3.3	40.9
Manufacturing industries - gas	1244.4	46.8	2.2	43.2
Residential - gas	986.1	52.8	1.8	45.0
Manufacturing industries - oil	984.5	-5.2	1.8	46.7
Unallocated autoproducers - coal	728.9	93.8	1.3	48.0
Memo: total CO_2 from fuel combustion	*32294.2*	*57.5*	*58.3*	*58.3*

4. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Africa

Figure 1. CO_2 emissions by fuel

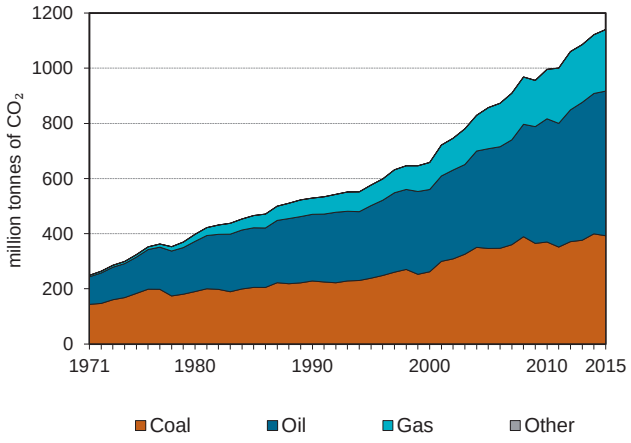


Figure 2. CO_2 emissions by sector

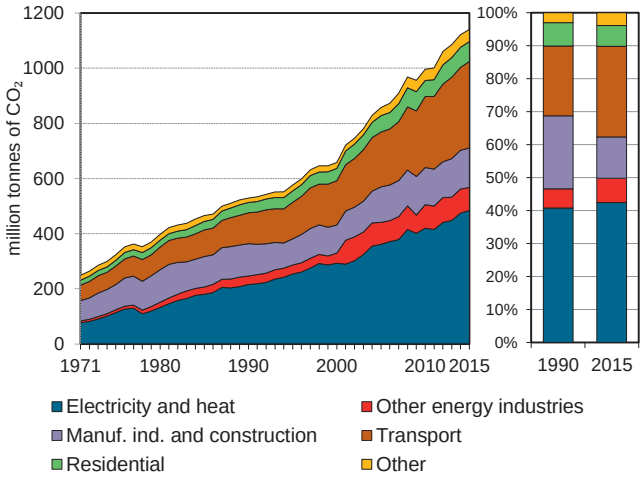


Figure 3. Electricity generation by fuel

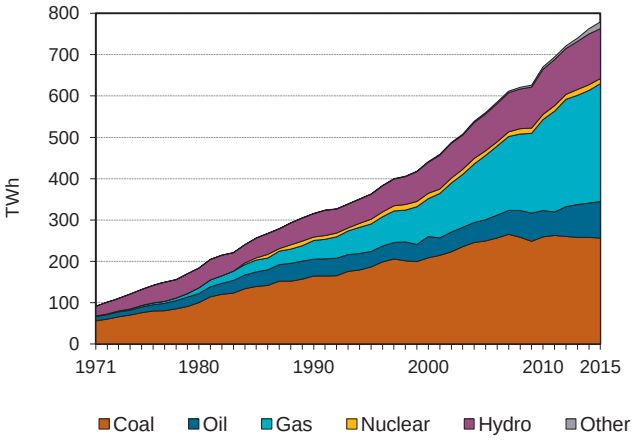


Figure 4. CO_2 from electricity generation: driving factors[1]

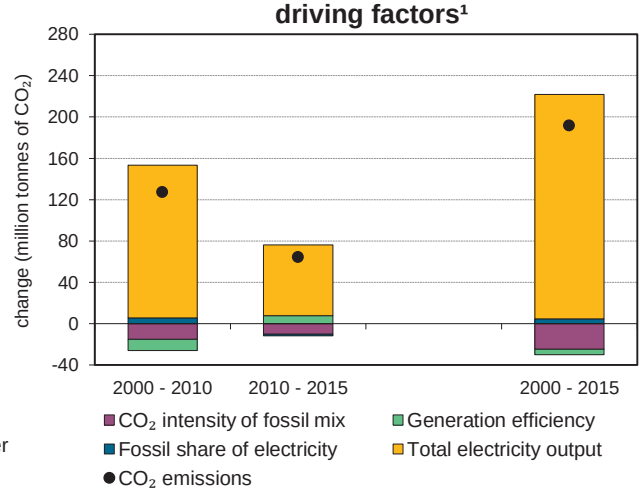


Figure 5. Changes in selected indicators

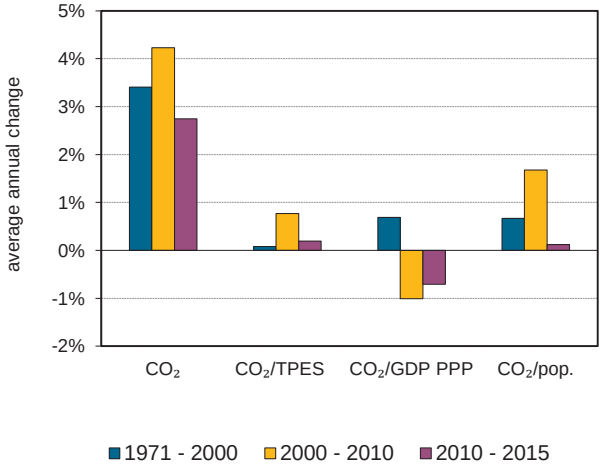
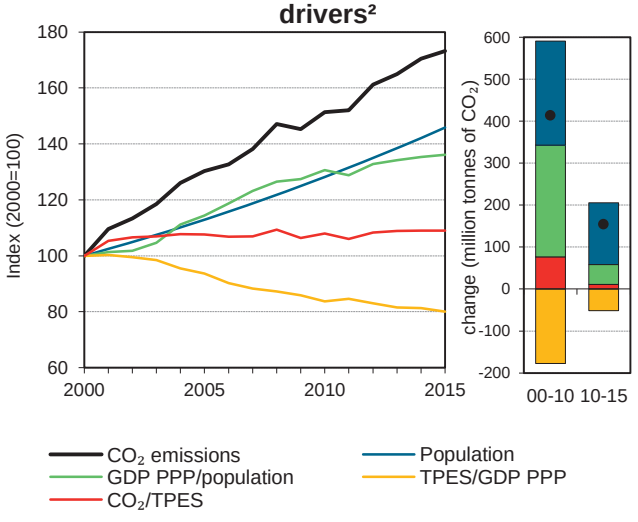


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Africa

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	529	576.2	658.1	857.3	996.1	1 121.8	1 140.4	116%
Share of World CO_2 from fuel combustion	3%	3%	3%	3%	3%	3%	4%	
TPES (PJ)	16451	18 589	20 749	25 120	29 084	32 462	32 976	100%
GDP (billion 2010 USD)	926.4	974.8	1 164.8	1 510.5	1 949.0	2 239.3	2 306.1	149%
GDP PPP (billion 2010 USD)	2106.3	2 240.7	2 697.0	3 485.7	4 516.7	5 187.4	5 357.8	154%
Population (millions)	628.1	720.0	813.6	918.9	1 042.7	1 156.0	1 186.9	89%
CO_2 / TPES (tCO_2 per TJ)	32.2	31.0	31.7	34.1	34.2	34.6	34.6	8%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.57	0.6	0.6	0.6	0.5	0.5	0.5	-13%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.25	0.3	0.2	0.2	0.2	0.2	0.2	-15%
CO_2 / population (tCO_2 per capita)	0.8	0.8	0.8	0.9	1.0	1.0	1.0	14%
Share of electricity output from fossil fuels	79%	80%	80%	82%	81%	80%	81%	
CO_2 / kWh of electricity (gCO_2/kWh)	681	699	663	645	625	622	620	-9%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	109	124	162	188	212	216	116%
Population index	100	115	130	146	166	184	189	89%
GDP PPP per population index	100	93	99	113	129	134	135	35%
Energy intensity index - TPES / GDP PPP	100	106	99	92	82	80	79	-21%
Carbon intensity index - CO_2 / TPES	100	96	99	106	107	107	108	8%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**392.5**	**524.5**	**222.9**	**0.4**	**1 140.4**	**116%**
Electricity and heat generation	276.2	74.0	134.0	-	484.2	125%
Other energy industry own use	41.4	10.8	31.2	-	83.3	171%
Manufacturing industries and construction	52.3	57.3	33.0	0.4	143.1	22%
Transport	0.0	311.1	2.4	-	313.5	180%
of which: road	-	*299.2*	*0.8*	-	*300.0*	181%
Other	22.5	71.3	22.4	-	116.2	118%
of which: residential	*13.7*	*38.8*	*19.9*	-	*72.4*	93%
of which: services	*6.9*	*6.0*	*0.4*	-	*13.2*	135%
Memo: international marine bunkers	-	*19.9*	-	-	*19.9*	*19%*
Memo: international aviation bunkers	-	*21.8*	-	-	*21.8*	*85%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	299.2	180.4	4.7	4.7
Main activity prod. elec. and heat - coal	263.2	80.1	4.2	8.9
Main activity prod. elec. and heat - gas	127.1	406.8	2.0	10.9
Main activity prod. elec. and heat - oil	70.5	121.8	1.1	12.0
Manufacturing industries - oil	57.3	23.7	0.9	12.9
Manufacturing industries - coal	52.3	-13.2	0.8	13.8
Other energy industry - coal	41.4	+	0.7	14.4
Residential - oil	38.8	36.0	0.6	15.0
Manufacturing industries - gas	33.0	204.8	0.5	15.5
Memo: total CO_2 from fuel combustion	*1140.4*	*115.6*	*18.0*	*18.0*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Americas

Figure 1. CO_2 emissions by fuel

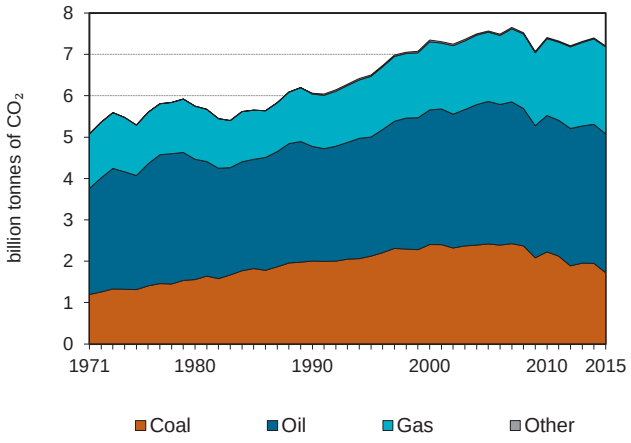


Figure 2. CO_2 emissions by sector

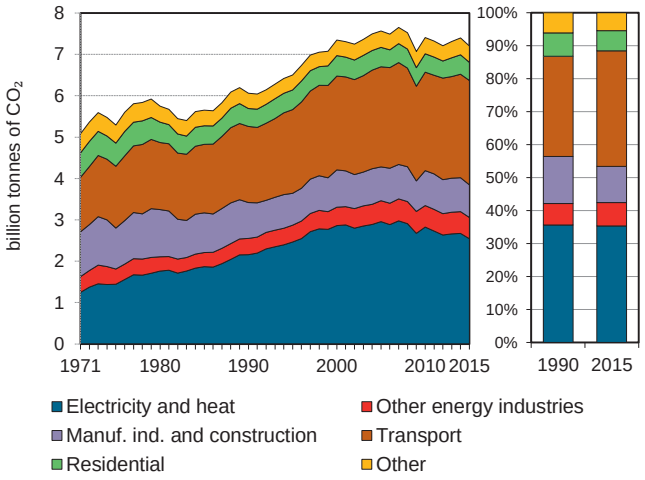


Figure 3. Electricity generation by fuel

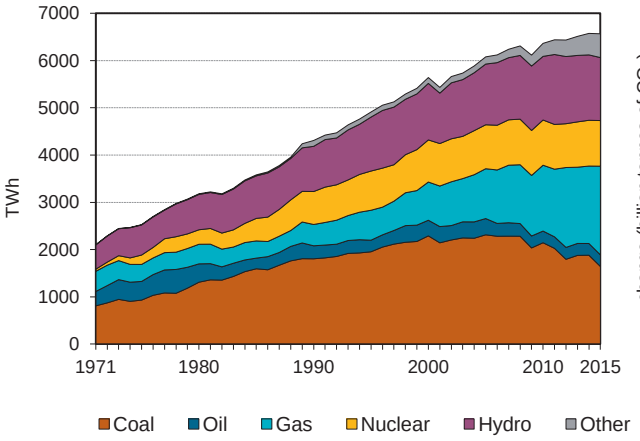


Figure 4. CO_2 from electricity generation: driving factors[1]

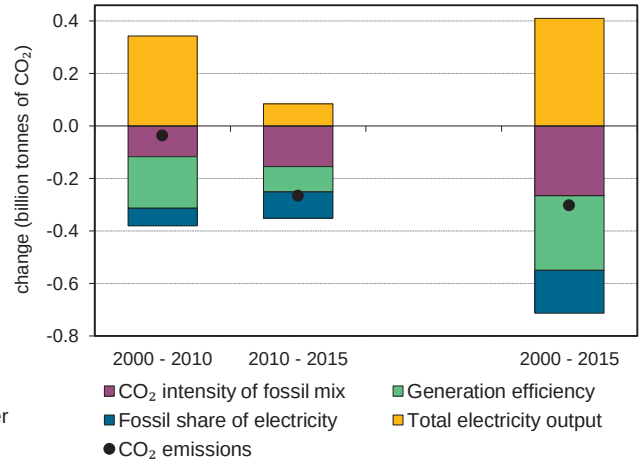


Figure 5. Changes in selected indicators

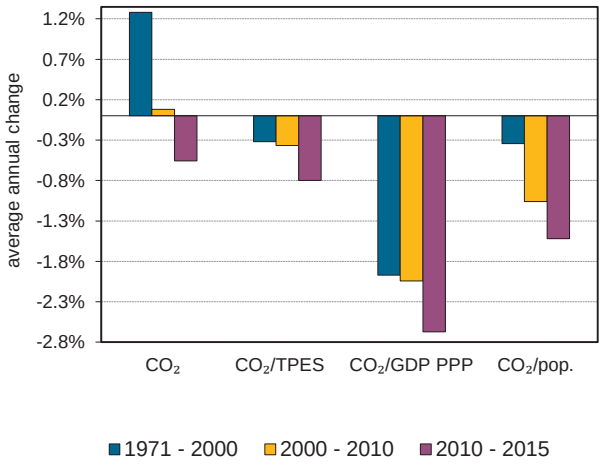
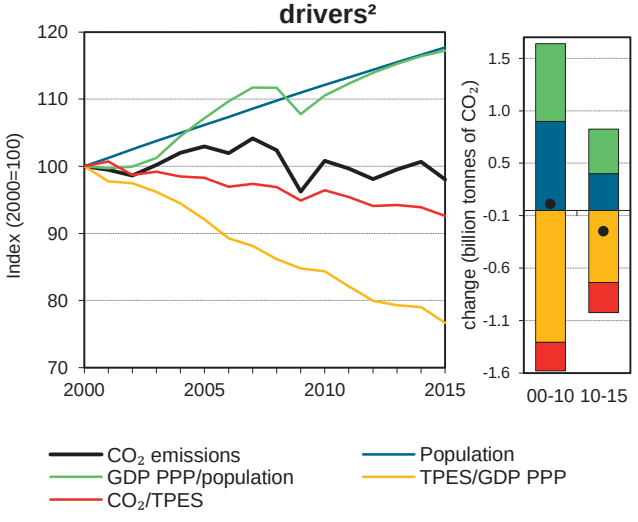


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Americas

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	6061.5	6 502.8	7 347.8	7 566.2	7 407.2	7 398.7	7 203.2	19%
Share of World CO_2 from fuel combustion	30%	30%	32%	28%	24%	23%	22%	
TPES (PJ)	108474	118 132	130 932	137 146	136 905	140 431	138 568	28%
GDP (billion 2010 USD)	12869.5	14 671.1	17 832.6	20 258.0	21 816.7	23 802.1	24 207.1	88%
GDP PPP (billion 2010 USD)	14059	16 044.9	19 449.7	22 121.9	24 106.2	26 402.1	26 841.1	91%
Population (millions)	722.3	779.4	834.1	885.4	935.2	972.6	981.9	36%
CO_2 / TPES (tCO_2 per TJ)	55.9	55.0	56.1	55.2	54.1	52.7	52.0	-7%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.47	0.4	0.4	0.4	0.3	0.3	0.3	-37%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.43	0.4	0.4	0.3	0.3	0.3	0.3	-38%
CO_2 / population (tCO_2 per capita)	8.4	8.3	8.8	8.5	7.9	7.6	7.3	-13%
Share of electricity output from fossil fuels	59%	58%	61%	61%	60%	58%	58%	
CO_2 / kWh of electricity (gCO_2/kWh)	500	496	503	483	438	402	383	-23%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	107	121	125	122	122	119	19%
Population index	100	108	115	123	129	135	136	36%
GDP PPP per population index	100	106	120	128	132	139	140	40%
Energy intensity index - TPES / GDP PPP	100	95	87	80	74	69	67	-33%
Carbon intensity index - CO_2 / TPES	100	99	100	99	97	94	93	-7%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**1 724.9**	**3 352.0**	**2 104.6**	**21.6**	**7 203.2**	**19%**
Electricity and heat generation	1 548.7	173.5	804.9	17.3	2 544.4	18%
Other energy industry own use	15.6	202.7	296.0	-	514.3	31%
Manufacturing industries and construction	157.1	217.7	411.1	3.4	789.3	-9%
Transport	0.0	2 457.5	65.2	-	2 522.7	37%
of which: road	-	*2 177.3*	*15.8*	-	*2 193.1*	45%
Other	3.5	300.6	527.5	0.9	832.5	4%
of which: residential	*0.3*	*119.4*	*318.0*	-	*437.7*	1%
of which: services	*2.7*	*60.3*	*204.0*	*0.9*	*267.9*	1%
Memo: international marine bunkers	-	*89.7*	-	-	*89.7*	*-22%*
Memo: international aviation bunkers	-	*112.6*	-	-	*112.6*	*99%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	2177.3	44.0	18.0	18.0
Main activity prod. elec. and heat - coal	1512.9	-9.1	12.5	30.4
Main activity prod. elec. and heat - gas	718.0	280.5	5.9	36.4
Manufacturing industries - gas	411.1	16.0	3.4	39.8
Residential - gas	318.0	13.8	2.6	42.4
Other energy industry own use - gas	296.0	77.6	2.4	44.8
Other transport - oil	280.2	-1.9	2.3	47.1
Manufacturing industries - oil	217.7	-12.8	1.8	48.9
Non-specified other - gas	209.5	23.9	1.7	50.7
Memo: total CO_2 from fuel combustion	*7203.2*	*18.8*	*59.4*	*59.4*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Asia

Figure 1. CO_2 emissions by fuel

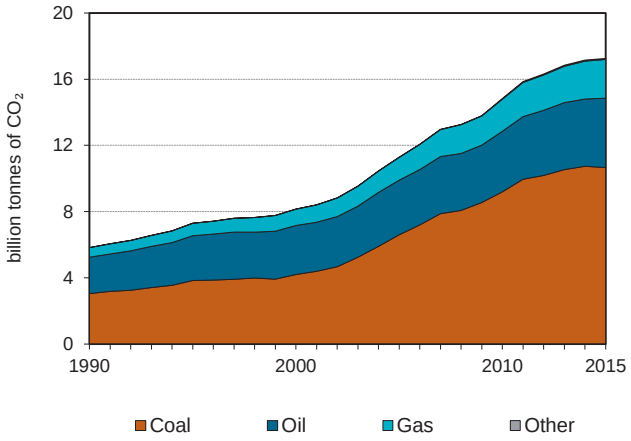


Figure 2. CO_2 emissions by sector

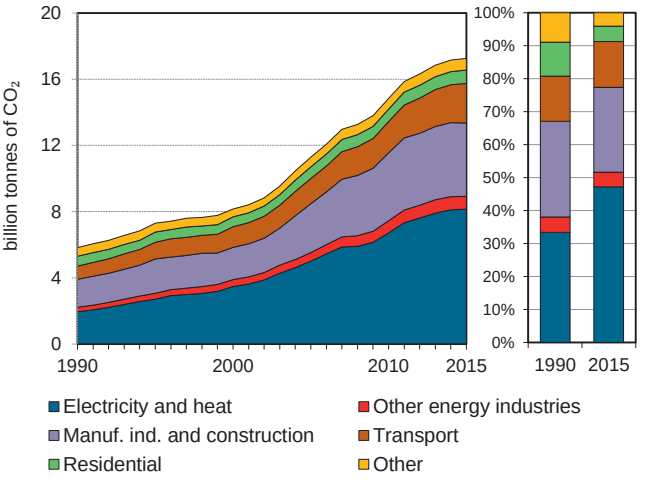


Figure 3. Electricity generation by fuel

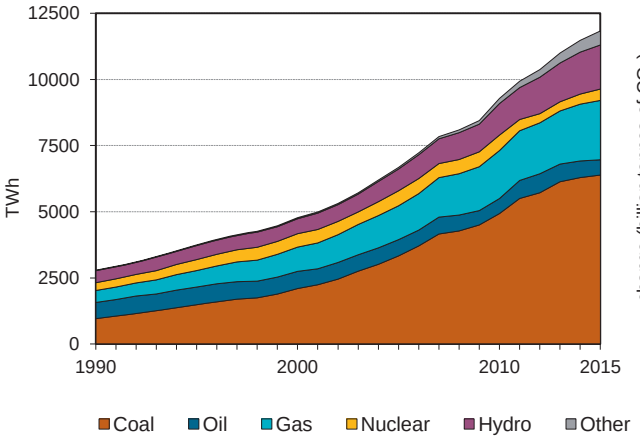


Figure 4. CO_2 from electricity generation: driving factors[1]

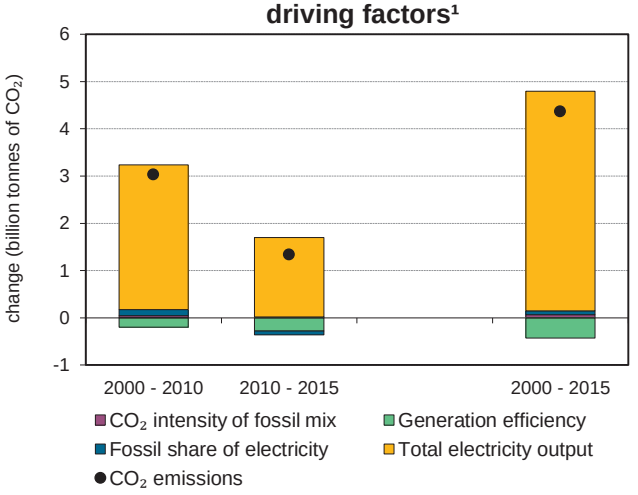


Figure 5. Changes in selected indicators

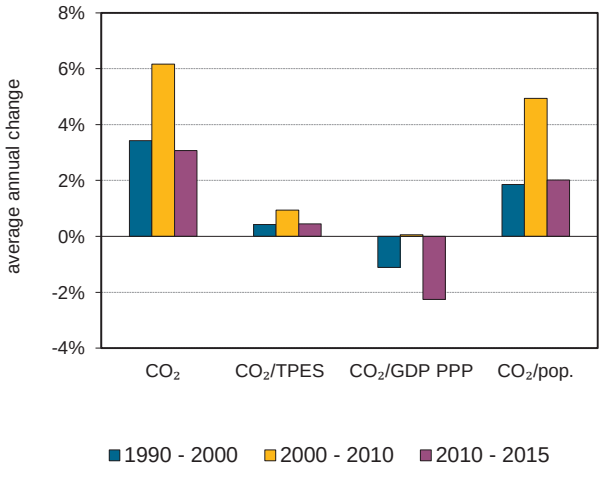
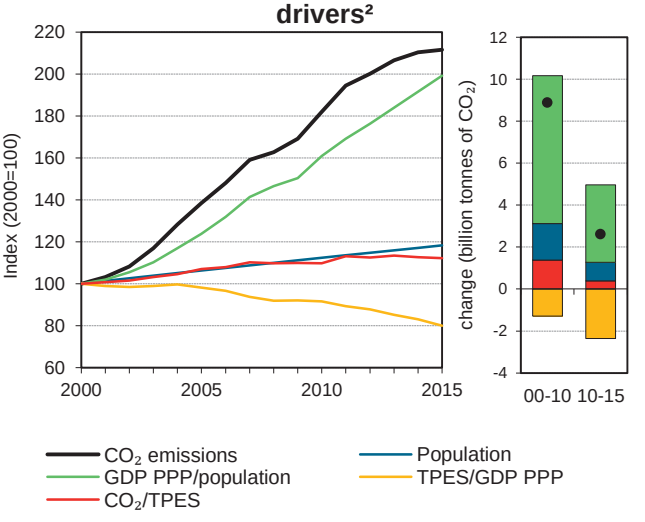


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Asia

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	5824.2	7 299.0	8 156.1	11 290.2	14 839.5	17 157.6	17 258.6	196%
Share of World CO_2 from fuel combustion	28%	34%	35%	42%	49%	53%	53%	
TPES (PJ)	107755	128 730	144 626	187 056	239 760	269 852	272 665	153%
GDP (billion 2010 USD)	9022.6	10 967.7	13 036.7	16 252.1	20 896.6	25 205.9	26 311.6	192%
GDP PPP (billion 2010 USD)	13364.9	16 915.2	20 917.1	27 542.2	37 830.7	46 955.0	49 320.1	269%
Population (millions)	3179.9	3 448.1	3 703.7	3 938.6	4 163.2	4 338.9	4 382.8	38%
CO_2 / TPES (tCO_2 per TJ)	54.1	56.7	56.4	60.4	61.9	63.6	63.3	17%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.65	0.7	0.6	0.7	0.7	0.7	0.7	2%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.44	0.4	0.4	0.4	0.4	0.4	0.3	-20%
CO_2 / population (tCO_2 per capita)	1.8	2.1	2.2	2.9	3.6	4.0	3.9	115%
Share of electricity output from fossil fuels	73%	74%	77%	78%	79%	79%	78%	
CO_2 / kWh of electricity (gCO_2/kWh)	640	673	672	693	668	653	635	-1%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	125	140	194	255	295	296	196%
Population index	100	108	116	124	131	136	138	38%
GDP PPP per population index	100	117	134	166	216	257	268	168%
Energy intensity index - TPES / GDP PPP	100	94	86	84	79	71	69	-31%
Carbon intensity index - CO_2 / TPES	100	105	104	112	115	118	117	17%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**10 660.2**	**4 194.5**	**2 343.6**	**60.3**	**17 258.6**	**196%**
Electricity and heat generation	6 499.5	502.0	1 106.2	41.4	8 149.1	319%
Other energy industry own use	268.9	243.5	258.0	-	770.4	185%
Manufacturing industries and construction	3 363.8	554.6	498.6	17.3	4 434.4	162%
Transport	9.9	2 299.8	84.4	-	2 394.1	202%
of which: road	-	*2 061.6*	*75.0*	-	*2 136.6*	219%
Other	518.2	594.5	396.4	1.5	1 510.6	35%
of which: residential	*228.7*	*295.1*	*283.1*	-	*807.0*	35%
of which: services	*121.8*	*128.0*	*106.3*	*1.5*	*357.7*	110%
Memo: international marine bunkers	-	*347.8*	-	-	*347.8*	*214%*
Memo: international aviation bunkers	-	*222.1*	-	-	*222.1*	*197%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	5960.4	435.6	21.7	21.7
Manufacturing industries - coal	3363.8	186.3	12.3	34.0
Road - oil	2061.6	208.0	7.5	41.5
Main activity prod. elec. and heat - gas	956.9	298.2	3.5	45.0
Manufacturing industries - oil	554.6	34.1	2.0	47.0
Unallocated autoproducers - coal	539.1	641.9	2.0	49.0
Manufacturing industries - gas	498.6	381.8	1.8	50.8
Main activity prod. elec. and heat - oil	408.0	-2.4	1.5	52.3
Non-specified other - oil	299.4	13.9	1.1	53.4
Memo: total CO_2 from fuel combustion	*17258.6*	*196.3*	*63.0*	*63.0*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Europe

Figure 1. CO_2 emissions by fuel

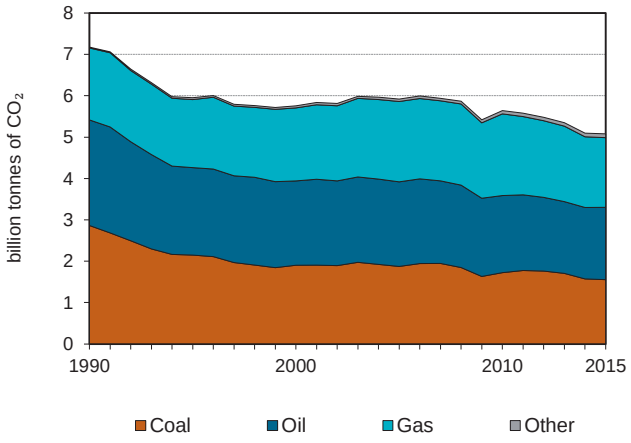


Figure 2. CO_2 emissions by sector

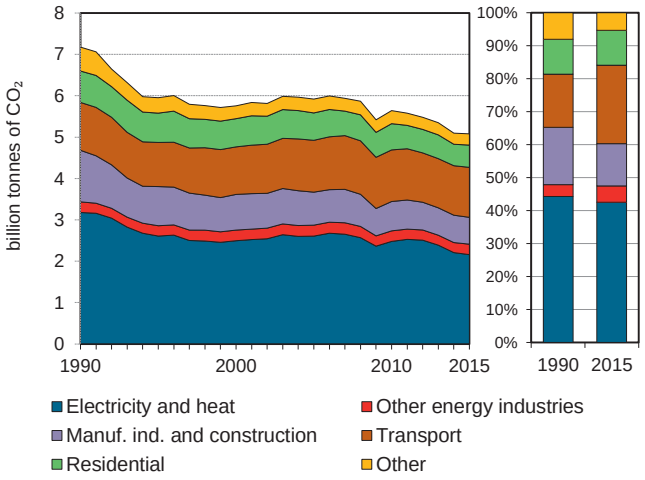


Figure 3. Electricity generation by fuel

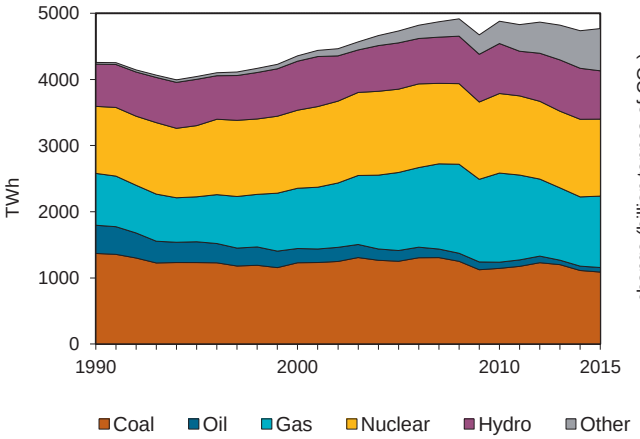


Figure 4. CO_2 from electricity generation: driving factors[1]

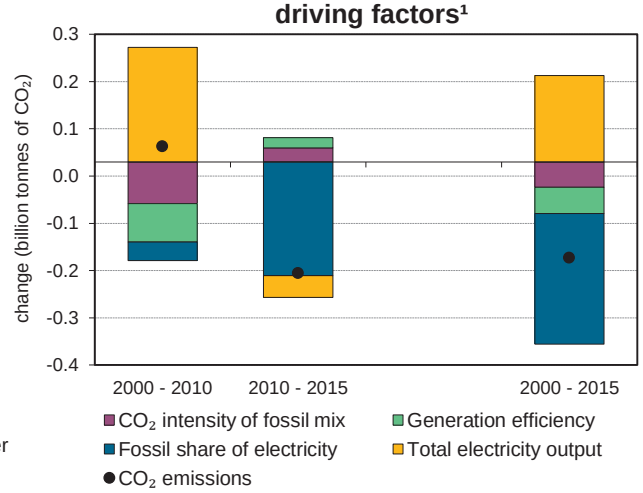


Figure 5. Changes in selected indicators

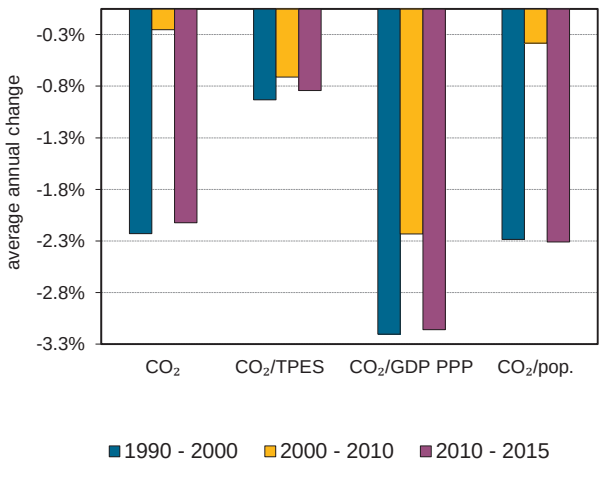
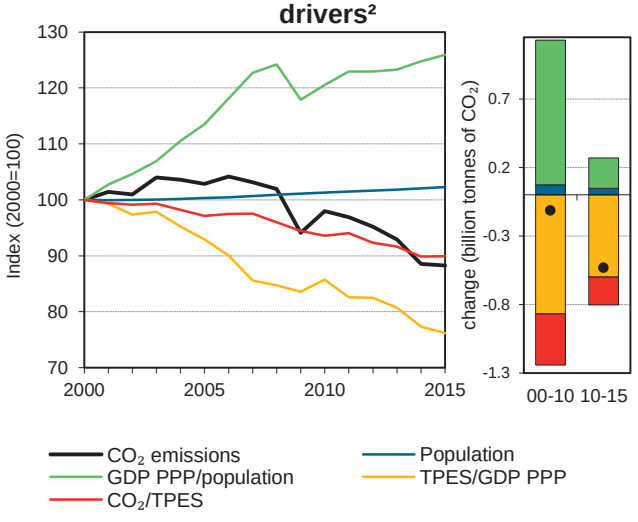


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Europe

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	7176.7	5 952.8	5 757.1	5 920.4	5 641.3	5 096.7	5 080.0	-29%
Share of World CO_2 from fuel combustion	35%	28%	25%	22%	19%	16%	16%	
TPES (PJ)	121901	106 582	106 848	113 105	111 884	105 271	104 835	-14%
GDP (billion 2010 USD)	14357.8	14 614.6	16 801.2	18 774.9	19 887.9	20 660.2	20 977.6	46%
GDP PPP (billion 2010 USD)	15619	15 082.8	17 264.8	19 664.0	21 089.3	21 987.7	22 238.8	42%
Population (millions)	722.6	727.5	726.6	729.1	736.2	741.5	743.2	3%
CO_2 / TPES (tCO_2 per TJ)	58.9	55.9	53.9	52.3	50.4	48.4	48.5	-18%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.5	0.4	0.3	0.3	0.3	0.2	0.2	-52%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.46	0.4	0.3	0.3	0.3	0.2	0.2	-50%
CO_2 / population (tCO_2 per capita)	9.9	8.2	7.9	8.1	7.7	6.9	6.8	-31%
Share of electricity output from fossil fuels	61%	55%	54%	55%	54%	48%	48%	
CO_2 / kWh of electricity (gCO_2/kWh)	476	425	394	395	361	332	329	-31%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	83	80	82	79	71	71	-29%
Population index	100	101	101	101	102	103	103	3%
GDP PPP per population index	100	96	110	125	133	137	138	38%
Energy intensity index - TPES / GDP PPP	100	91	79	74	68	61	60	-40%
Carbon intensity index - CO_2 / TPES	100	95	92	89	86	82	82	-18%

1. Data for Ethiopia include Eritrea until 1991. 2. Please see the chapter *Indicator sources and methods* in Part I for methodological notes.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**1 555.3**	**1 748.4**	**1 683.8**	**92.5**	**5 080.0**	**-29%**
Electricity and heat generation	1 242.5	84.8	767.6	65.1	2 160.0	-32%
Other energy industry own use	42.0	132.1	76.5	1.8	252.4	-2%
Manufacturing industries and construction	206.6	138.6	280.7	23.4	649.1	-48%
Transport	0.1	1 131.2	76.6	-	1 207.9	4%
of which: road	-	*1 062.1*	*4.5*	-	*1 066.6*	12%
Other	64.2	261.7	482.3	2.3	810.5	-39%
of which: residential	*48.3*	*133.8*	*356.5*	*0.0*	*538.6*	-29%
of which: services	*10.7*	*57.6*	*112.2*	*2.0*	*182.4*	-42%
Memo: international marine bunkers	-	*195.8*	-	-	*195.8*	*55%*
Memo: international aviation bunkers	-	*158.7*	-	-	*158.7*	*45%*

3. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	1103.0	-30.2	14.7	14.7
Road - oil	1062.1	12.2	14.2	28.9
Main activity prod. elec. and heat - gas	551.4	-3.4	7.3	36.2
Residential - gas	356.5	13.2	4.8	41.0
Manufacturing industries - gas	280.7	-22.6	3.7	44.7
Unallocated autoproducers - gas	216.2	-9.9	2.9	47.6
Manufacturing industries - coal	206.6	-63.0	2.8	50.3
Unallocated autoproducers - coal	139.5	-47.1	1.9	52.2
Manufacturing industries - oil	138.6	-56.6	1.8	54.0
Memo: total CO_2 from fuel combustion	*5080.0*	*-29.2*	*67.7*	*67.7*

4. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Oceania

Figure 1. CO_2 emissions by fuel

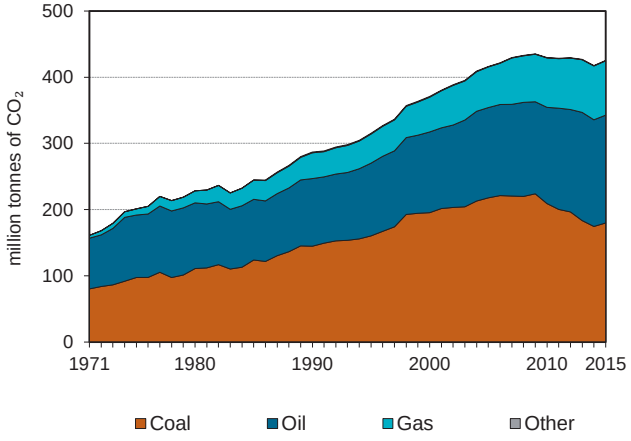


Figure 2. CO_2 emissions by sector

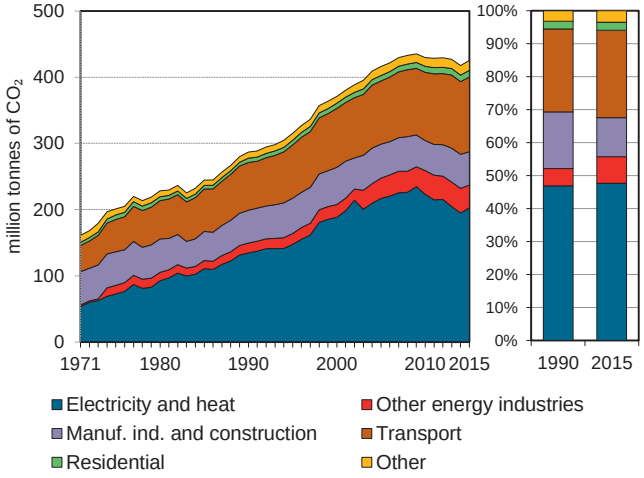


Figure 3. Electricity generation by fuel

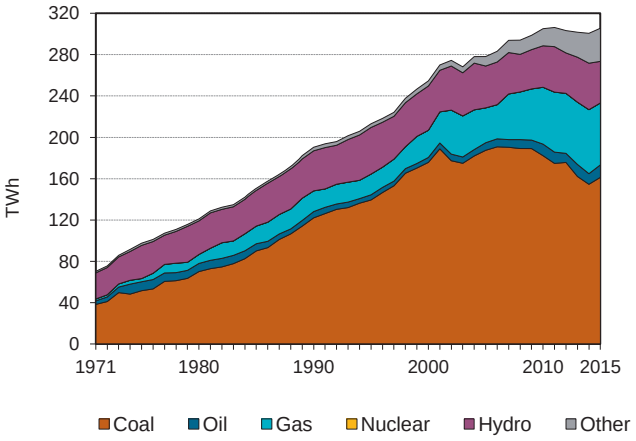


Figure 4. CO_2 from electricity generation: driving factors[1]

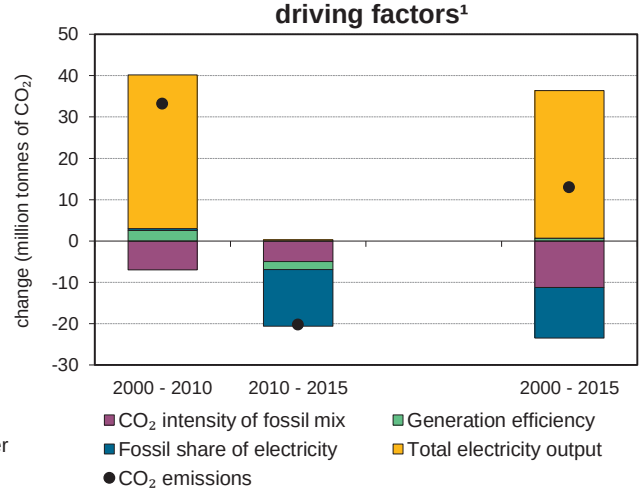


Figure 5. Changes in selected indicators

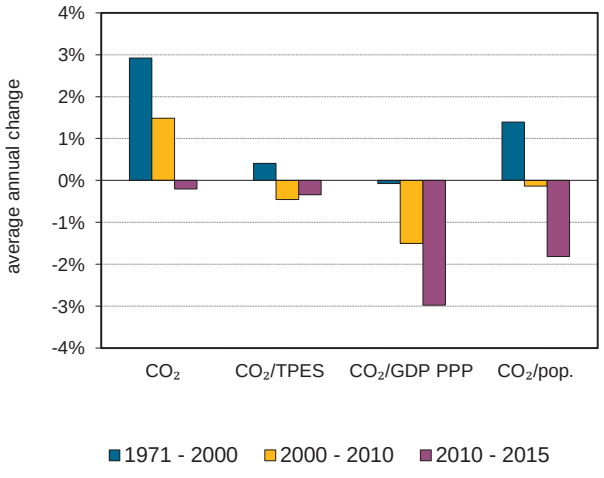
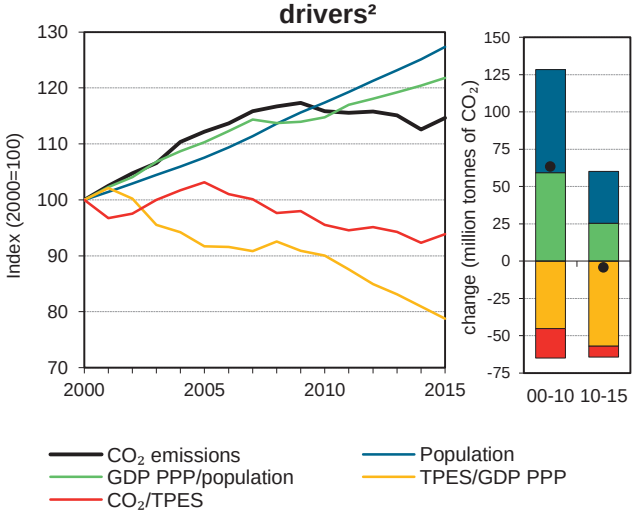


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Oceania

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	287	315.3	371.0	416.2	429.7	417.7	425.4	48%
Share of World CO_2 from fuel combustion	1%	1%	2%	2%	1%	1%	1%	
TPES (PJ)	4301	4 665	5 208	5 666	6 315	6 349	6 360	48%
GDP (billion 2010 USD)	772.8	907.8	1 088.4	1 291.2	1 467.8	1 639.6	1 686.5	118%
GDP PPP (billion 2010 USD)	585.8	689.0	823.7	977.0	1 109.6	1 241.0	1 277.4	118%
Population (millions)	26.6	28.6	30.7	33.0	36.0	38.4	39.0	47%
CO_2 / TPES (tCO_2 per TJ)	66.7	67.6	71.2	73.5	68.0	65.8	66.9	0%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.37	0.3	0.3	0.3	0.3	0.3	0.3	-32%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.49	0.5	0.5	0.4	0.4	0.3	0.3	-32%
CO_2 / population (tCO_2 per capita)	10.8	11.0	12.1	12.6	11.9	10.9	10.9	1%
Share of electricity output from fossil fuels	78%	77%	81%	82%	81%	75%	76%	
CO_2 / kWh of electricity (gCO_2/kWh)	705	691	740	780	731	648	664	-6%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	110	129	145	150	146	148	48%
Population index	100	108	115	124	135	144	147	47%
GDP PPP per population index	100	109	122	135	140	147	149	49%
Energy intensity index - TPES / GDP PPP	100	92	86	79	78	70	68	-32%
Carbon intensity index - CO_2 / TPES	100	101	107	110	102	99	100	0%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**179.8**	**162.9**	**82.1**	**0.6**	**425.4**	**48%**
Electricity and heat generation	161.7	10.1	31.0	-	202.9	51%
Other energy industry own use	5.4	11.5	17.4	-	34.4	130%
Manufacturing industries and construction	12.3	16.3	21.0	0.6	50.2	1%
Transport	0.0	112.2	0.6	-	112.8	56%
of which: road	-	*95.4*	*0.2*	-	*95.7*	50%
Other	0.3	12.7	12.0	-	25.1	59%
of which: residential	*0.0*	*1.5*	*8.5*	-	*10.1*	55%
of which: services	*0.1*	*2.9*	*3.3*	-	*6.3*	63%
Memo: international marine bunkers	-	*3.8*	-	-	*3.8*	*12%*
Memo: international aviation bunkers	-	*14.6*	-	-	*14.6*	*137%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	160.2	38.6	15.5	15.5
Road - oil	95.4	49.9	9.3	24.8
Main activity prod. elec. and heat - gas	24.5	145.3	2.4	27.2
Manufacturing industries - gas	21.0	31.5	2.0	29.2
Other energy industry own use - gas	17.4	248.0	1.7	30.9
Other transport - oil	16.8	106.9	1.6	32.5
Manufacturing industries - oil	16.3	60.3	1.6	34.1
Manufacturing industries - coal	12.3	-44.6	1.2	35.3
Other energy industry own use - oil	11.5	57.0	1.1	36.4
Memo: total CO_2 from fuel combustion	*425.4*	*48.2*	*41.3*	*41.3*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

CO_2 EMISSIONS STATISTICS AND INDICATORS

UNFCCC ANNEXES

Annex I Parties

Figure 1. CO_2 emissions by fuel

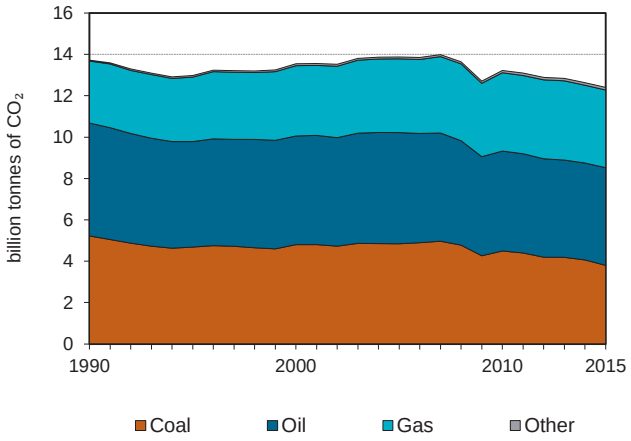


Figure 2. CO_2 emissions by sector

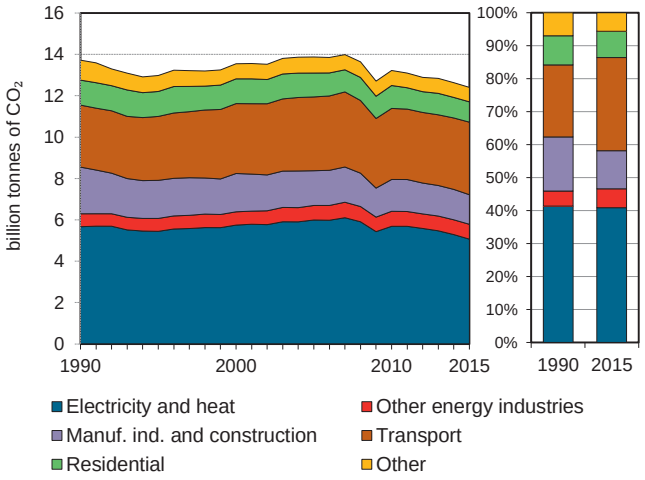


Figure 3. Electricity generation by fuel

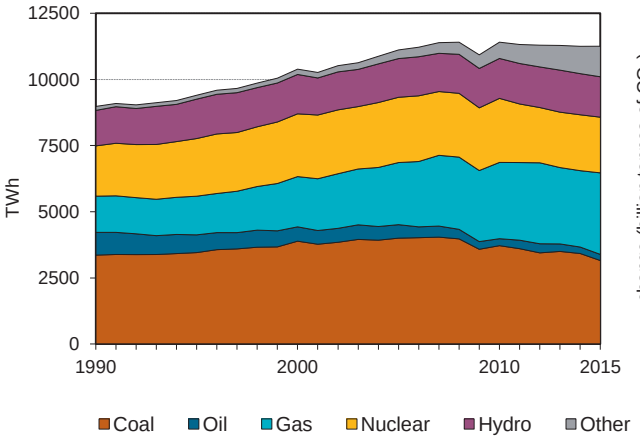


Figure 4. CO_2 from electricity generation: driving factors[1]

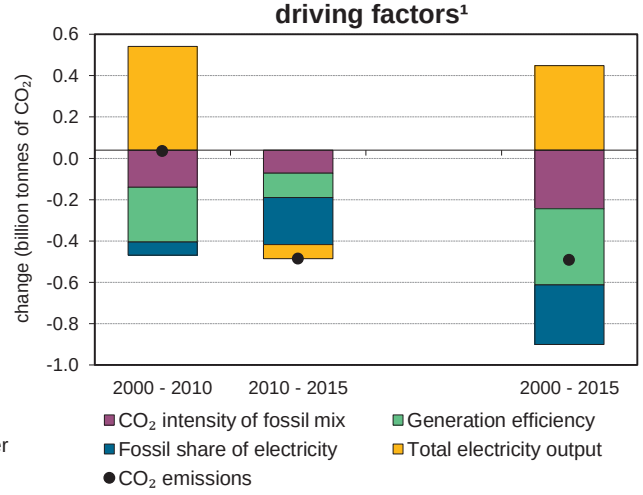


Figure 5. Changes in selected indicators

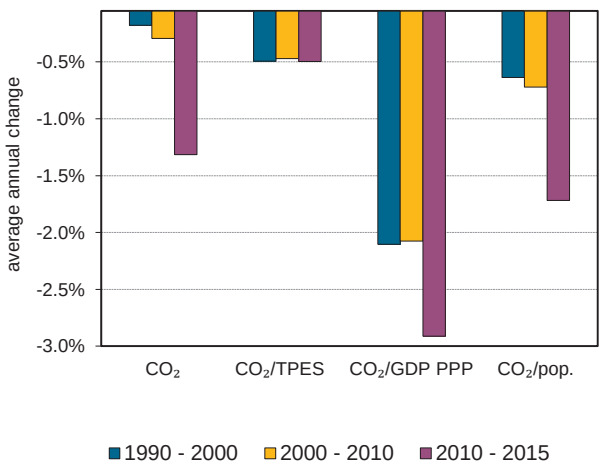
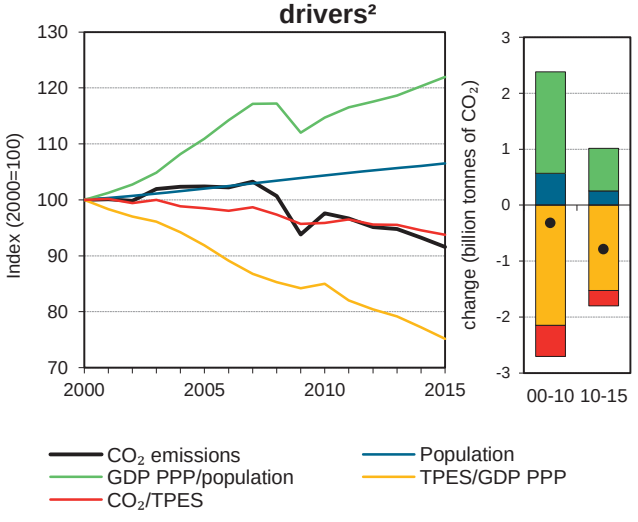


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Annex I Parties

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	13722.6	12 981.1	13 548.3	13 875.9	13 222.9	12 631.8	12 406.5	-10%
Share of World CO_2 from fuel combustion	67%	61%	59%	51%	43%	39%	38%	
TPES (PJ)	233956	229 746	241 497	251 032	245 850	238 047	235 892	1%
GDP (billion 2010 USD)	30199.1	32 366.2	37 753.7	42 247.0	44 308.9	47 087.3	48 019.5	59%
GDP PPP (billion 2010 USD)	30175.2	31 434.4	36 655.7	41 479.7	43 895.7	46 785.6	47 627.8	58%
Population (millions)	1176.8	1 208.1	1 232.1	1 256.7	1 286.4	1 307.1	1 312.8	12%
CO_2 / TPES (tCO_2 per TJ)	58.7	56.5	56.1	55.3	53.8	53.1	52.6	-10%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.45	0.4	0.4	0.3	0.3	0.3	0.3	-43%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.45	0.4	0.4	0.3	0.3	0.3	0.3	-43%
CO_2 / population (tCO_2 per capita)	11.7	10.7	11.0	11.0	10.3	9.7	9.5	-19%
Share of electricity output from fossil fuels	62%	60%	61%	62%	61%	59%	58%	
CO_2 / kWh of electricity (gCO_2/kWh)	503	482	476	471	432	410	395	-22%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	95	99	101	96	92	90	-10%
Population index	100	103	105	107	109	111	112	12%
GDP PPP per population index	100	101	116	129	133	140	141	41%
Energy intensity index - TPES / GDP PPP	100	94	85	78	72	66	64	-36%
Carbon intensity index - CO_2 / TPES	100	96	96	94	92	90	90	-10%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**3 801.1**	**4 722.5**	**3 757.0**	**125.9**	**12 406.5**	**-10%**
Electricity and heat generation	3 176.3	192.8	1 611.1	87.4	5 067.6	-11%
Other energy industry own use	91.0	317.8	308.7	1.8	719.3	15%
Manufacturing industries and construction	443.7	296.8	656.1	33.5	1 430.0	-37%
Transport	0.1	3 382.0	125.6	-	3 507.6	17%
of which: road	-	*3 023.4*	*7.2*	-	*3 030.7*	24%
Other	90.0	533.3	1 055.6	3.1	1 682.0	-23%
of which: residential	*55.3*	*232.7*	*694.9*	*0.0*	*982.9*	-19%
of which: services	*30.0*	*148.8*	*341.4*	*2.9*	*523.0*	-18%
Memo: international marine bunkers	-	*246.3*	-	-	*246.3*	*4%*
Memo: international aviation bunkers	-	*276.3*	-	-	*276.3*	*61%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	3023.4	23.5	16.6	16.6
Main activity prod. elec. and heat - coal	2968.6	-12.9	16.3	32.9
Main activity prod. elec. and heat - gas	1320.7	62.3	7.2	40.1
Residential - gas	694.9	15.1	3.8	43.9
Manufacturing industries - gas	656.1	-3.8	3.6	47.5
Manufacturing industries - coal	443.7	-54.0	2.4	49.9
Non-specified other - gas	360.7	24.1	2.0	51.9
Other transport - oil	358.5	-15.3	2.0	53.9
Other energy industry own use - oil	317.8	-13.0	1.7	55.6
Memo: total CO_2 from fuel combustion	*12406.5*	*-9.6*	*68.0*	*68.0*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Annex II Parties

Figure 1. CO_2 emissions by fuel

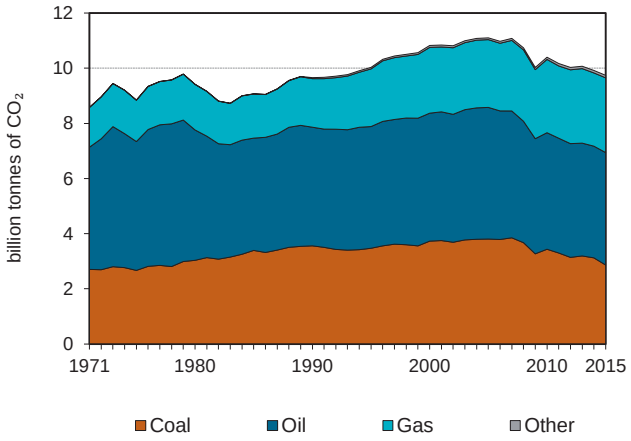


Figure 2. CO_2 emissions by sector

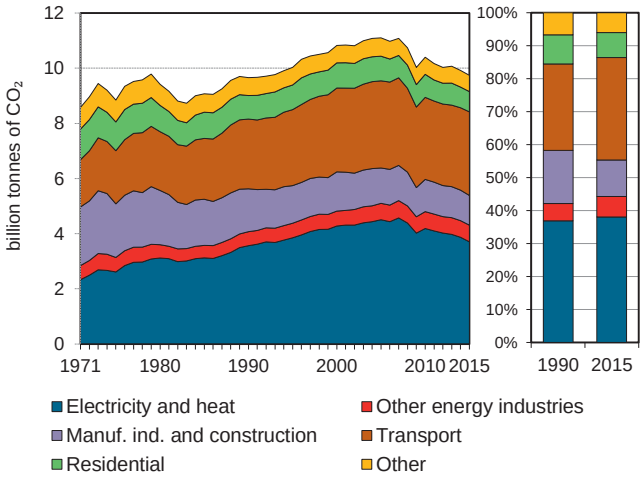


Figure 3. Electricity generation by fuel

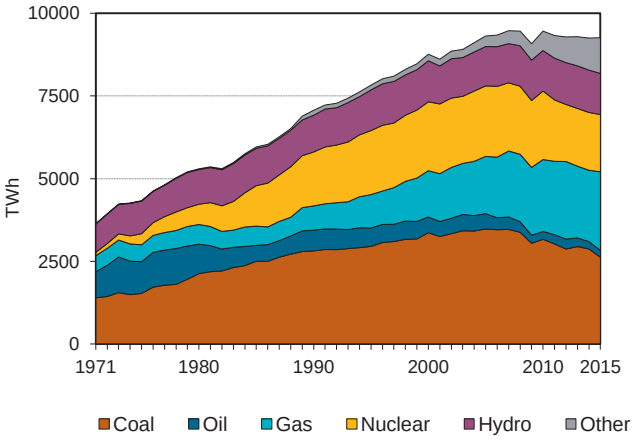


Figure 4. CO_2 from electricity generation: driving factors[1]

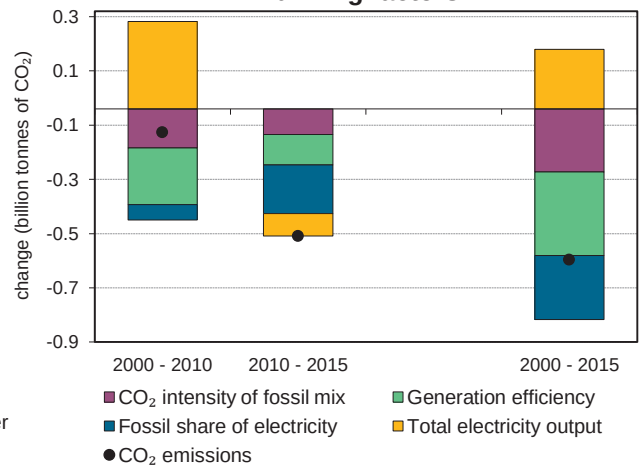


Figure 5. Changes in selected indicators

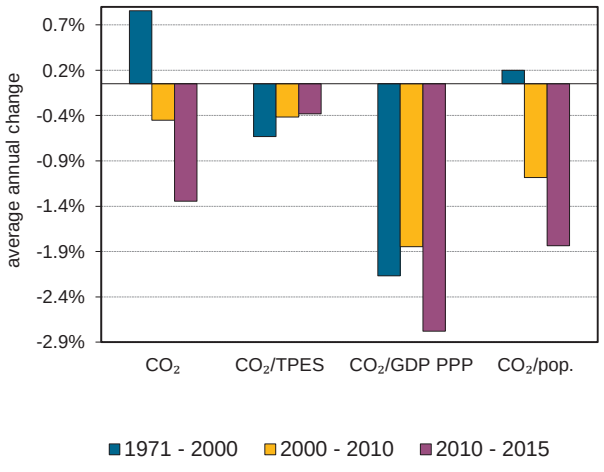
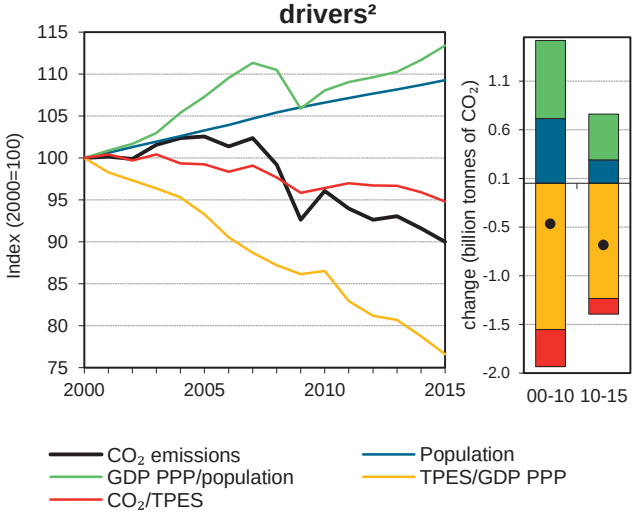


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Annex II Parties

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	9658.1	10 029.2	10 825.1	11 100.7	10 398.5	9 917.9	9 741.7	1%
Share of World CO_2 from fuel combustion	47%	47%	47%	41%	34%	31%	30%	
TPES (PJ)	168062	180 510	194 841	201 355	194 144	186 153	184 912	10%
GDP (billion 2010 USD)	27256.2	30 077.3	35 154.1	38 886.9	40 372.1	42 622.8	43 523.3	60%
GDP PPP (billion 2010 USD)	24854.4	27 427.6	32 137.3	35 606.8	37 009.5	38 998.2	39 813.5	60%
Population (millions)	799.6	827.6	852.6	880.5	908.8	926.6	931.6	17%
CO_2 / TPES (tCO_2 per TJ)	57.5	55.6	55.6	55.1	53.6	53.3	52.7	-8%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.35	0.3	0.3	0.3	0.3	0.2	0.2	-37%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.39	0.4	0.3	0.3	0.3	0.3	0.2	-37%
CO_2 / population (tCO_2 per capita)	12.1	12.1	12.7	12.6	11.4	10.7	10.5	-13%
Share of electricity output from fossil fuels	59%	58%	60%	61%	59%	57%	57%	
CO_2 / kWh of electricity (gCO_2/kWh)	494	479	476	469	426	405	387	-22%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	104	112	115	108	103	101	1%
Population index	100	103	107	110	114	116	117	17%
GDP PPP per population index	100	107	121	130	131	135	137	37%
Energy intensity index - TPES / GDP PPP	100	97	90	84	78	71	69	-31%
Carbon intensity index - CO_2 / TPES	100	97	97	96	93	93	92	-8%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**2 863.3**	**4 078.6**	**2 710.6**	**89.1**	**9 741.7**	**1%**
Electricity and heat generation	2 479.4	147.6	1 014.1	64.5	3 705.6	4%
Other energy industry own use	69.0	260.8	272.8	0.4	603.0	19%
Manufacturing industries and construction	301.2	238.3	516.6	22.4	1 078.4	-31%
Transport	0.0	2 976.8	54.2	-	3 031.0	20%
of which: road	-	*2 653.4*	*6.4*	-	*2 659.8*	24%
Other	13.6	455.2	852.9	1.9	1 323.6	-12%
of which: residential	*7.5*	*204.8*	*521.9*	*0.0*	*734.2*	-14%
of which: services	*5.5*	*136.6*	*316.1*	*1.9*	*460.1*	-5%
Memo: international marine bunkers	-	*185.7*	-	-	*185.7*	*-18%*
Memo: international aviation bunkers	-	*243.0*	-	-	*243.0*	*83%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	2653.4	23.7	19.0	19.0
Main activity prod. elec. and heat - coal	2362.8	-8.3	16.9	35.9
Main activity prod. elec. and heat - gas	890.2	192.6	6.4	42.3
Residential - gas	521.9	16.3	3.7	46.0
Manufacturing industries - gas	516.6	7.7	3.7	49.7
Non-specified other - gas	331.1	32.2	2.4	52.1
Other transport - oil	323.4	-4.7	2.3	54.4
Manufacturing industries - coal	301.2	-52.3	2.2	56.5
Other energy industry own use - gas	272.8	78.6	2.0	58.5
Memo: total CO_2 from fuel combustion	*9741.7*	*0.9*	*69.7*	*69.7*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Annex II: North America

Figure 1. CO_2 emissions by fuel

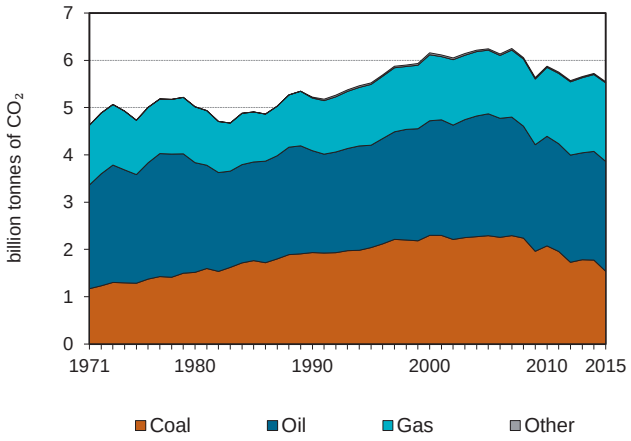


Figure 2. CO_2 emissions by sector

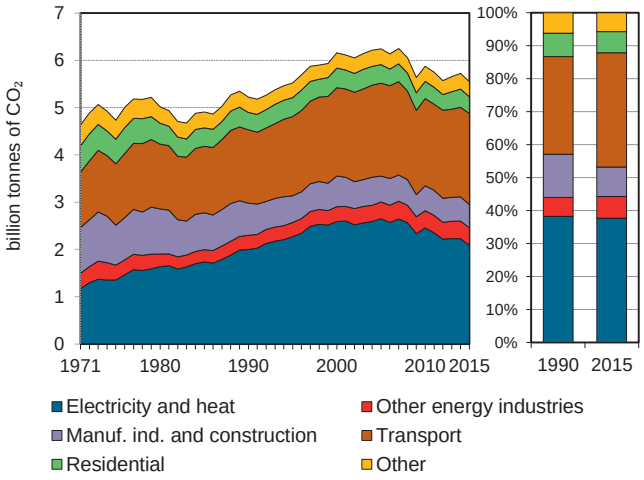


Figure 3. Electricity generation by fuel

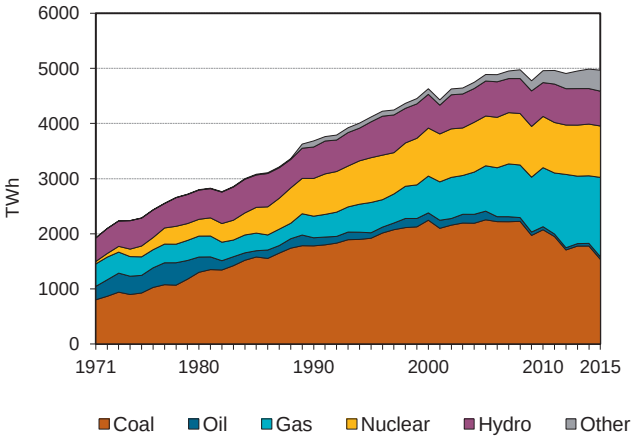


Figure 4. CO_2 from electricity generation: driving factors[1]

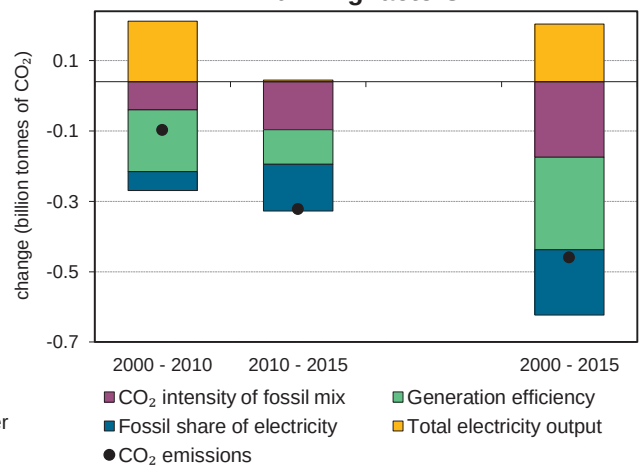


Figure 5. Changes in selected indicators

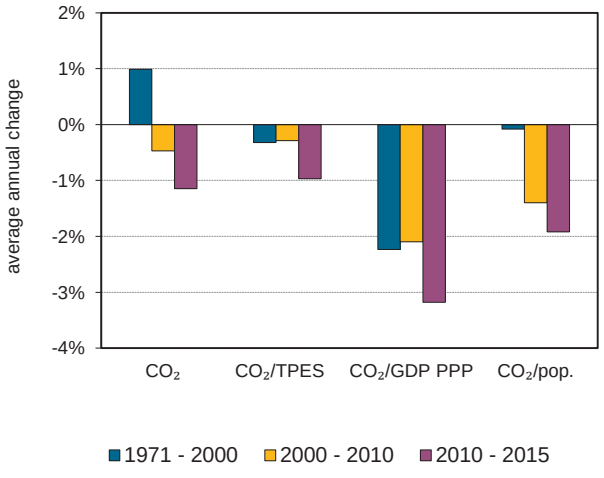
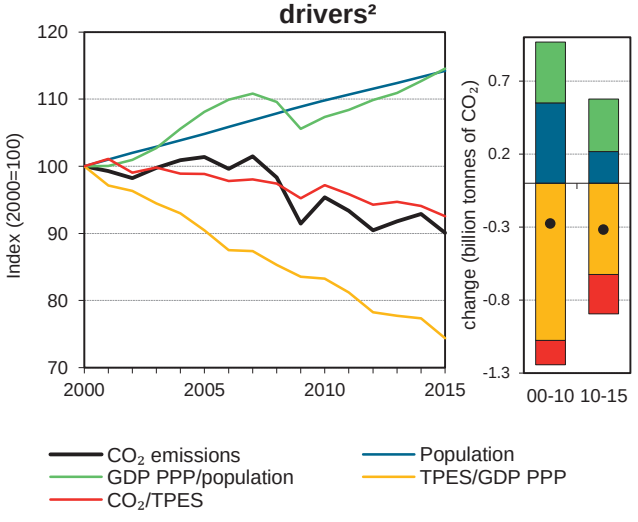


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Annex II: North America

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	5222	5 522.1	6 158.8	6 243.5	5 875.5	5 722.5	5 546.7	6%
Share of World CO_2 from fuel combustion	25%	26%	27%	23%	19%	18%	17%	
TPES (PJ)	89025	96 344	105 799	108 487	103 852	104 487	102 931	16%
GDP (billion 2010 USD)	10078.5	11 401.8	14 055.8	15 932.6	16 577.8	17 957.1	18 393.8	83%
GDP PPP (billion 2010 USD)	9919.9	11 229.4	13 845.8	15 694.2	16 325.5	17 678.8	18 112.9	83%
Population (millions)	277.9	295.9	313.1	328.2	343.8	354.8	357.6	29%
CO_2 / TPES (tCO_2 per TJ)	58.7	57.3	58.2	57.6	56.6	54.8	53.9	-8%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.52	0.5	0.4	0.4	0.4	0.3	0.3	-42%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.53	0.5	0.4	0.4	0.4	0.3	0.3	-42%
CO_2 / population (tCO_2 per capita)	18.8	18.7	19.7	19.0	17.1	16.1	15.5	-17%
Share of electricity output from fossil fuels	63%	63%	66%	66%	65%	62%	61%	
CO_2 / kWh of electricity (gCO_2/kWh)	541	544	554	537	488	441	415	-23%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	106	118	120	113	110	106	6%
Population index	100	106	113	118	124	128	129	29%
GDP PPP per population index	100	106	124	134	133	140	142	42%
Energy intensity index - TPES / GDP PPP	100	96	85	77	71	66	63	-37%
Carbon intensity index - CO_2 / TPES	100	98	99	98	96	93	92	-8%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**1 539.6**	**2 323.7**	**1 662.0**	**21.5**	**5 546.7**	**6%**
Electricity and heat generation	1 432.6	35.5	602.0	17.2	2 087.4	4%
Other energy industry own use	8.5	151.1	209.3	-	368.9	23%
Manufacturing industries and construction	95.8	83.5	310.3	3.4	493.0	-28%
Transport	-	1 878.4	47.4	-	1 925.8	24%
of which: road	-	*1 630.6*	*2.3*	-	*1 632.8*	31%
Other	2.7	175.1	493.0	0.9	671.7	-3%
of which: residential	*0.0*	*65.2*	*289.3*	-	*354.5*	-3%
of which: services	*2.7*	*46.4*	*198.4*	*0.9*	*248.4*	-1%
Memo: international marine bunkers	-	*41.5*	-	-	*41.5*	*-56%*
Memo: international aviation bunkers	-	*73.2*	-	-	*73.2*	*75%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	1630.6	30.9	19.6	19.6
Main activity prod. elec. and heat - coal	1418.1	-13.8	17.1	36.7
Main activity prod. elec. and heat - gas	548.6	250.8	6.6	43.3
Manufacturing industries - gas	310.3	4.2	3.7	47.0
Residential - gas	289.3	8.1	3.5	50.5
Other transport - oil	247.8	-5.7	3.0	53.5
Other energy industry own use - gas	209.3	66.5	2.5	56.0
Non-specified other - gas	203.8	23.8	2.5	58.5
Other energy industry own use - oil	151.1	-11.9	1.8	60.3
Memo: total CO_2 from fuel combustion	*5546.7*	*6.2*	*66.8*	*66.8*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Annex II: Europe

Figure 1. CO_2 emissions by fuel

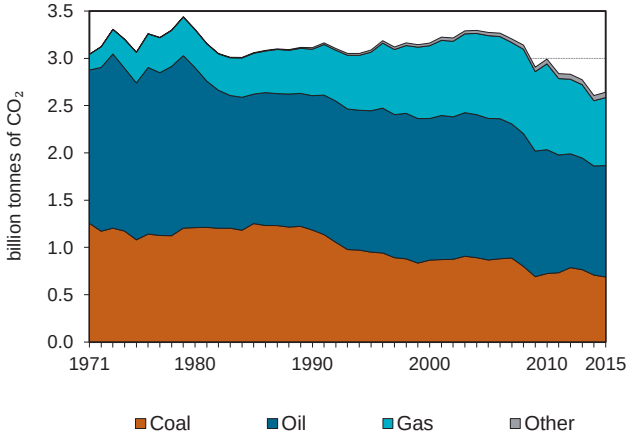


Figure 2. CO_2 emissions by sector

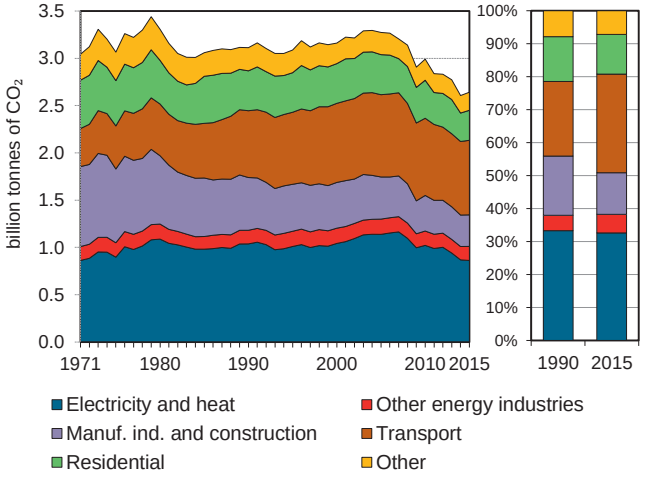


Figure 3. Electricity generation by fuel

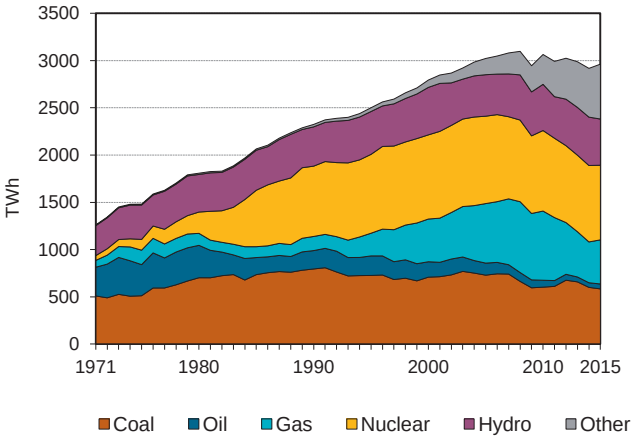


Figure 4. CO_2 from electricity generation: driving factors[1]

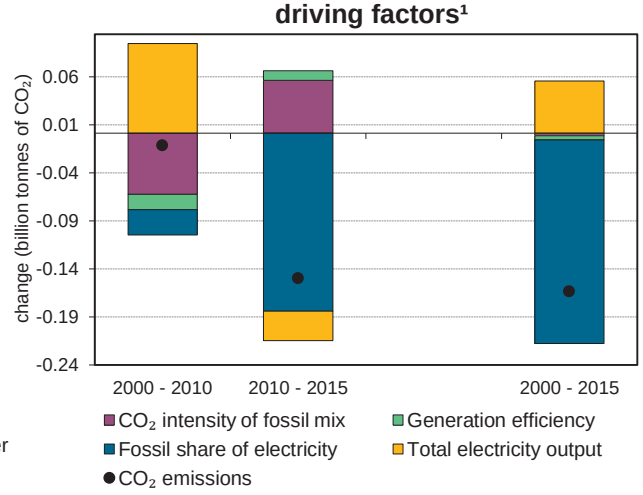


Figure 5. Changes in selected indicators

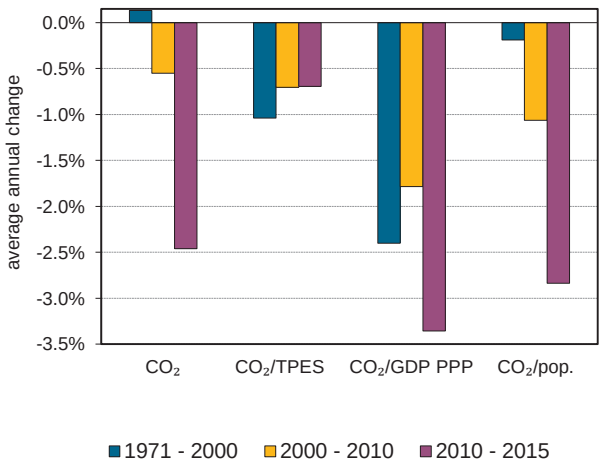
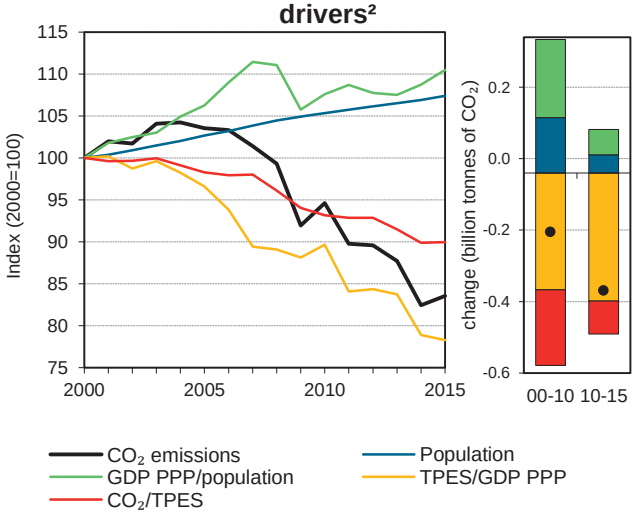


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Annex II: Europe

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	3112.7	3 087.9	3 161.3	3 273.9	2 991.7	2 606.4	2 641.3	-15%
Share of World CO_2 from fuel combustion	15%	14%	14%	12%	10%	8%	8%	
TPES (PJ)	56519	58 992	62 326	65 675	63 306	57 174	57 877	2%
GDP (billion 2010 USD)	11738.6	12 724.1	14 683.0	16 015.0	16 653.8	17 144.4	17 490.7	49%
GDP PPP (billion 2010 USD)	10789	11 693.5	13 490.5	14 715.9	15 285.8	15 683.6	16 005.4	48%
Population (millions)	377.6	384.4	389.6	400.0	410.4	416.5	418.4	11%
CO_2 / TPES (tCO_2 per TJ)	55.1	52.3	50.7	49.9	47.3	45.6	45.6	-17%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.27	0.2	0.2	0.2	0.2	0.2	0.2	-43%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.29	0.3	0.2	0.2	0.2	0.2	0.2	-43%
CO_2 / population (tCO_2 per capita)	8.2	8.0	8.1	8.2	7.3	6.3	6.3	-23%
Share of electricity output from fossil fuels	49%	47%	48%	50%	47%	38%	38%	
CO_2 / kWh of electricity (gCO_2/kWh)	416	376	342	338	295	265	259	-38%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	99	102	105	96	84	85	-15%
Population index	100	102	103	106	109	110	111	11%
GDP PPP per population index	100	106	121	129	130	132	134	34%
Energy intensity index - TPES / GDP PPP	100	96	88	85	79	70	69	-31%
Carbon intensity index - CO_2 / TPES	100	95	92	91	86	83	83	-17%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**687.5**	**1 177.9**	**719.7**	**56.2**	**2 641.3**	**-15%**
Electricity and heat generation	570.8	43.6	205.4	42.5	862.3	-17%
Other energy industry own use	26.3	78.7	43.4	0.4	148.9	3%
Manufacturing industries and construction	81.5	80.5	159.2	12.3	333.4	-40%
Transport	0.0	782.3	6.0	-	788.3	12%
of which: road	-	*743.6*	*3.8*	-	*747.4*	13%
Other	8.8	192.8	305.8	1.0	508.4	-24%
of which: residential	*7.4*	*106.3*	*203.8*	*0.0*	*317.5*	-25%
of which: services	*1.0*	*46.5*	*92.6*	*1.0*	*141.0*	-14%
Memo: international marine bunkers	-	*126.7*	-	-	*126.7*	*15%*
Memo: international aviation bunkers	-	*136.3*	-	-	*136.3*	*91%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	743.6	12.9	21.0	21.0
Main activity prod. elec. and heat - coal	524.8	-26.4	14.8	35.7
Residential - gas	203.8	27.9	5.7	41.5
Manufacturing industries - gas	159.2	1.1	4.5	46.0
Main activity prod. elec. and heat - gas	156.0	159.2	4.4	50.4
Residential - oil	106.3	-42.8	3.0	53.4
Non-specified other - gas	102.0	36.5	2.9	56.2
Non-specified other - oil	86.5	-36.3	2.4	58.7
Manufacturing industries - coal	81.5	-65.9	2.3	61.0
Memo: total CO_2 from fuel combustion	*2641.3*	*-15.1*	*74.4*	*74.4*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Annex II: Asia Oceania

Figure 1. CO_2 emissions by fuel

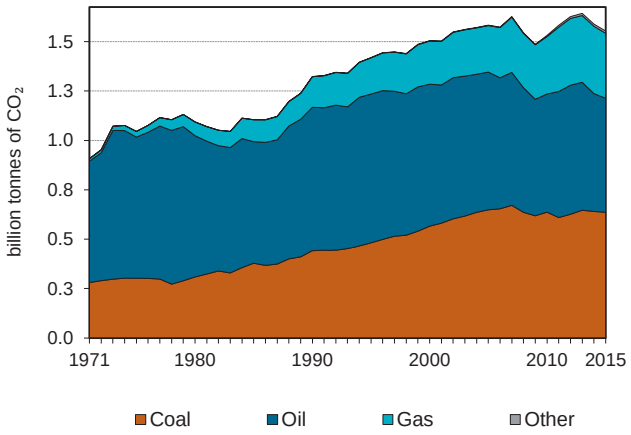


Figure 2. CO_2 emissions by sector

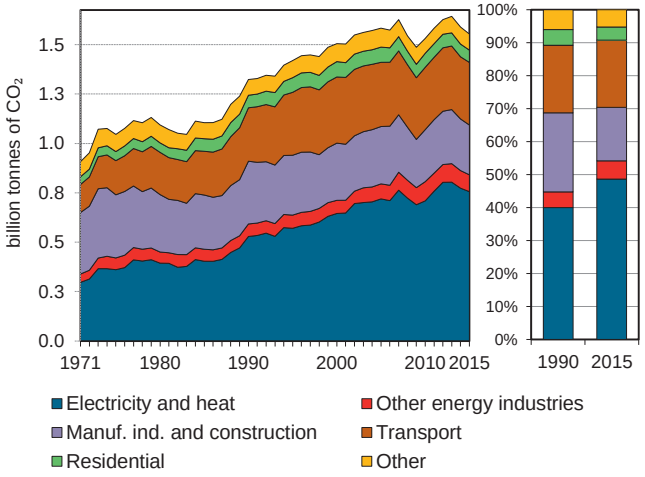


Figure 3. Electricity generation by fuel

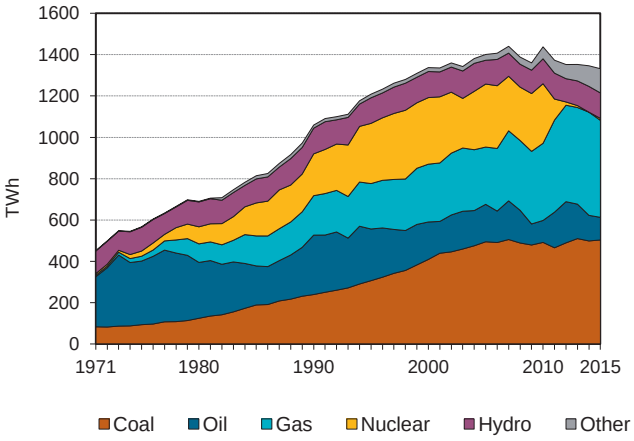


Figure 4. CO_2 from electricity generation: driving factors[1]

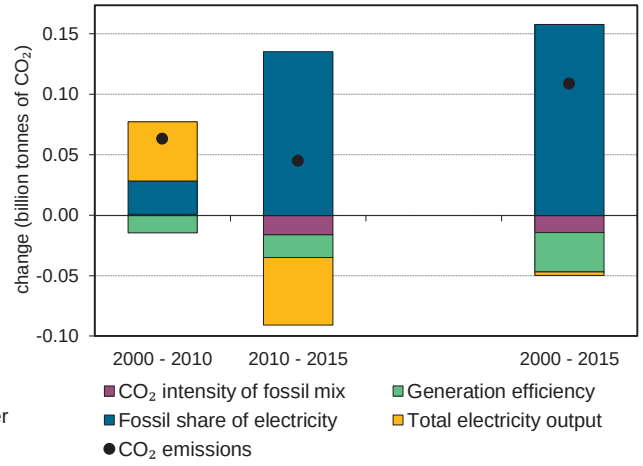


Figure 5. Changes in selected indicators

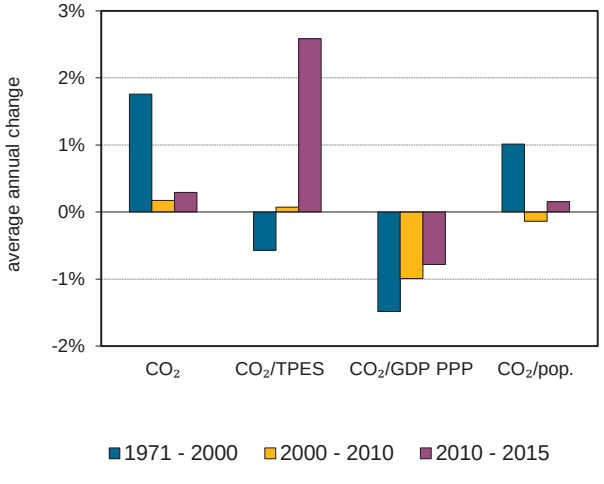
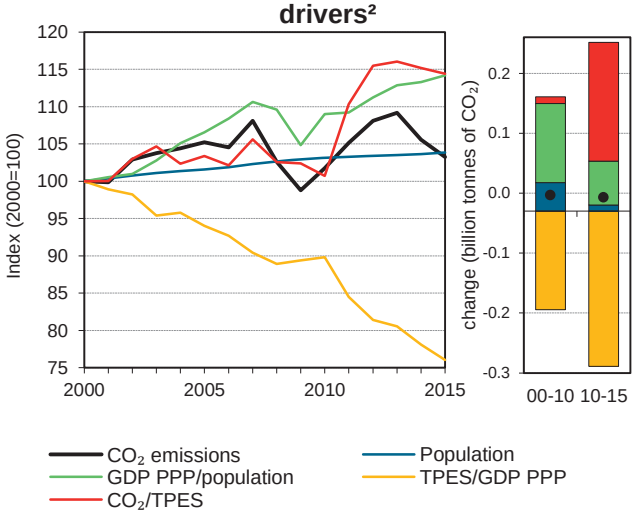


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Annex II: Asia Oceania

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	1323.4	1 419.2	1 504.9	1 583.3	1 531.3	1 588.9	1 553.7	17%
Share of World CO_2 from fuel combustion	6%	7%	7%	6%	5%	5%	5%	
TPES (PJ)	22517	25 174	26 716	27 193	26 986	24 492	24 104	7%
GDP (billion 2010 USD)	5439.1	5 951.4	6 415.4	6 939.3	7 140.5	7 521.4	7 638.9	40%
GDP PPP (billion 2010 USD)	4145.5	4 504.7	4 801.1	5 196.7	5 398.3	5 635.9	5 695.2	37%
Population (millions)	144.2	147.3	149.9	152.3	154.6	155.3	155.7	8%
CO_2 / TPES (tCO_2 per TJ)	58.8	56.4	56.3	58.2	56.7	64.9	64.5	10%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.24	0.2	0.2	0.2	0.2	0.2	0.2	-16%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.32	0.3	0.3	0.3	0.3	0.3	0.3	-15%
CO_2 / population (tCO_2 per capita)	9.2	9.6	10.0	10.4	9.9	10.2	10.0	9%
Share of electricity output from fossil fuels	68%	64%	65%	68%	68%	84%	82%	
CO_2 / kWh of electricity (gCO_2/kWh)	499	471	482	513	493	574	567	14%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	107	114	120	116	120	117	17%
Population index	100	102	104	106	107	108	108	8%
GDP PPP per population index	100	106	111	119	121	126	127	27%
Energy intensity index - TPES / GDP PPP	100	103	102	96	92	80	78	-22%
Carbon intensity index - CO_2 / TPES	100	96	96	99	97	110	110	10%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**636.2**	**577.0**	**329.0**	**11.4**	**1 553.7**	**17%**
Electricity and heat generation	476.0	68.5	206.7	4.8	755.9	43%
Other energy industry own use	34.2	30.9	20.1	-	85.2	35%
Manufacturing industries and construction	123.9	74.3	47.2	6.6	252.0	-21%
Transport	0.0	316.1	0.8	-	316.9	17%
of which: road	-	*279.2*	*0.4*	-	*279.6*	16%
Other	2.1	87.3	54.1	-	143.5	0%
of which: residential	*0.0*	*33.3*	*28.8*	-	*62.2*	-2%
of which: services	*1.9*	*43.8*	*25.2*	-	*70.8*	3%
Memo: international marine bunkers	-	*17.4*	-	-	*17.4*	*-18%*
Memo: international aviation bunkers	-	*33.5*	-	-	*33.5*	*75%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	419.9	93.0	17.8	17.8
Road - oil	279.2	16.2	11.8	29.6
Main activity prod. elec. and heat - gas	185.6	111.6	7.8	37.4
Manufacturing industries - coal	123.9	-24.0	5.2	42.7
Manufacturing industries - oil	74.3	-42.3	3.1	45.8
Unallocated autoproducers - coal	56.1	79.1	2.4	48.2
Non-specified other - oil	54.0	-15.6	2.3	50.5
Manufacturing industries - gas	47.2	91.3	2.0	52.4
Main activity prod. elec. and heat - oil	43.9	-68.4	1.9	54.3
Memo: total CO_2 from fuel combustion	*1553.7*	*17.4*	*65.7*	*65.7*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Annex I: Economies in Transition

Figure 1. CO_2 emissions by fuel

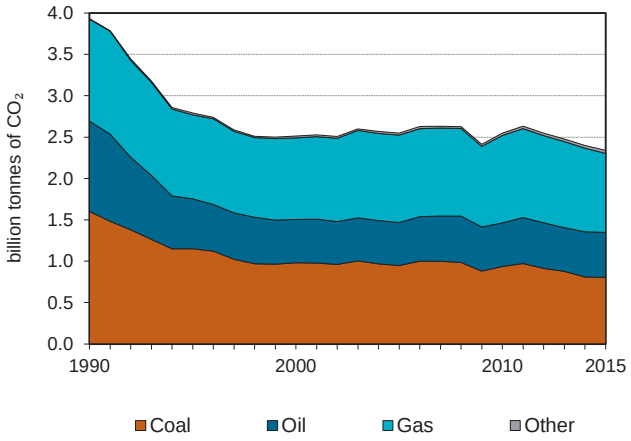


Figure 2. CO_2 emissions by sector

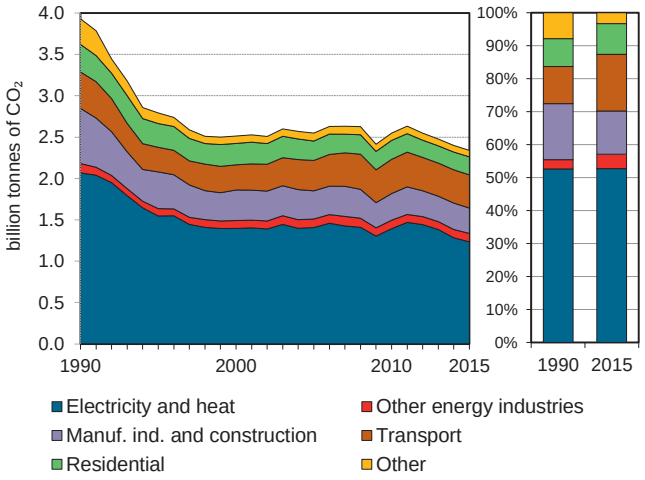


Figure 3. Electricity generation by fuel

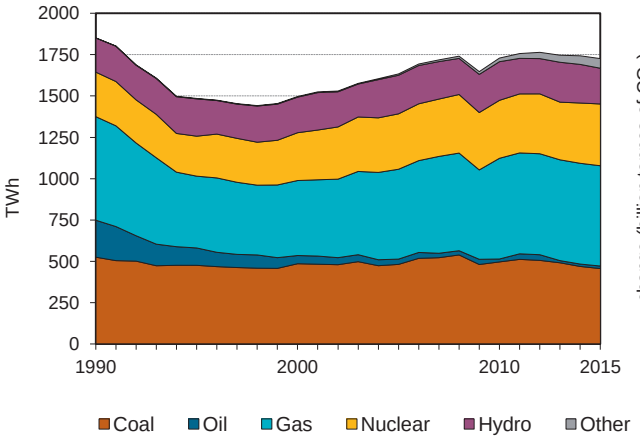


Figure 4. CO_2 from electricity generation: driving factors[1]

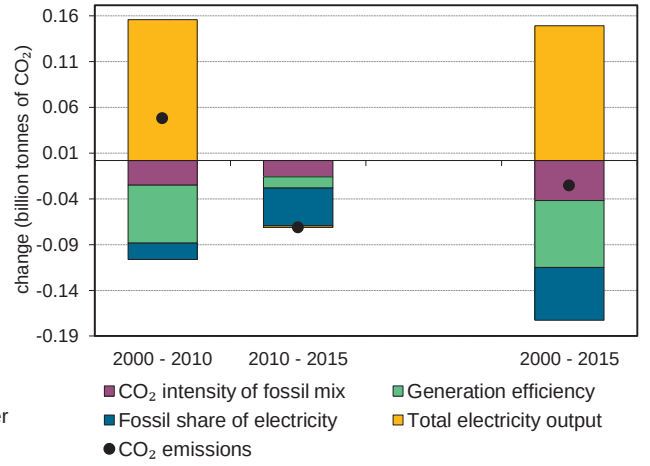


Figure 5. Changes in selected indicators

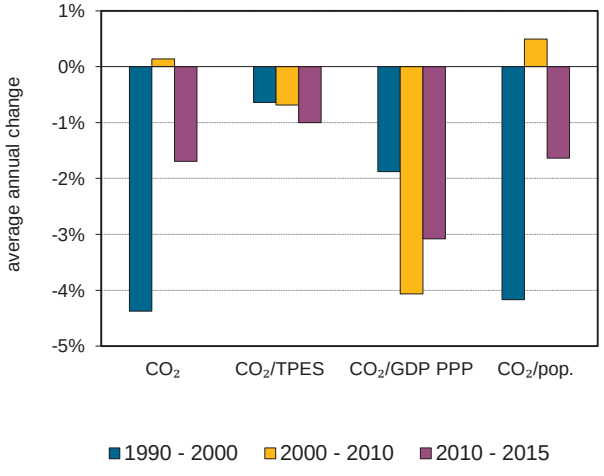
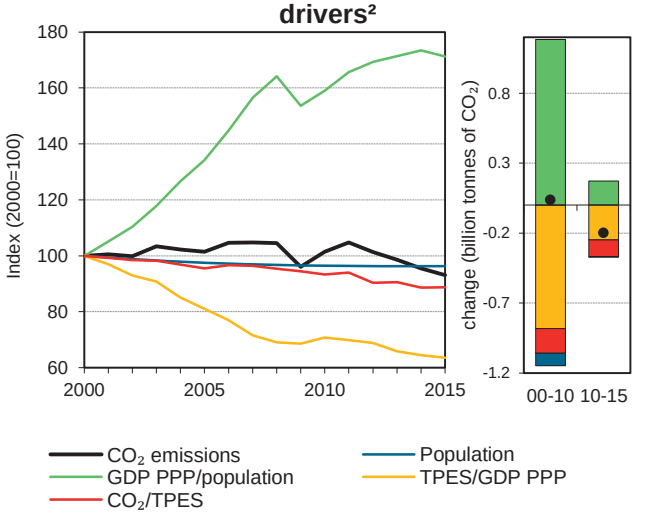


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Annex I: Economies in Transition

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	3930.8	2 792.3	2 513.3	2 548.8	2 548.7	2 399.2	2 340.1	-40%
Share of World CO_2 from fuel combustion	19%	13%	11%	9%	8%	7%	7%	
TPES (PJ)	63601	46 558	43 360	46 022	47 103	46 692	45 475	-28%
GDP (billion 2010 USD)	2562.5	1 841.4	2 052.5	2 671.4	3 130.6	3 406.1	3 374.7	32%
GDP PPP (billion 2010 USD)	4706.5	3 285.2	3 636.2	4 761.3	5 584.1	6 071.9	5 996.0	27%
Population (millions)	321.1	319.7	314.2	306.5	303.3	302.5	302.5	-6%
CO_2 / TPES (tCO_2 per TJ)	61.8	60.0	58.0	55.4	54.1	51.4	51.5	-17%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	1.53	1.5	1.2	1.0	0.8	0.7	0.7	-55%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.84	0.9	0.7	0.5	0.5	0.4	0.4	-53%
CO_2 / population (tCO_2 per capita)	12.2	8.7	8.0	8.3	8.4	7.9	7.7	-37%
Share of electricity output from fossil fuels	74%	69%	66%	65%	65%	63%	63%	
CO_2 / kWh of electricity (gCO_2/kWh)	535	492	472	483	461	427	429	-20%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	71	64	65	65	61	60	-40%
Population index	100	100	98	95	94	94	94	-6%
GDP PPP per population index	100	70	79	106	126	137	135	35%
Energy intensity index - TPES / GDP PPP	100	105	88	72	62	57	56	-44%
Carbon intensity index - CO_2 / TPES	100	97	94	90	88	83	83	-17%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**804.8**	**544.0**	**954.9**	**36.3**	**2 340.1**	**-40%**
Electricity and heat generation	615.8	39.3	557.0	22.6	1 234.6	-40%
Other energy industry own use	15.3	52.6	32.7	1.4	102.0	-10%
Manufacturing industries and construction	120.5	55.0	119.6	11.0	306.1	-54%
Transport	0.0	331.1	70.6	-	401.7	-9%
of which: road	-	*301.0*	*0.6*	-	*301.6*	8%
Other	53.2	66.1	175.0	1.2	295.6	-54%
of which: residential	*39.8*	*26.5*	*151.8*	-	*218.1*	-35%
of which: services	*9.3*	*10.3*	*19.2*	*1.0*	*39.7*	-74%
Memo: international marine bunkers	-	*52.2*	-	-	*52.2*	*429%*
Memo: international aviation bunkers	-	*21.6*	-	-	*21.6*	*-42%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	524.7	-35.1	13.7	13.7
Main activity prod. elec. and heat - gas	390.5	-22.6	10.2	24.0
Road - oil	301.0	8.8	7.9	31.8
Unallocated autoproducers - gas	166.5	-25.0	4.4	36.2
Residential - gas	151.8	-2.0	4.0	40.2
Manufacturing industries - coal	120.5	-61.5	3.2	43.3
Manufacturing industries - gas	119.6	-40.5	3.1	46.4
Unallocated autoproducers - coal	91.1	-46.3	2.4	48.8
Other transport - gas	69.9	-9.9	1.8	50.7
Memo: total CO_2 from fuel combustion	*2340.1*	*-40.5*	*61.2*	*61.2*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Non-Annex I Parties

Figure 1. CO_2 emissions by fuel

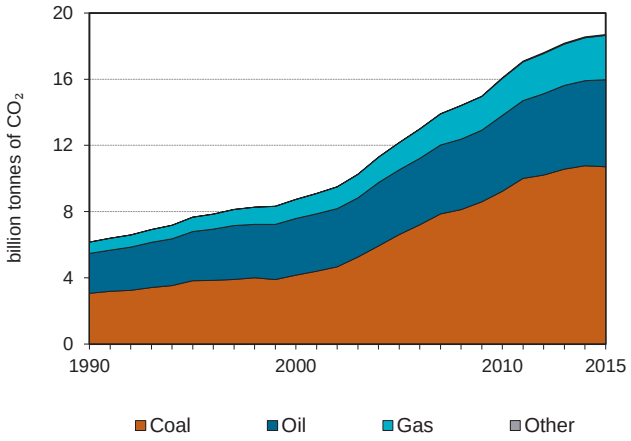


Figure 2. CO_2 emissions by sector

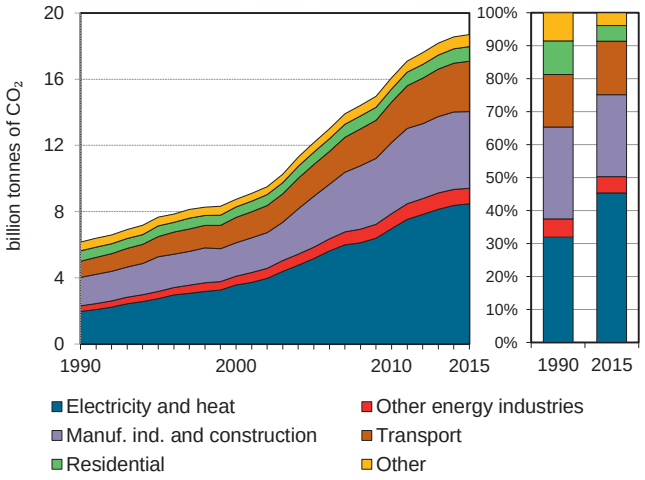


Figure 3. Electricity generation by fuel

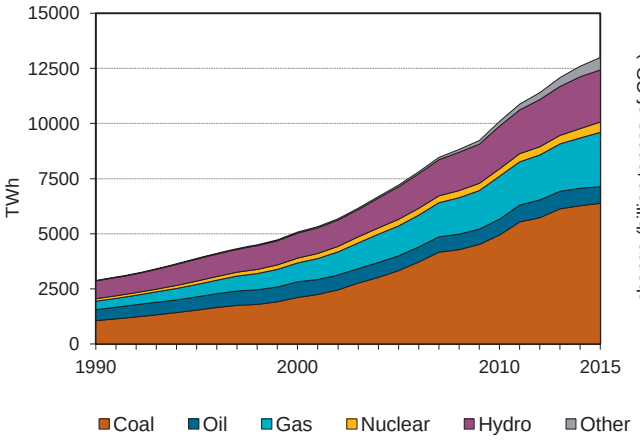


Figure 4. CO_2 from electricity generation: driving factors[1]

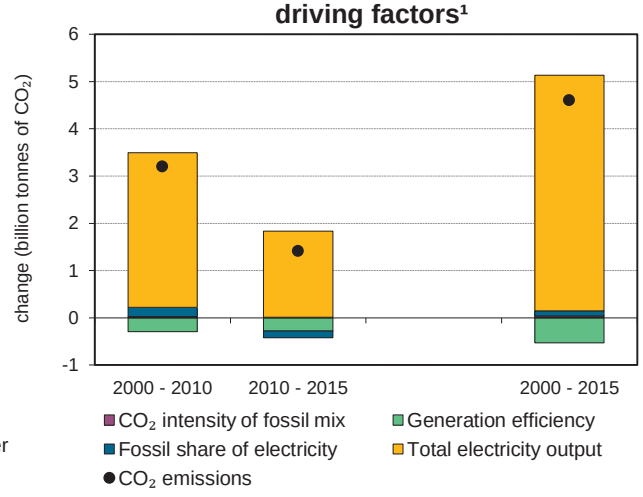


Figure 5. Changes in selected indicators

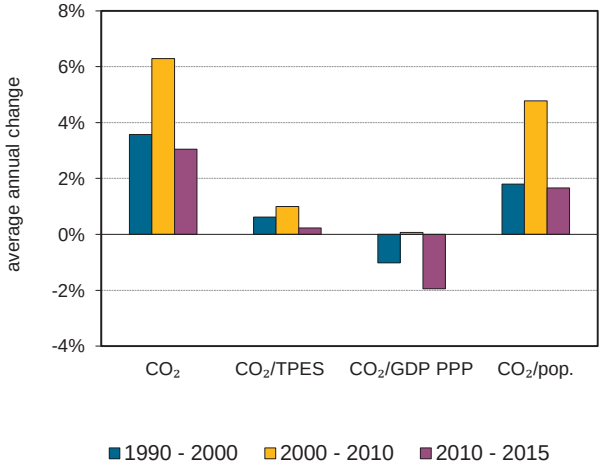
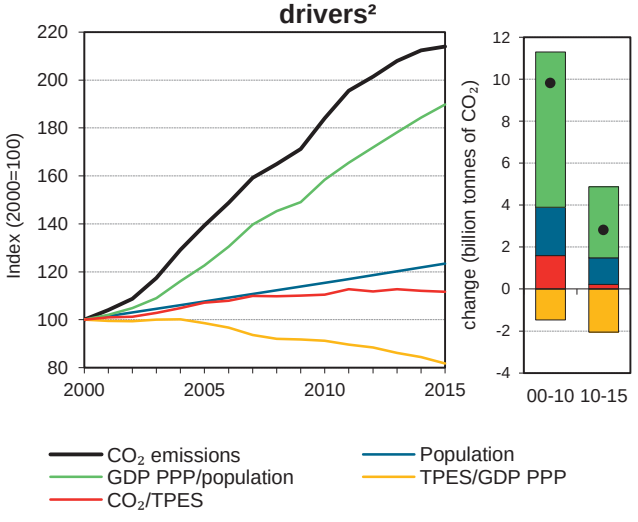


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Non-Annex I Parties

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	6155.8	7 665.0	8 741.9	12 174.4	16 090.9	18 560.7	18 700.9	204%
Share of World CO_2 from fuel combustion	30%	36%	38%	45%	53%	57%	58%	
TPES (PJ)	124926	146 952	166 866	217 059	278 098	316 318	319 511	156%
GDP (billion 2010 USD)	7749.9	9 769.7	12 169.9	15 839.8	21 709.2	26 459.9	27 469.5	254%
GDP PPP (billion 2010 USD)	15559.7	19 538.1	24 496.5	32 311.1	44 756.7	54 987.7	57 407.4	269%
Population (millions)	4102.8	4 495.5	4 876.5	5 248.4	5 626.9	5 940.3	6 021.0	47%
CO_2 / TPES (tCO_2 per TJ)	49.3	52.2	52.4	56.1	57.9	58.7	58.5	19%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.79	0.8	0.7	0.8	0.7	0.7	0.7	-14%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.4	0.4	0.4	0.4	0.4	0.3	0.3	-18%
CO_2 / population (tCO_2 per capita)	1.5	1.7	1.8	2.3	2.9	3.1	3.1	107%
Share of electricity output from fossil fuels	67%	70%	72%	74%	76%	74%	74%	
CO_2 / kWh of electricity (gCO_2/kWh)	624	658	649	662	640	616	603	-3%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	125	142	198	261	302	304	204%
Population index	100	110	119	128	137	145	147	47%
GDP PPP per population index	100	115	132	162	210	244	251	151%
Energy intensity index - TPES / GDP PPP	100	94	85	84	77	72	69	-31%
Carbon intensity index - CO_2 / TPES	100	106	106	114	117	119	119	19%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**10 711.6**	**5 259.8**	**2 680.0**	**49.5**	**18 700.9**	**204%**
Electricity and heat generation	6 552.3	651.7	1 232.7	36.4	8 473.1	331%
Other energy industry own use	282.2	283.0	370.3	-	935.5	175%
Manufacturing industries and construction	3 348.4	687.7	588.4	11.6	4 636.1	170%
Transport	9.9	2 929.9	103.7	..	3 043.5	211%
of which: road	*x*	*2 672.2*	*89.0*	*x*	*2 761.3*	225%
Other	518.8	707.6	385.0	1.5	1 612.8	40%
of which: residential	*235.9*	*355.9*	*291.1*	*x*	*882.9*	41%
of which: services	*112.2*	*106.0*	*84.9*	*1.5*	*304.6*	146%
Memo: international marine bunkers	*..*	*410.7*	*..*	*..*	*410.7*	*204%*
Memo: international aviation bunkers	*..*	*253.4*	*..*	*..*	*253.4*	*189%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	6031.1	397.7	16.8	16.8
Manufacturing industries - coal	3348.4	200.8	9.3	26.1
Road - oil	2672.2	214.7	7.4	33.5
Main activity prod. elec. and heat - gas	1057.2	378.5	2.9	36.5
Manufacturing industries - oil	687.7	57.6	1.9	38.4
Manufacturing industries - gas	588.4	255.5	1.6	40.0
Main activity prod. elec. and heat - oil	554.0	37.6	1.5	41.6
Unallocated autoproducers - coal	521.2	765.2	1.5	43.0
Other energy industry own use - gas	370.3	209.4	1.0	44.0
Memo: total CO_2 from fuel combustion	*18700.9*	*203.8*	*52.0*	*52.0*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Annex B Kyoto Parties

Figure 1. CO_2 emissions by fuel

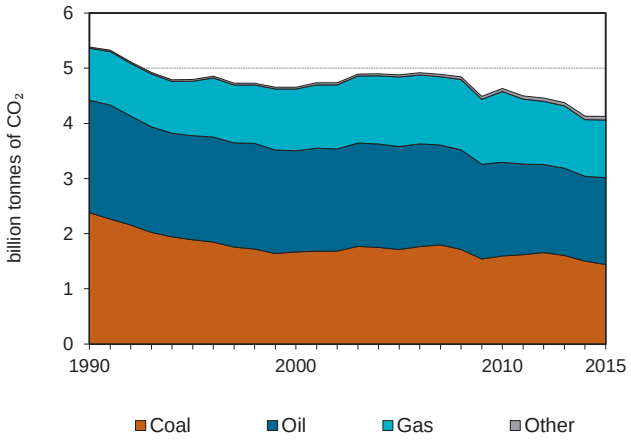


Figure 2. CO_2 emissions by sector

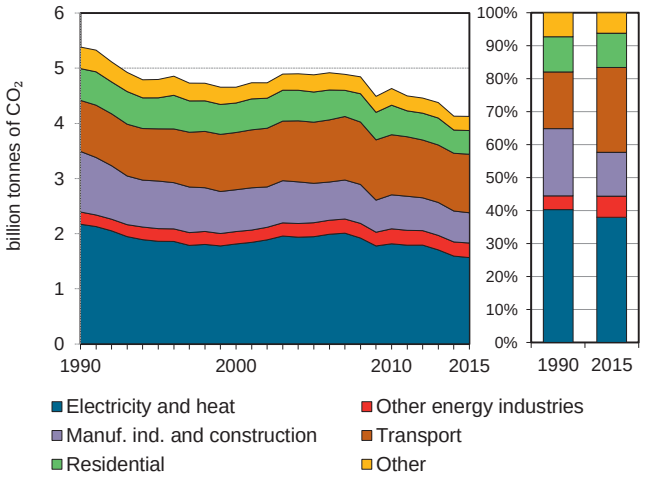


Figure 3. Electricity generation by fuel

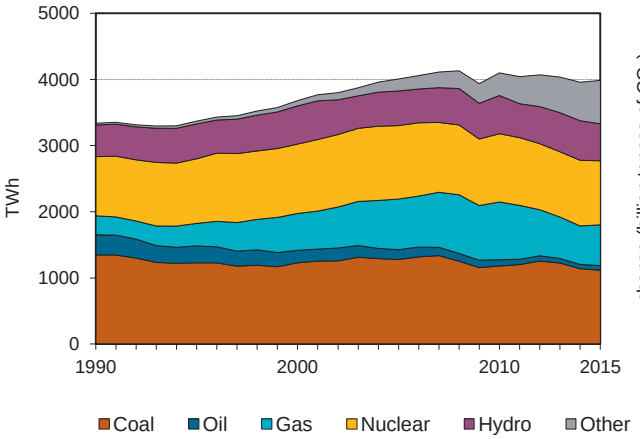


Figure 4. CO_2 from electricity generation: driving factors[1]

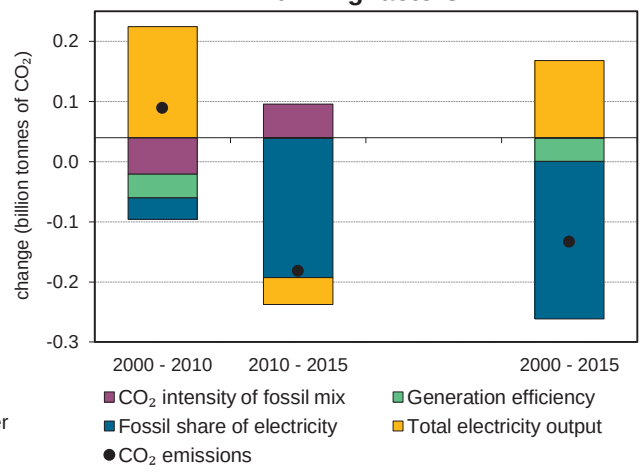


Figure 5. Changes in selected indicators

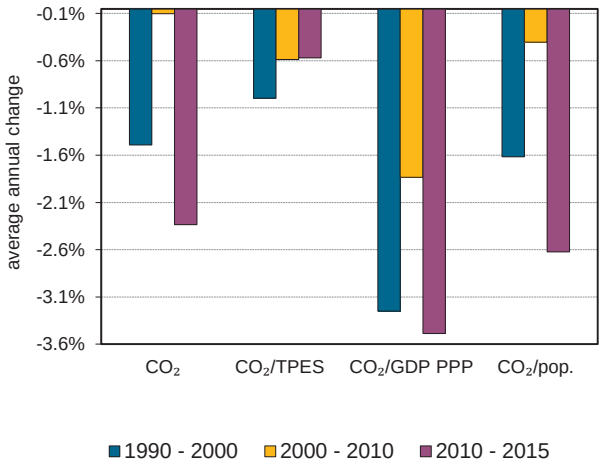
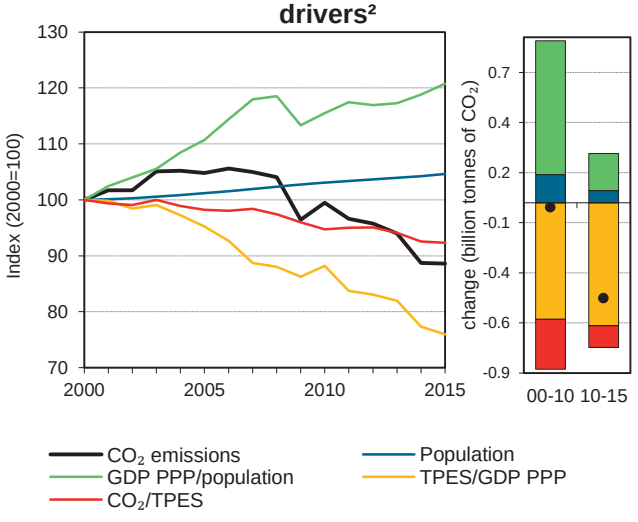


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Annex B Kyoto Parties

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	5383.4	4 795.5	4 655.6	4 879.7	4 631.6	4 130.0	4 126.0	-23%
Share of World CO_2 from fuel combustion	26%	22%	20%	18%	15%	13%	13%	
TPES (PJ)	90089	85 064	85 686	91 422	89 962	82 102	82 264	-9%
GDP (billion 2010 USD)	13578.1	14 499.2	16 768.1	18 590.7	19 634.0	20 422.2	20 846.9	54%
GDP PPP (billion 2010 USD)	13505.9	14 024.1	16 173.3	18 120.0	19 254.6	20 034.9	20 436.1	51%
Population (millions)	584.8	590.7	592.4	599.6	610.6	617.5	619.7	6%
CO_2 / TPES (tCO_2 per TJ)	59.8	56.4	54.3	53.4	51.5	50.3	50.2	-16%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.4	0.3	0.3	0.3	0.2	0.2	0.2	-50%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.4	0.3	0.3	0.3	0.2	0.2	0.2	-49%
CO_2 / population (tCO_2 per capita)	9.2	8.1	7.9	8.1	7.6	6.7	6.7	-28%
Share of electricity output from fossil fuels	58%	54%	54%	55%	53%	46%	46%	
CO_2 / kWh of electricity (gCO_2/kWh)	509	458	417	409	370	341	332	-35%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	89	86	91	86	77	77	-23%
Population index	100	101	101	103	104	106	106	6%
GDP PPP per population index	100	103	118	131	137	140	143	43%
Energy intensity index - TPES / GDP PPP	100	91	79	76	70	61	60	-40%
Carbon intensity index - CO_2 / TPES	100	94	91	89	86	84	84	-16%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**1 440.6**	**1 574.8**	**1 046.0**	**64.7**	**4 126.0**	**-23%**
Electricity and heat generation	1 147.0	59.5	315.9	43.8	1 566.3	-28%
Other energy industry own use	43.4	108.9	111.6	0.4	264.3	19%
Manufacturing industries and construction	191.0	120.5	217.7	19.2	548.4	-50%
Transport	0.2	1 047.9	13.3	-	1 061.4	15%
of which: road	-	*989.5*	*4.5*	-	*993.9*	16%
Other	59.0	237.9	387.4	1.3	685.6	-29%
of which: residential	*46.6*	*117.8*	*265.1*	*0.0*	*429.5*	-25%
of which: services	*7.7*	*54.7*	*111.3*	*1.3*	*175.0*	-18%
Memo: international marine bunkers	-	*138.3*	-	-	*138.3*	*18%*
Memo: international aviation bunkers	-	*156.4*	-	-	*156.4*	*74%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	1084.6	-21.3	17.8	17.8
Road - oil	989.5	16.0	16.2	33.9
Residential - gas	265.1	27.4	4.3	38.3
Main activity prod. elec. and heat - gas	248.2	9.5	4.1	42.3
Manufacturing industries - gas	217.7	-27.4	3.6	45.9
Manufacturing industries - coal	191.0	-64.1	3.1	49.0
Non-specified other - gas	122.3	10.6	2.0	51.0
Manufacturing industries - oil	120.5	-53.6	2.0	53.0
Non-specified other - oil	120.1	-40.6	2.0	55.0
Memo: total CO_2 from fuel combustion	*4126.0*	*-23.4*	*67.5*	*67.5*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

CO_2 EMISSIONS STATISTICS AND INDICATORS

OTHER REGIONAL TOTALS

IEA and Accession/Association countries

Figure 1. CO_2 emissions by fuel

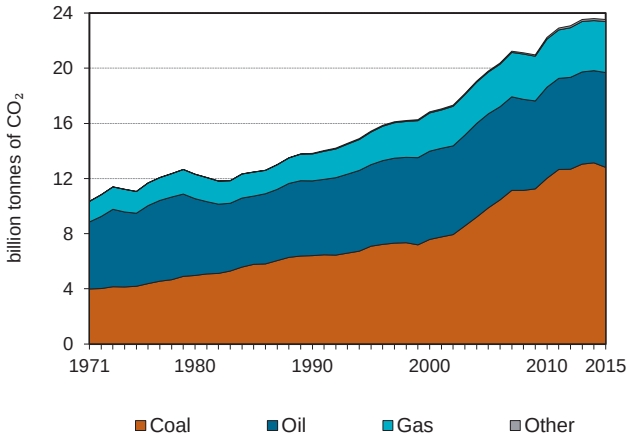


Figure 2. CO_2 emissions by sector

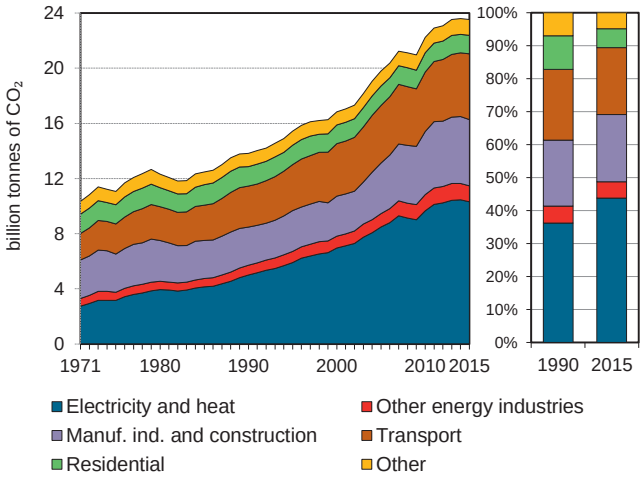


Figure 3. Electricity generation by fuel

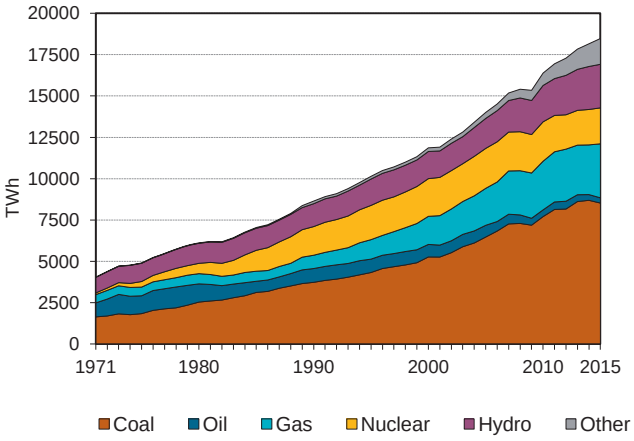


Figure 4. CO_2 from electricity generation: driving factors[1]

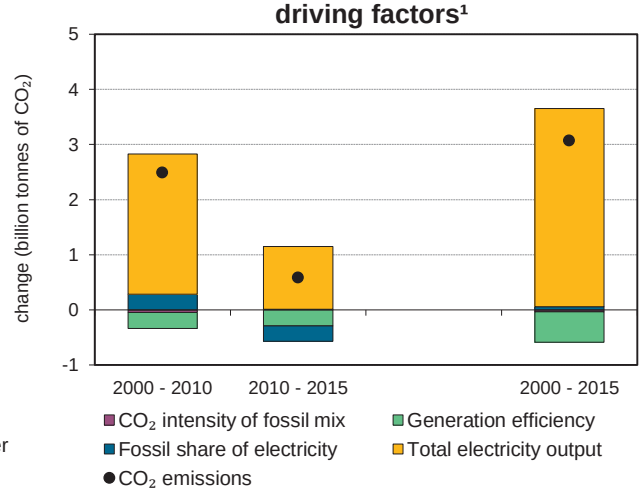


Figure 5. Changes in selected indicators

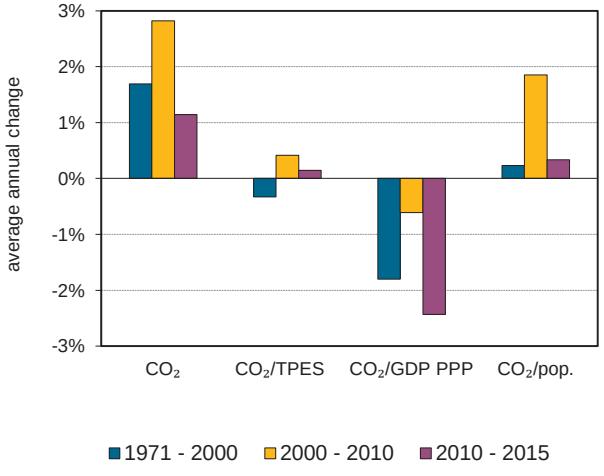
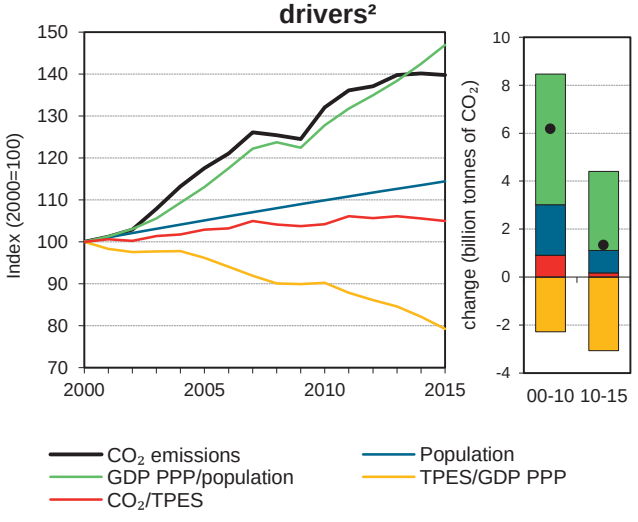


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

IEA and Accession/Association countries

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	13823.1	15 437.5	16 836.4	19 796.0	22 233.7	23 598.3	23 531.8	70%
Share of World CO_2 from fuel combustion	67%	72%	73%	73%	73%	73%	73%	
TPES (PJ)	244678	271 818	297 112	339 577	376 550	394 382	395 654	62%
GDP (billion 2010 USD)	31073.1	35 241.4	41 954.5	48 139.6	53 601.1	59 485.5	61 367.0	97%
GDP PPP (billion 2010 USD)	32502.3	37 883.5	45 870.3	54 488.5	64 404.9	74 139.1	77 097.8	137%
Population (millions)	3335.1	3 559.4	3 768.8	3 960.3	4 142.2	4 277.6	4 311.7	29%
CO_2 / TPES (tCO_2 per TJ)	56.5	56.8	56.7	58.3	59.0	59.8	59.5	5%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.44	0.4	0.4	0.4	0.4	0.4	0.4	-14%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.43	0.4	0.4	0.4	0.3	0.3	0.3	-28%
CO_2 / population (tCO_2 per capita)	4.1	4.3	4.5	5.0	5.4	5.5	5.5	32%
Share of electricity output from fossil fuels	62%	62%	65%	68%	68%	67%	66%	
CO_2 / kWh of electricity (gCO_2/kWh)	547	551	554	568	549	536	517	-5%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	112	122	143	161	171	170	70%
Population index	100	107	113	119	124	128	129	29%
GDP PPP per population index	100	109	125	141	160	178	183	83%
Energy intensity index - TPES / GDP PPP	100	95	86	83	78	71	68	-32%
Carbon intensity index - CO_2 / TPES	100	101	100	103	105	106	105	5%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**12 808.7**	**6 877.1**	**3 703.2**	**142.7**	**23 531.8**	**70%**
Electricity and heat generation	8 544.8	260.3	1 408.4	99.5	10 313.1	106%
Other energy industry own use	310.3	447.6	398.7	0.4	1 157.0	63%
Manufacturing industries and construction	3 404.9	617.9	743.3	39.1	4 805.2	74%
Transport	9.7	4 647.0	109.4	-	4 766.1	60%
of which: road	-	*4 134.6*	*58.3*	-	*4 192.9*	68%
Other	539.0	904.3	1 043.4	3.6	2 490.4	5%
of which: residential	*250.5*	*434.5*	*658.0*	*0.0*	*1 343.1*	-5%
of which: services	*124.2*	*210.0*	*368.9*	*3.6*	*706.7*	19%
Memo: international marine bunkers	-	*402.9*	-	-	*402.9*	*45%*
Memo: international aviation bunkers	-	*358.0*	-	-	*358.0*	*124%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	7967.0	117.4	24.0	24.0
Road - oil	4134.6	65.6	12.5	36.5
Manufacturing industries - coal	3404.9	118.0	10.3	46.8
Main activity prod. elec. and heat - gas	1239.6	254.4	3.7	50.5
Manufacturing industries - gas	743.3	37.3	2.2	52.8
Residential - gas	658.0	39.5	2.0	54.8
Manufacturing industries - oil	617.9	-5.8	1.9	56.6
Unallocated autoproducers - coal	577.8	129.7	1.7	58.4
Other transport - oil	512.5	33.8	1.5	59.9
Memo: total CO_2 from fuel combustion	*23531.8*	*70.2*	*71.0*	*71.0*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

OECD Total

Figure 1. CO_2 emissions by fuel

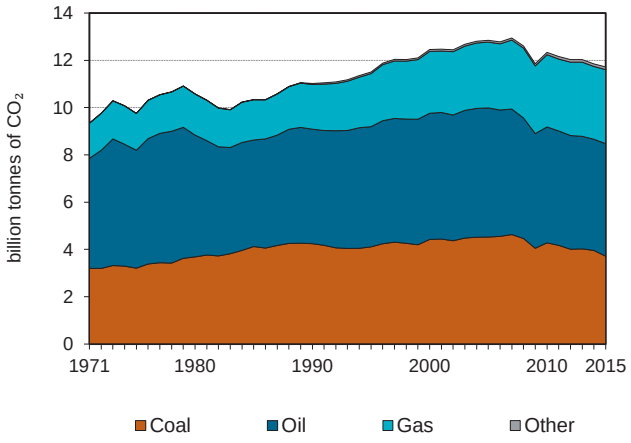


Figure 2. CO_2 emissions by sector

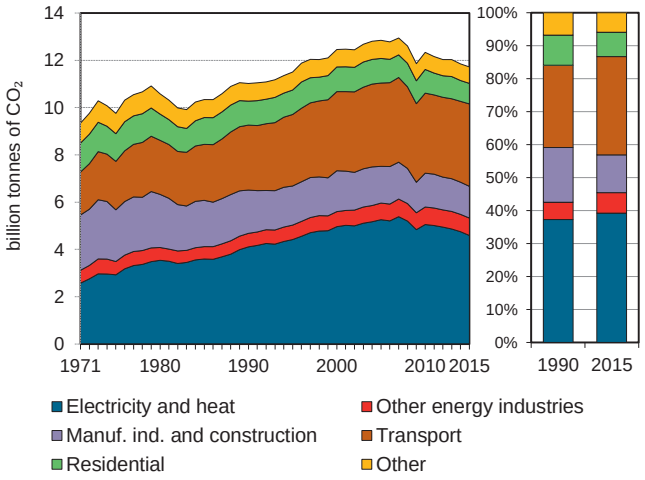


Figure 3. Electricity generation by fuel

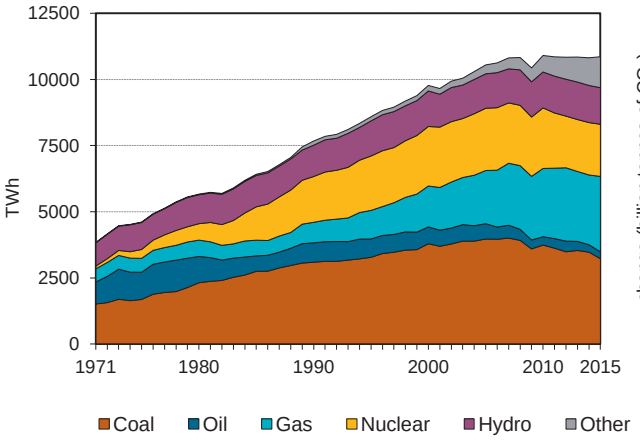


Figure 4. CO_2 from electricity generation: driving factors[1]

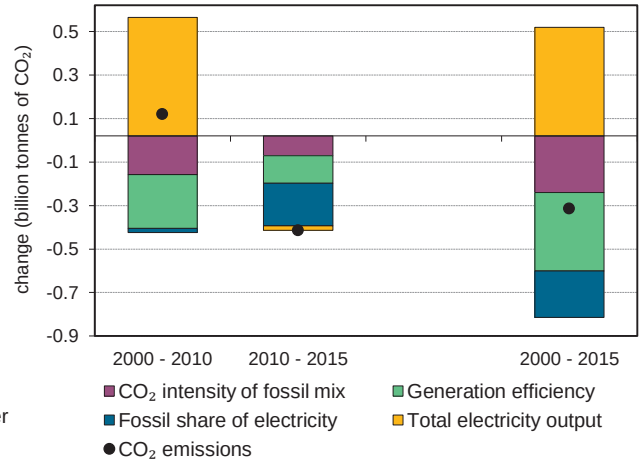


Figure 5. Changes in selected indicators

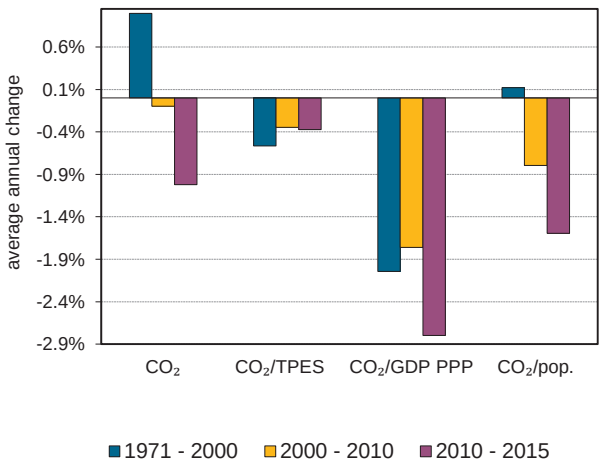
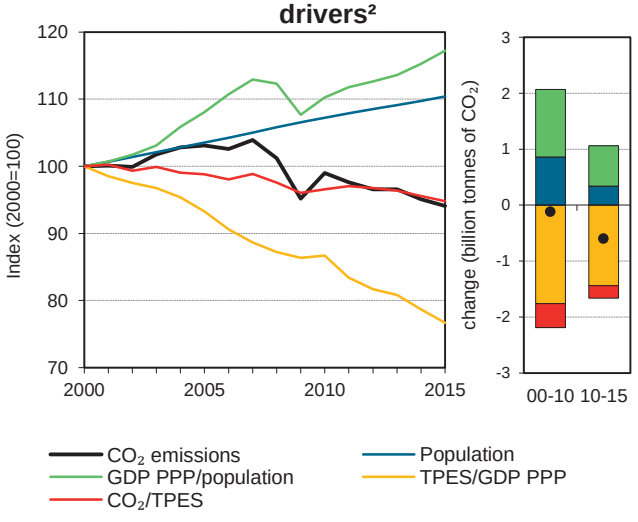


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

OECD Total

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	11020.3	11 504.8	12 457.9	12 847.0	12 336.4	11 848.2	11 720.2	6%
Share of World CO_2 from fuel combustion	54%	54%	54%	48%	41%	37%	36%	
TPES (PJ)	189882	204 487	221 885	231 612	227 496	220 801	220 203	16%
GDP (billion 2010 USD)	29343.8	32 544.2	38 277.1	42 617.4	44 737.1	47 671.5	48 750.4	66%
GDP PPP (billion 2010 USD)	28088.4	31 169.5	36 873.3	41 257.4	43 602.5	46 639.6	47 730.9	70%
Population (millions)	1072.8	1 117.1	1 156.4	1 197.0	1 240.1	1 269.1	1 276.7	19%
CO_2 / TPES (tCO_2 per TJ)	58	56.3	56.1	55.5	54.2	53.7	53.2	-8%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.38	0.4	0.3	0.3	0.3	0.2	0.2	-36%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.39	0.4	0.3	0.3	0.3	0.3	0.2	-37%
CO_2 / population (tCO_2 per capita)	10.3	10.3	10.8	10.7	9.9	9.3	9.2	-11%
Share of electricity output from fossil fuels	60%	59%	61%	63%	61%	60%	59%	
CO_2 / kWh of electricity (gCO_2/kWh)	508	493	489	478	442	421	404	-20%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	104	113	117	112	108	106	6%
Population index	100	104	108	112	116	118	119	19%
GDP PPP per population index	100	107	122	132	134	140	143	43%
Energy intensity index - TPES / GDP PPP	100	97	89	83	77	70	68	-32%
Carbon intensity index - CO_2 / TPES	100	97	97	96	93	92	92	-8%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**3 714.0**	**4 760.2**	**3 134.6**	**111.4**	**11 720.2**	**6%**
Electricity and heat generation	3 116.3	194.1	1 212.1	68.2	4 590.7	12%
Other energy industry own use	116.4	306.3	313.7	0.4	736.8	29%
Manufacturing industries and construction	406.2	293.6	604.6	39.1	1 343.6	-27%
Transport	0.0	3 426.2	59.1	-	3 485.4	27%
of which: road	-	*3 084.6*	*9.6*	-	*3 094.1*	32%
Other	75.1	540.0	945.1	3.6	1 563.7	-11%
of which: residential	*46.9*	*235.6*	*586.0*	*0.0*	*868.5*	-14%
of which: services	*23.9*	*153.8*	*343.0*	*3.6*	*524.3*	-3%
Memo: international marine bunkers	-	*225.1*	-	-	*225.1*	*-5%*
Memo: international aviation bunkers	-	*285.6*	-	-	*285.6*	*99%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	3084.6	31.7	18.4	18.4
Main activity prod. elec. and heat - coal	2949.4	1.9	17.6	35.9
Main activity prod. elec. and heat - gas	1064.2	218.5	6.3	42.3
Manufacturing industries - gas	604.6	13.7	3.6	45.9
Residential - gas	586.0	25.2	3.5	49.4
Manufacturing industries - coal	406.2	-45.8	2.4	51.8
Non-specified other - gas	359.0	38.2	2.1	53.9
Other transport - oil	341.7	-5.4	2.0	55.9
Other energy industry own use - gas	313.7	86.8	1.9	57.8
Memo: total CO_2 from fuel combustion	*11720.2*	*6.4*	*69.8*	*69.8*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

OECD Americas

Figure 1. CO_2 emissions by fuel

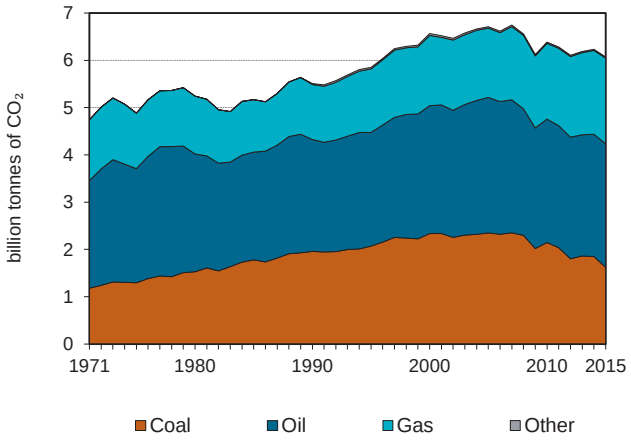


Figure 2. CO_2 emissions by sector

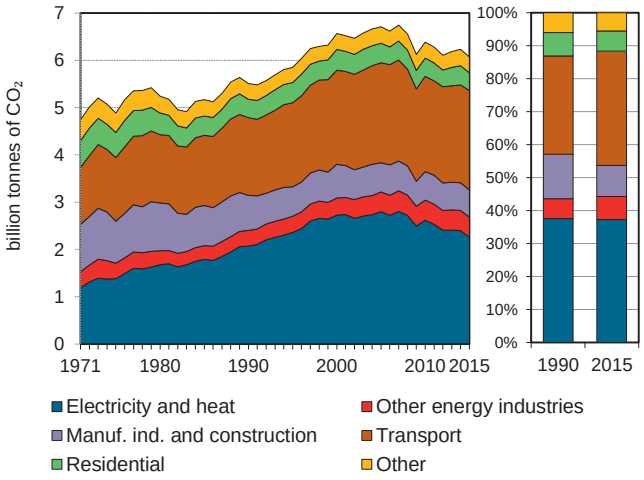


Figure 3. Electricity generation by fuel

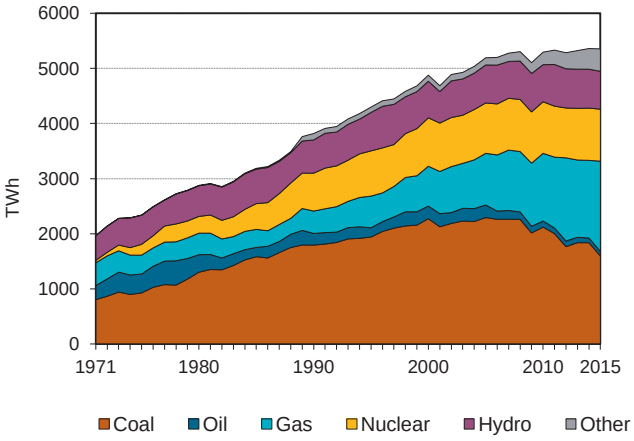


Figure 4. CO_2 from electricity generation: driving factors[1]

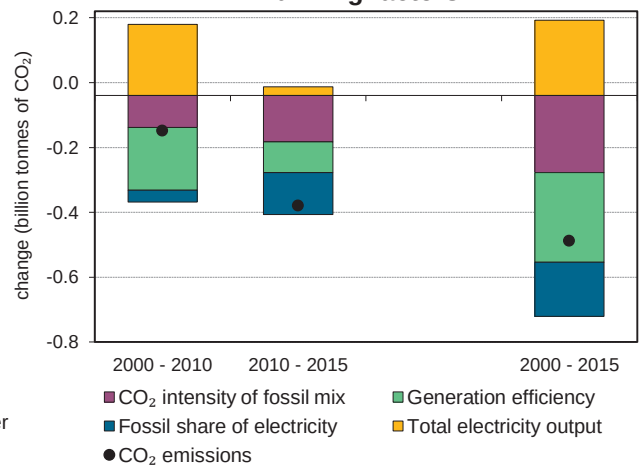


Figure 5. Changes in selected indicators

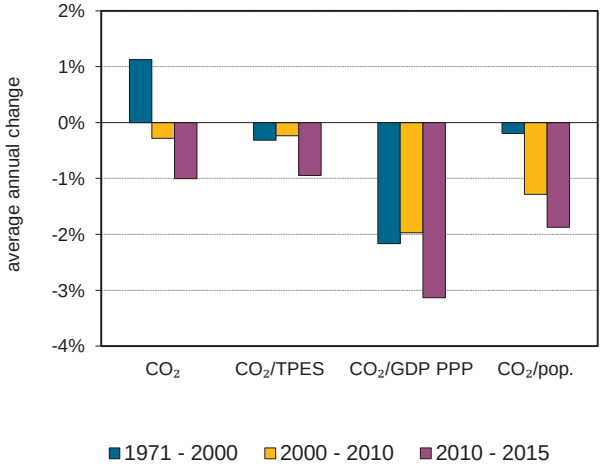
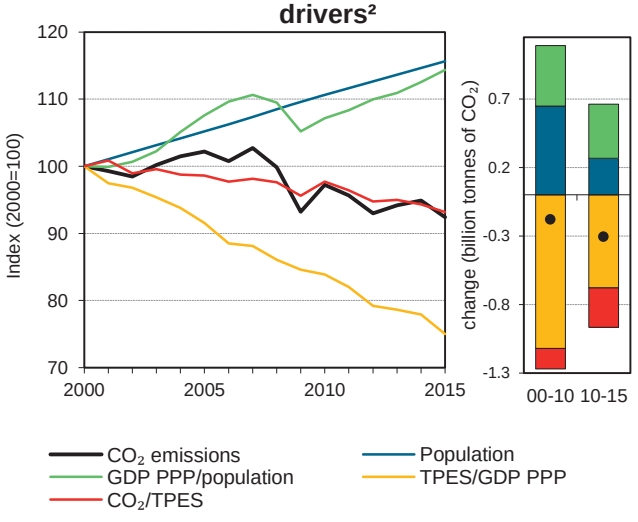


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

OECD Americas

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	5508.3	5 850.4	6 567.0	6 710.2	6 384.4	6 232.4	6 070.7	10%
Share of World CO_2 from fuel combustion	27%	27%	28%	25%	21%	19%	19%	
TPES (PJ)	94790	102 630	113 167	117 235	112 618	113 840	112 288	18%
GDP (billion 2010 USD)	10772.6	12 184.0	15 069.9	17 067.4	17 845.3	19 391.3	19 864.7	84%
GDP PPP (billion 2010 USD)	11046.9	12 492.8	15 485.0	17 524.3	18 366.2	19 985.5	20 478.7	85%
Population (millions)	378.1	404.8	429.4	451.7	475.2	492.3	496.6	31%
CO_2 / TPES (tCO_2 per TJ)	58.1	57.0	58.0	57.2	56.7	54.7	54.1	-7%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.51	0.5	0.4	0.4	0.4	0.3	0.3	-40%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.5	0.5	0.4	0.4	0.3	0.3	0.3	-41%
CO_2 / population (tCO_2 per capita)	14.6	14.5	15.3	14.9	13.4	12.7	12.2	-16%
Share of electricity output from fossil fuels	63%	63%	66%	67%	66%	63%	62%	
CO_2 / kWh of electricity (gCO_2/kWh)	541	542	554	535	488	442	417	-23%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	106	119	122	116	113	110	10%
Population index	100	107	114	119	126	130	131	31%
GDP PPP per population index	100	106	123	133	132	139	141	41%
Energy intensity index - TPES / GDP PPP	100	96	85	78	71	66	64	-36%
Carbon intensity index - CO_2 / TPES	100	98	100	98	98	94	93	-7%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**1 622.8**	**2 611.8**	**1 814.5**	**21.6**	**6 070.7**	**10%**
Electricity and heat generation	1 495.0	63.3	687.8	17.3	2 263.5	9%
Other energy industry own use	13.1	167.4	241.2	-	421.7	27%
Manufacturing industries and construction	111.9	117.9	341.2	3.4	574.4	-22%
Transport	-	2 054.0	47.5	-	2 101.5	28%
of which: road	-	*1 799.0*	*2.4*	-	*1 801.4*	35%
Other	2.7	209.2	496.8	0.9	709.6	-2%
of which: residential	*0.0*	*83.2*	*292.1*	-	*375.3*	-3%
of which: services	*2.7*	*52.2*	*199.3*	*0.9*	*255.1*	1%
Memo: international marine bunkers	-	*44.6*	-	-	*44.6*	*-53%*
Memo: international aviation bunkers	-	*85.2*	-	-	*85.2*	*78%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	1799.0	34.9	19.7	19.7
Main activity prod. elec. and heat - coal	1479.0	-10.7	16.2	35.9
Main activity prod. elec. and heat - gas	615.4	274.0	6.7	42.6
Manufacturing industries - gas	341.2	5.6	3.7	46.4
Residential - gas	292.1	8.3	3.2	49.6
Other transport - oil	255.0	-4.6	2.8	52.4
Other energy industry own use - gas	241.2	73.4	2.6	55.0
Non-specified other - gas	204.7	24.3	2.2	57.2
Other energy industry own use - oil	167.4	-9.9	1.8	59.1
Memo: total CO_2 from fuel combustion	*6070.7*	*10.2*	*66.5*	*66.5*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

OECD Asia Oceania

Figure 1. CO_2 emissions by fuel

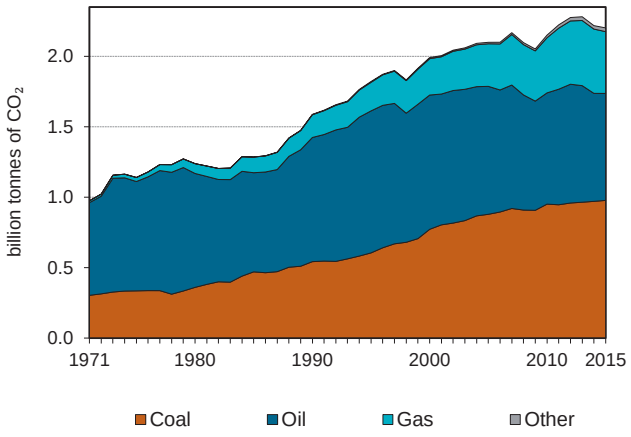


Figure 2. CO_2 emissions by sector

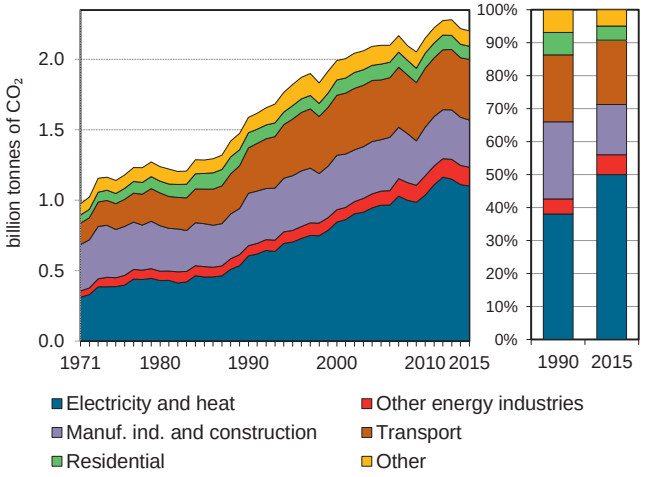


Figure 3. Electricity generation by fuel

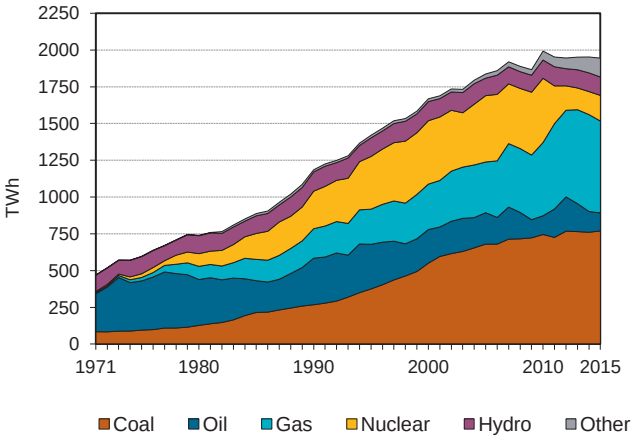


Figure 4. CO_2 from electricity generation: driving factors[1]

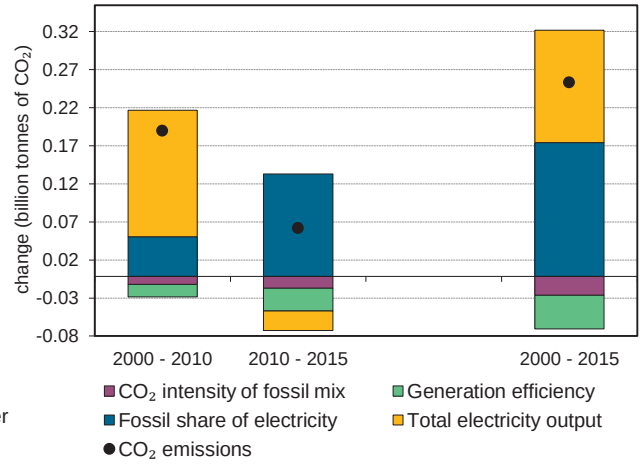


Figure 5. Changes in selected indicators

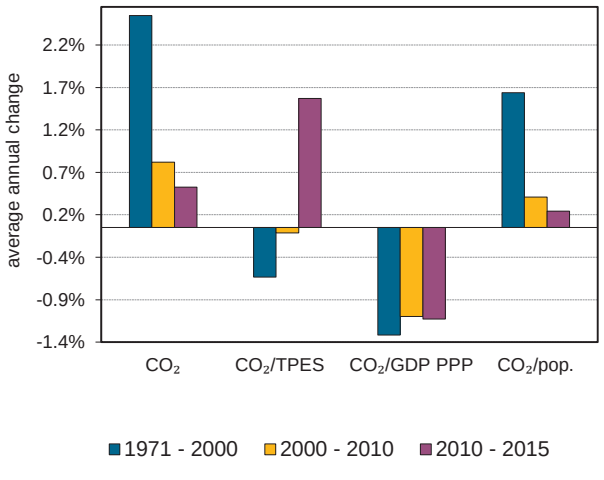
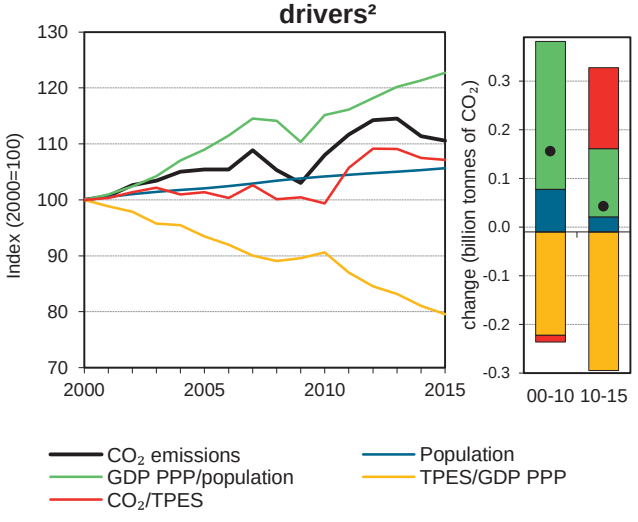


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

OECD Asia Oceania

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	1588	1 821.2	1 991.5	2 099.6	2 150.4	2 218.0	2 201.9	39%
Share of World CO_2 from fuel combustion	8%	9%	9%	8%	7%	7%	7%	
TPES (PJ)	26887	31 884	35 358	36 769	38 425	36 629	36 483	36%
GDP (billion 2010 USD)	5897.2	6 626.8	7 296.1	8 022.7	8 468.7	9 026.5	9 183.0	56%
GDP PPP (billion 2010 USD)	4734.2	5 376.4	5 938.3	6 604.8	7 123.5	7 588.3	7 698.4	63%
Population (millions)	191.7	197.9	203.2	207.4	211.7	214.0	214.7	12%
CO_2 / TPES (tCO_2 per TJ)	59.1	57.1	56.3	57.1	56.0	60.6	60.4	2%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.27	0.3	0.3	0.3	0.3	0.2	0.2	-11%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.34	0.3	0.3	0.3	0.3	0.3	0.3	-15%
CO_2 / population (tCO_2 per capita)	8.3	9.2	9.8	10.1	10.2	10.4	10.3	24%
Share of electricity output from fossil fuels	66%	65%	65%	67%	69%	80%	78%	
CO_2 / kWh of electricity (gCO_2/kWh)	509	492	501	517	512	560	557	9%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	115	125	132	135	140	139	39%
Population index	100	103	106	108	110	112	112	12%
GDP PPP per population index	100	110	118	129	136	144	145	45%
Energy intensity index - TPES / GDP PPP	100	104	105	98	95	85	83	-17%
Carbon intensity index - CO_2 / TPES	100	97	95	97	95	103	102	2%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**977.0**	**759.5**	**439.1**	**26.3**	**2 201.9**	**39%**
Electricity and heat generation	745.9	82.6	265.0	7.0	1 100.5	82%
Other energy industry own use	61.1	49.5	22.5	-	133.1	82%
Manufacturing industries and construction	165.2	86.4	65.7	17.8	335.2	-10%
Transport	0.0	427.4	3.5	-	430.9	34%
of which: road	-	*385.7*	*3.1*	-	*388.8*	39%
Other	4.8	113.7	82.3	1.5	202.3	-7%
of which: residential	*2.7*	*42.7*	*48.0*	-	*93.4*	-13%
of which: services	*1.9*	*51.5*	*34.0*	*1.5*	*88.8*	-1%
Memo: international marine bunkers	-	*48.6*	-	-	*48.6*	*81%*
Memo: international aviation bunkers	-	*49.5*	-	-	*49.5*	*129%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	649.6	167.8	20.7	20.7
Road - oil	385.7	37.6	12.3	32.9
Main activity prod. elec. and heat - gas	240.5	160.1	7.7	40.6
Manufacturing industries - coal	165.2	-7.1	5.3	45.9
Unallocated autoproducers - coal	96.3	79.6	3.1	48.9
Manufacturing industries - oil	86.4	-48.2	2.7	51.7
Non-specified other - oil	71.0	-23.7	2.3	53.9
Manufacturing industries - gas	65.7	164.7	2.1	56.0
Other energy industry - coal	61.1	125.7	1.9	58.0
Memo: total CO_2 from fuel combustion	*2201.9*	*38.7*	*70.1*	*70.1*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

OECD Europe

Figure 1. CO_2 emissions by fuel

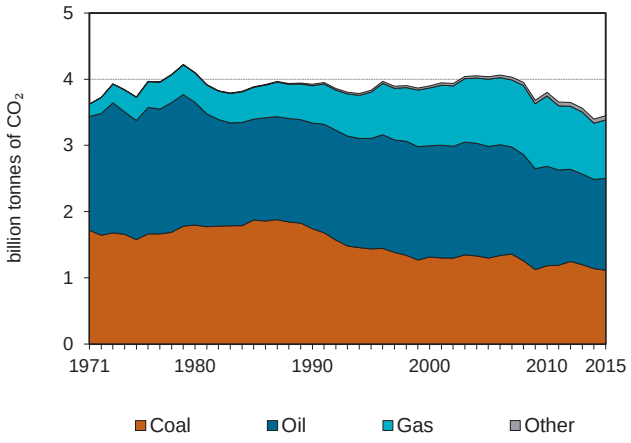


Figure 2. CO_2 emissions by sector

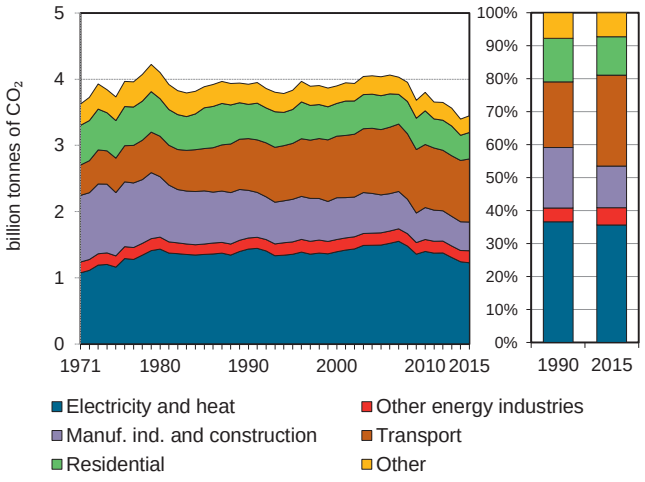


Figure 3. Electricity generation by fuel

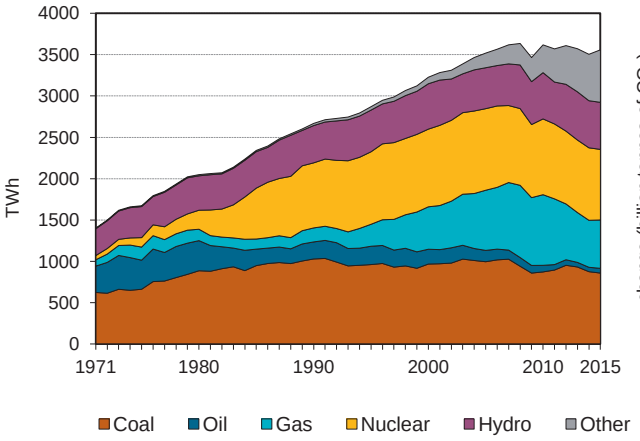


Figure 4. CO_2 from electricity generation: driving factors[1]

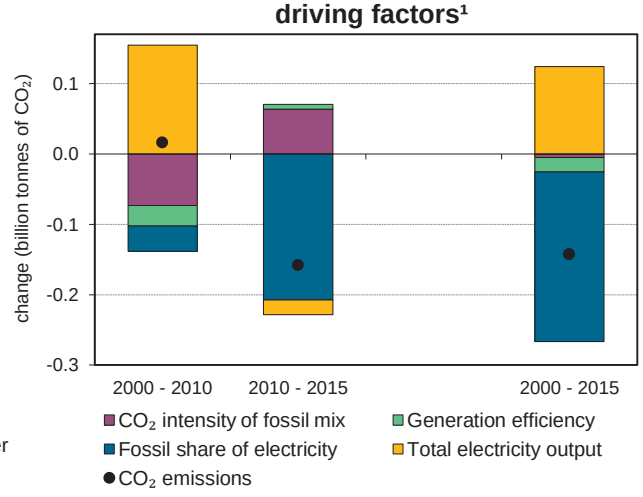


Figure 5. Changes in selected indicators

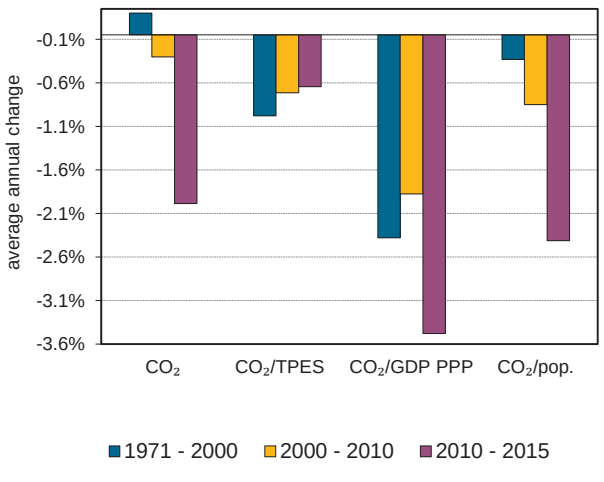
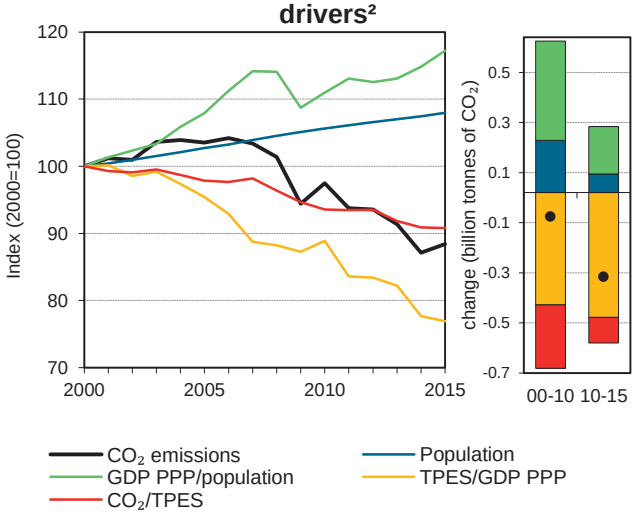


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

OECD Europe

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	3924.1	3 833.2	3 899.4	4 037.2	3 801.6	3 397.8	3 447.6	-12%
Share of World CO_2 from fuel combustion	19%	18%	17%	15%	12%	11%	11%	
TPES (PJ)	68204	69 973	73 361	77 607	76 453	70 332	71 432	5%
GDP (billion 2010 USD)	12674	13 733.3	15 911.1	17 527.3	18 423.0	19 253.8	19 702.8	55%
GDP PPP (billion 2010 USD)	12307.3	13 300.2	15 450.0	17 128.3	18 112.7	19 065.8	19 553.9	59%
Population (millions)	503	514.4	523.8	538.0	553.3	562.8	565.5	12%
CO_2 / TPES (tCO_2 per TJ)	57.5	54.8	53.2	52.0	49.7	48.3	48.3	-16%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.31	0.3	0.2	0.2	0.2	0.2	0.2	-43%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.32	0.3	0.3	0.2	0.2	0.2	0.2	-45%
CO_2 / population (tCO_2 per capita)	7.8	7.5	7.4	7.5	6.9	6.0	6.1	-22%
Share of electricity output from fossil fuels	53%	51%	52%	54%	51%	44%	43%	
CO_2 / kWh of electricity (gCO_2/kWh)	461	419	385	373	336	312	302	-35%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	98	99	103	97	87	88	-12%
Population index	100	102	104	107	110	112	112	12%
GDP PPP per population index	100	106	121	130	134	138	141	41%
Energy intensity index - TPES / GDP PPP	100	95	86	82	76	67	66	-34%
Carbon intensity index - CO_2 / TPES	100	95	92	90	86	84	84	-16%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**1 114.2**	**1 388.9**	**881.1**	**63.5**	**3 447.6**	**-12%**
Electricity and heat generation	875.4	48.2	259.3	43.9	1 226.8	-14%
Other energy industry own use	42.1	89.4	50.0	0.4	182.0	9%
Manufacturing industries and construction	129.1	89.3	197.7	17.9	434.0	-40%
Transport	0.0	944.9	8.1	-	953.0	22%
of which: road	-	*899.9*	*4.1*	-	*904.0*	24%
Other	67.5	217.1	365.9	1.3	651.9	-21%
of which: residential	*44.1*	*109.7*	*245.9*	*0.0*	*399.8*	-23%
of which: services	*19.3*	*50.1*	*109.7*	*1.3*	*180.3*	-9%
Memo: international marine bunkers	-	*132.0*	-	-	*132.0*	*16%*
Memo: international aviation bunkers	-	*151.0*	-	-	*151.0*	*104%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	899.9	23.6	19.0	19.0
Main activity prod. elec. and heat - coal	820.8	-17.5	17.4	36.4
Residential - gas	245.9	40.3	5.2	41.6
Main activity prod. elec. and heat - gas	208.3	170.2	4.4	46.0
Manufacturing industries - gas	197.7	7.7	4.2	50.2
Manufacturing industries - coal	129.1	-61.6	2.7	53.0
Non-specified other - gas	120.1	43.6	2.5	55.5
Residential - oil	109.7	-45.3	2.3	57.8
Non-specified other - oil	107.4	-31.4	2.3	60.1
Memo: total CO_2 from fuel combustion	*3447.6*	*-12.1*	*73.0*	*73.0*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

European Union - 28

Figure 1. CO_2 emissions by fuel

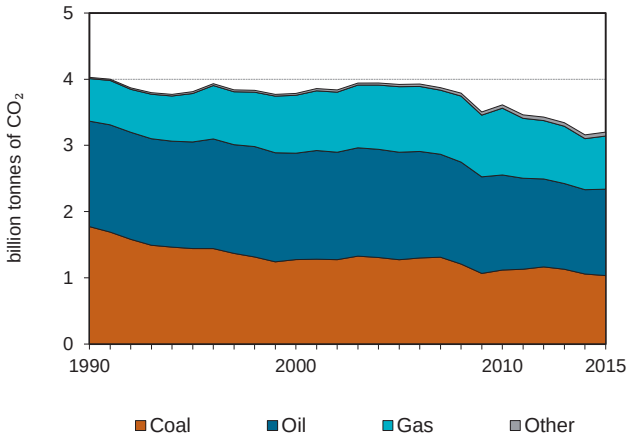


Figure 2. CO_2 emissions by sector

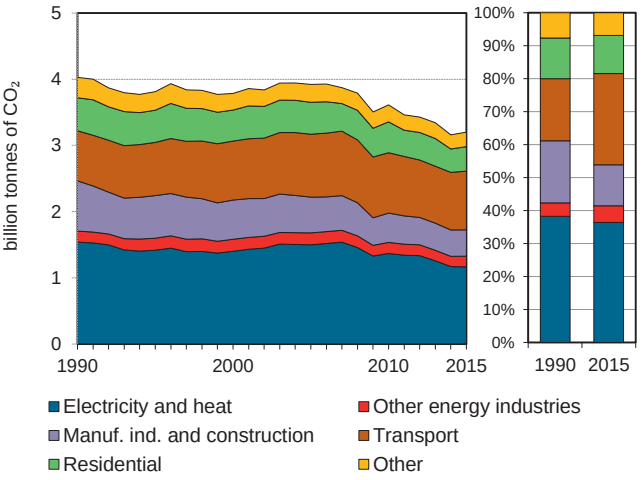


Figure 3. Electricity generation by fuel

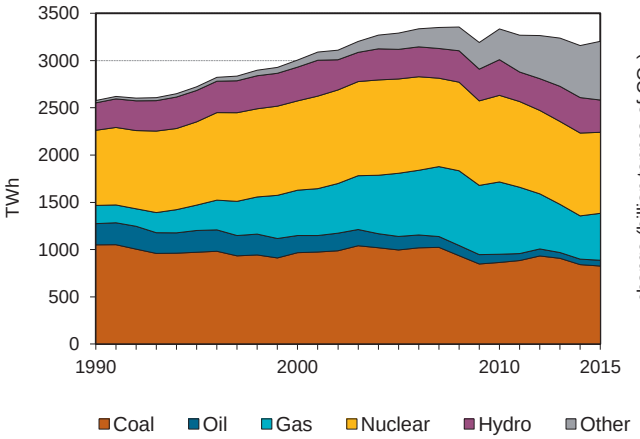


Figure 4. CO_2 from electricity generation: driving factors[1]

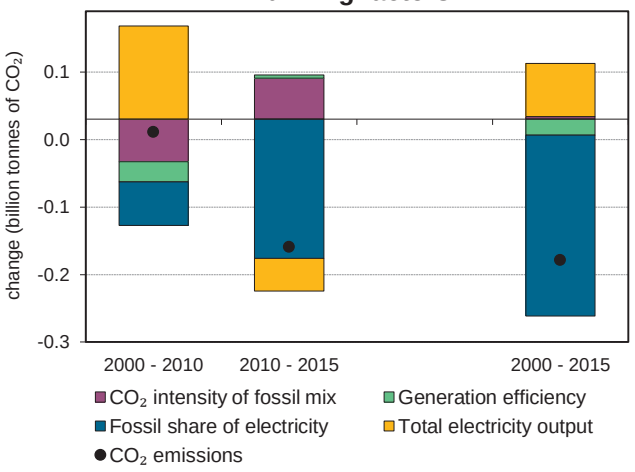


Figure 5. Changes in selected indicators

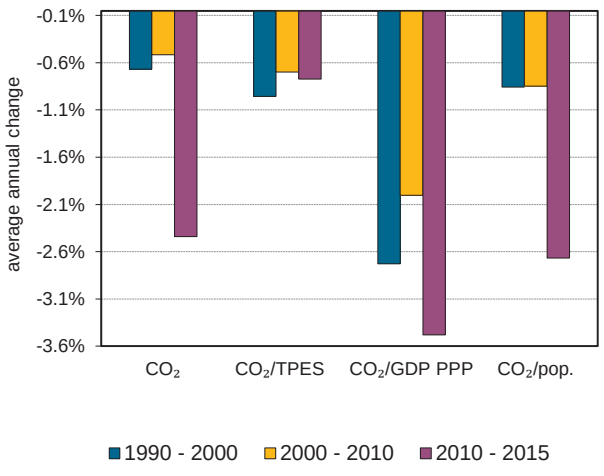
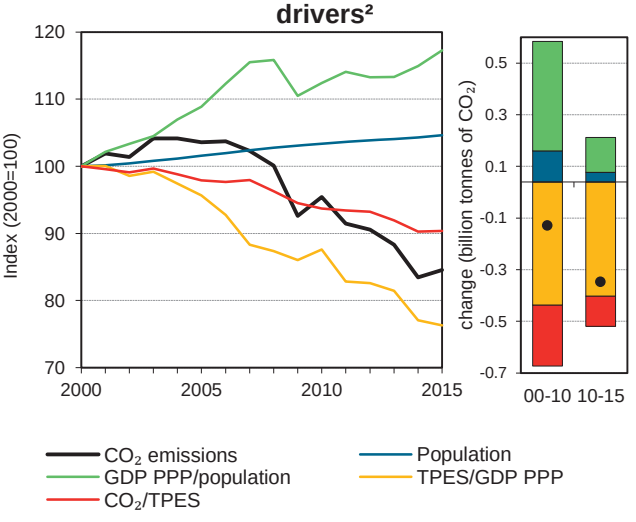


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

European Union - 28

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	4028.2	3 812.2	3 785.8	3 921.2	3 612.6	3 159.4	3 201.2	-21%
Share of World CO_2 from fuel combustion	20%	18%	16%	15%	12%	10%	10%	
TPES (PJ)	68944	69 021	70 973	75 098	72 285	65 602	66 418	-4%
GDP (billion 2010 USD)	11879.3	12 783.3	14 769.3	16 239.4	16 977.9	17 504.6	17 889.6	51%
GDP PPP (billion 2010 USD)	11703.1	12 489.3	14 429.3	15 960.2	16 772.5	17 302.0	17 700.7	51%
Population (millions)	477.9	483.3	487.1	494.9	503.7	508.1	509.6	7%
CO_2 / TPES (tCO_2 per TJ)	58.4	55.2	53.3	52.2	50.0	48.2	48.2	-18%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.34	0.3	0.3	0.2	0.2	0.2	0.2	-47%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.34	0.3	0.3	0.2	0.2	0.2	0.2	-47%
CO_2 / population (tCO_2 per capita)	8.4	7.9	7.8	7.9	7.2	6.2	6.3	-25%
Share of electricity output from fossil fuels	57%	54%	55%	56%	52%	44%	44%	
CO_2 / kWh of electricity (gCO_2/kWh)	502	453	410	396	352	322	315	-37%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	95	94	97	90	78	79	-21%
Population index	100	101	102	104	105	106	107	7%
GDP PPP per population index	100	106	121	132	136	139	142	42%
Energy intensity index - TPES / GDP PPP	100	94	83	80	73	64	64	-36%
Carbon intensity index - CO_2 / TPES	100	95	91	89	86	82	82	-18%

1. Data for Ethiopia include Eritrea until 1991. 2. Please see the chapter *Indicator sources and methods* in Part I for methodological notes.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**1 033.2**	**1 305.7**	**803.0**	**59.4**	**3 201.2**	**-21%**
Electricity and heat generation	843.4	51.6	228.8	40.7	1 164.5	-24%
Other energy industry own use	35.5	87.5	38.9	0.4	162.3	-2%
Manufacturing industries and construction	108.6	88.2	184.0	17.2	398.0	-47%
Transport	0.0	879.3	7.6	-	886.9	17%
of which: road	-	*841.6*	*4.1*	-	*845.7*	20%
Other	45.6	199.1	343.7	1.1	589.5	-27%
of which: residential	*37.1*	*104.3*	*228.8*	*0.0*	*370.2*	-26%
of which: services	*4.3*	*46.2*	*104.6*	*1.1*	*156.2*	-20%
Memo: international marine bunkers	-	*134.8*	-	-	*134.8*	*19%*
Memo: international aviation bunkers	-	*136.1*	-	-	*136.1*	*88%*

3. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	841.6	19.1	19.6	19.6
Main activity prod. elec. and heat - coal	787.7	-23.4	18.3	37.9
Residential - gas	228.8	27.0	5.3	43.3
Manufacturing industries - gas	184.0	-19.6	4.3	47.6
Main activity prod. elec. and heat - gas	176.0	66.7	4.1	51.6
Non-specified other - gas	114.9	34.0	2.7	54.3
Manufacturing industries - coal	108.6	-67.2	2.5	56.9
Residential - oil	104.3	-42.8	2.4	59.3
Non-specified other - oil	94.8	-39.3	2.2	61.5
Memo: total CO_2 from fuel combustion	*3201.2*	*-20.5*	*74.5*	*74.5*

4. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Non-OECD Total

Figure 1. CO_2 emissions by fuel

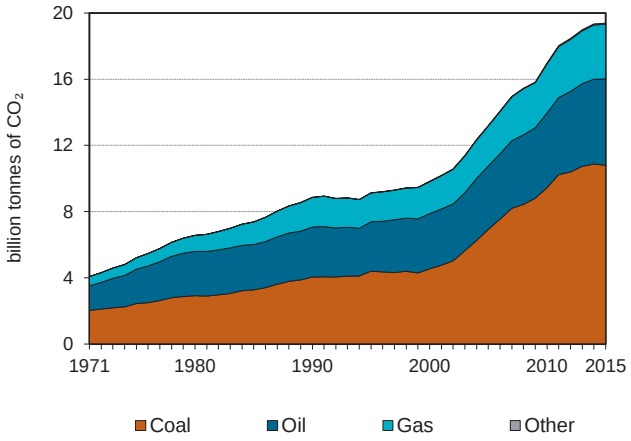


Figure 2. CO_2 emissions by sector

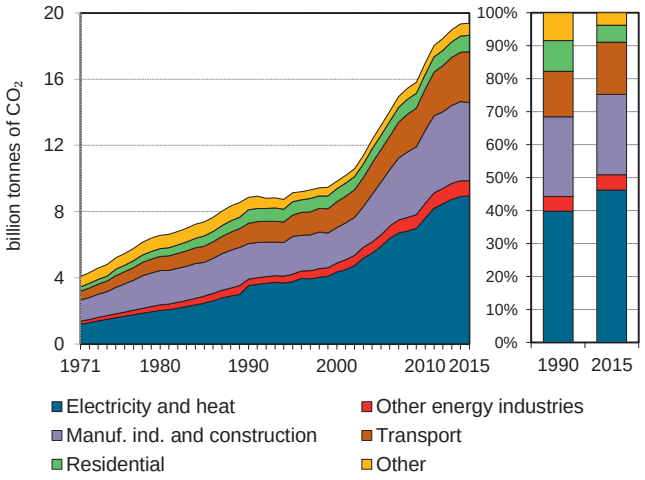


Figure 3. Electricity generation by fuel

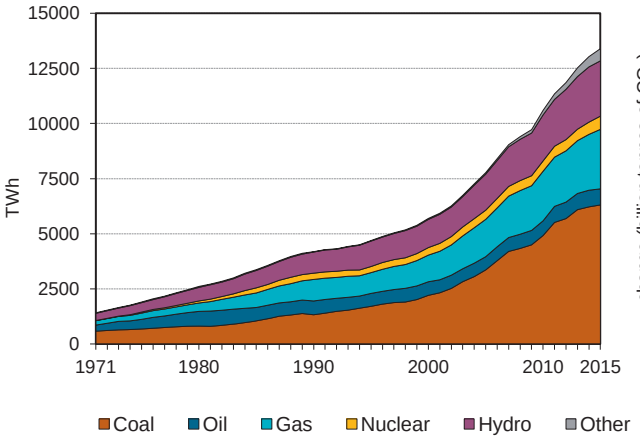


Figure 4. CO_2 from electricity generation: driving factors[1]

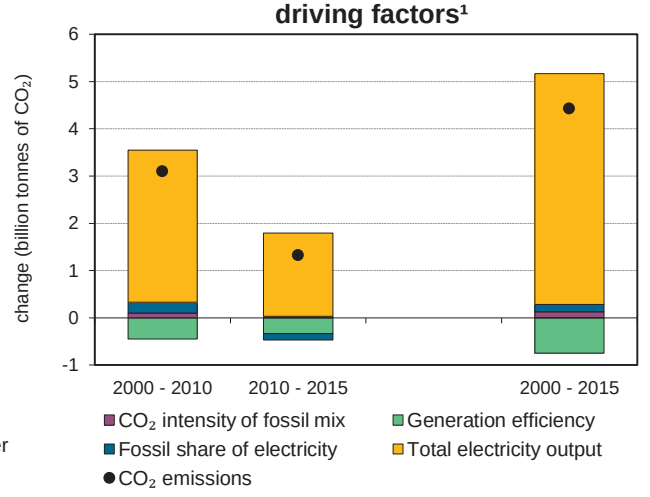


Figure 5. Changes in selected indicators

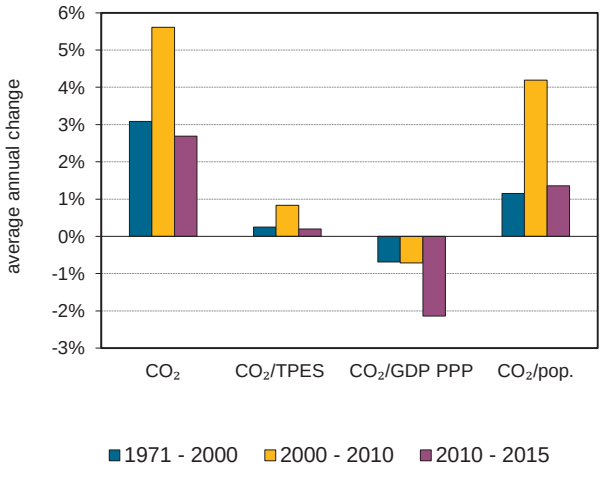
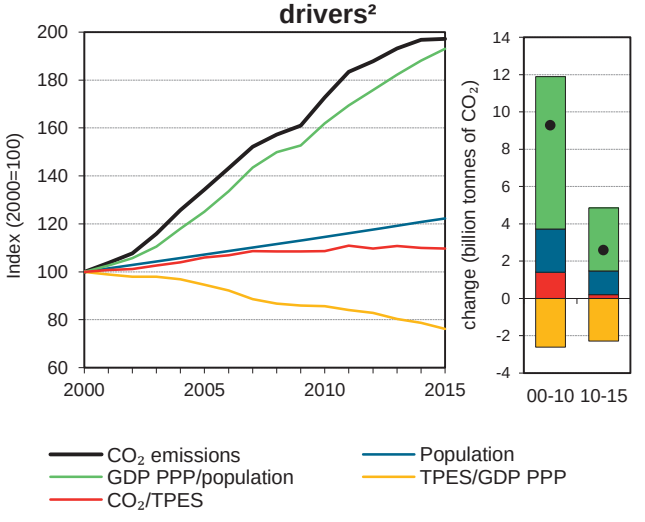


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Non-OECD Total

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	8858	9 141.4	9 832.3	13 203.3	16 977.3	19 344.2	19 387.3	119%
Share of World CO_2 from fuel combustion	43%	43%	42%	49%	56%	60%	60%	
TPES (PJ)	169000	172 211	186 478	236 480	296 452	333 564	335 201	98%
GDP (billion 2010 USD)	8605.2	9 591.7	11 646.5	15 469.4	21 281.0	25 875.6	26 738.5	211%
GDP PPP (billion 2010 USD)	17646.5	19 803.1	24 278.9	32 533.4	45 049.9	55 133.8	57 304.3	225%
Population (millions)	4206.7	4 586.5	4 952.3	5 308.0	5 673.1	5 978.2	6 057.0	44%
CO_2 / TPES (tCO_2 per TJ)	52.4	53.1	52.7	55.8	57.3	58.0	57.8	10%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	1.03	1.0	0.8	0.9	0.8	0.7	0.7	-30%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.5	0.5	0.4	0.4	0.4	0.4	0.3	-33%
CO_2 / population (tCO_2 per capita)	2.1	2.0	2.0	2.5	3.0	3.2	3.2	52%
Share of electricity output from fossil fuels	70%	69%	71%	73%	74%	73%	73%	
CO_2 / kWh of electricity (gCO_2/kWh)	577	606	608	639	621	601	589	2%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	103	111	149	192	218	219	119%
Population index	100	109	118	126	135	142	144	44%
GDP PPP per population index	100	103	117	146	189	220	226	126%
Energy intensity index - TPES / GDP PPP	100	91	80	76	69	63	61	-39%
Carbon intensity index - CO_2 / TPES	100	101	101	107	109	111	110	10%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**10 798.7**	**5 222.2**	**3 302.4**	**64.0**	**19 387.3**	**119%**
Electricity and heat generation	6 612.3	650.4	1 631.6	55.6	8 949.9	154%
Other energy industry own use	256.8	294.4	365.3	1.4	918.0	133%
Manufacturing industries and construction	3 385.8	690.9	639.8	6.0	4 722.6	120%
Transport	10.0	2 885.6	170.1	..	3 065.7	150%
of which: road	*..*	*2 611.1*	*86.7*	*..*	*2 697.8*	181%
Other	533.7	700.8	495.5	1.0	1 731.1	10%
of which: residential	*244.3*	*353.0*	*400.0*	*..*	*997.4*	21%
of which: services	*118.3*	*101.0*	*83.3*	*0.7*	*303.3*	39%
Memo: international marine bunkers	*..*	*431.9*	*..*	*..*	*431.9*	*219%*
Memo: international aviation bunkers	*..*	*244.1*	*..*	*..*	*244.1*	*111%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	6050.3	250.8	16.2	16.2
Manufacturing industries - coal	3385.8	154.9	9.1	25.2
Road - oil	2611.1	173.2	7.0	32.2
Main activity prod. elec. and heat - gas	1313.6	87.5	3.5	35.7
Manufacturing industries - oil	690.9	38.9	1.8	37.6
Manufacturing industries - gas	639.8	102.4	1.7	39.3
Unallocated autoproducers - coal	562.0	310.0	1.5	40.8
Main activity prod. elec. and heat - oil	539.1	-10.2	1.4	42.2
Residential - gas	400.0	125.6	1.1	43.3
Memo: total CO_2 from fuel combustion	*19387.3*	*118.9*	*51.9*	*51.9*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Non-OECD Europe and Eurasia

Figure 1. CO_2 emissions by fuel

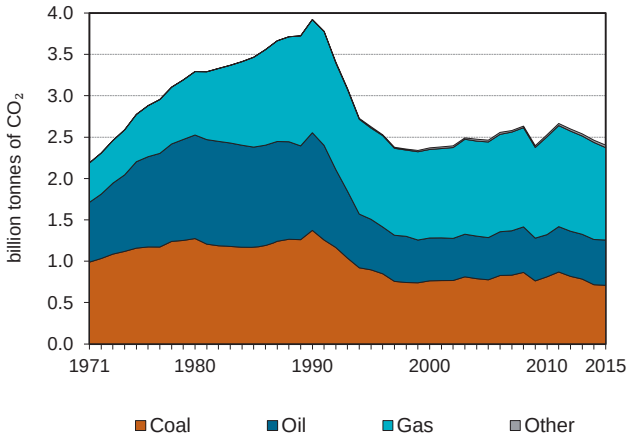


Figure 2. CO_2 emissions by sector

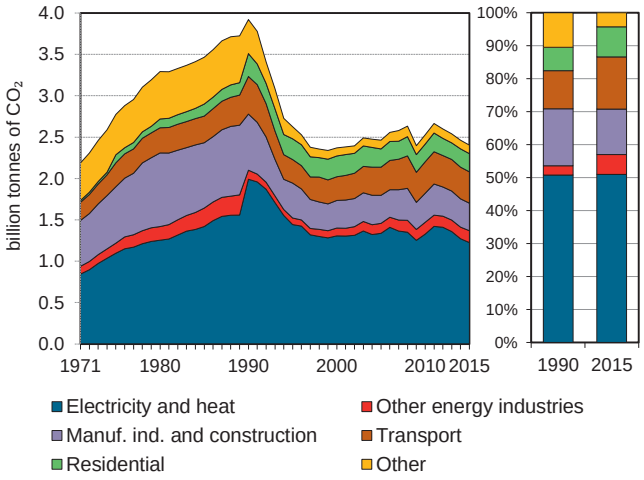


Figure 3. Electricity generation by fuel

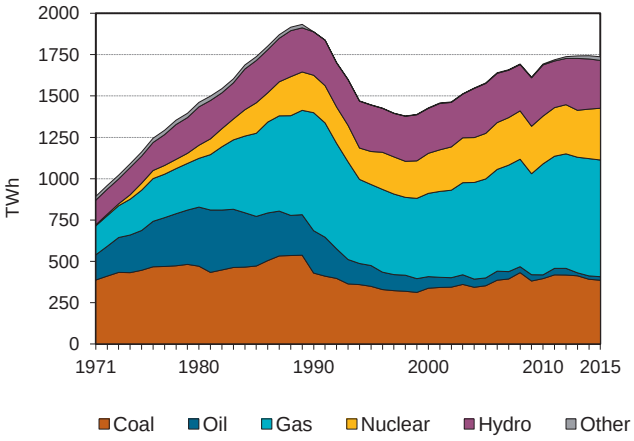


Figure 4. CO_2 from electricity generation: driving factors[1]

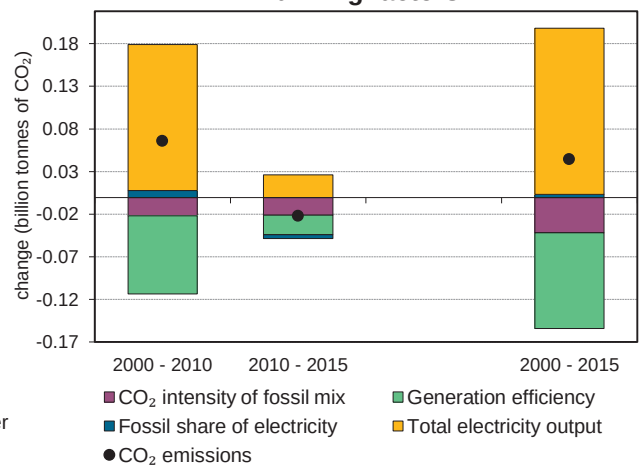


Figure 5. Changes in selected indicators

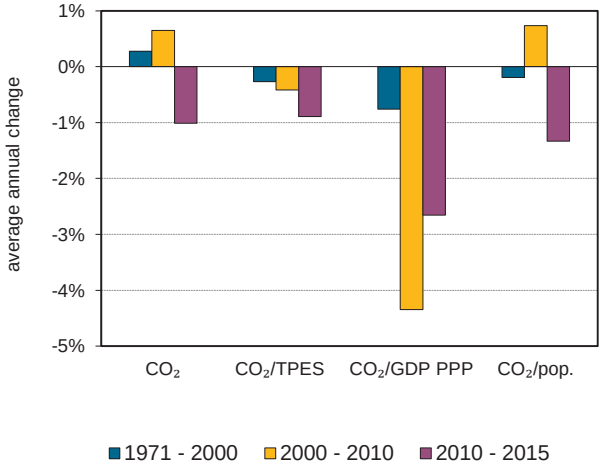
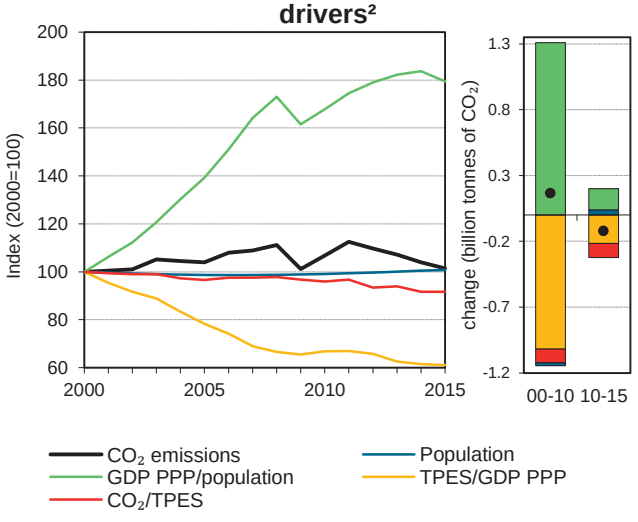


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Non-OECD Europe and Eurasia

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	3921.3	2 625.9	2 370.1	2 463.4	2 528.7	2 462.8	2 403.4	-39%
Share of World CO_2 from fuel combustion	19%	12%	10%	9%	8%	8%	7%	
TPES (PJ)	64037	44 807	41 866	45 013	46 578	47 454	46 293	-28%
GDP (billion 2010 USD)	2247.6	1 430.1	1 557.2	2 127.1	2 556.5	2 824.8	2 766.6	23%
GDP PPP (billion 2010 USD)	4373.6	2 756.6	2 997.7	4 118.2	4 986.1	5 528.2	5 421.1	24%
Population (millions)	341	342.3	338.4	334.1	335.6	339.9	341.0	0%
CO_2 / TPES (tCO_2 per TJ)	61.2	58.6	56.6	54.7	54.3	51.9	51.9	-15%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	1.74	1.8	1.5	1.2	1.0	0.9	0.9	-50%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.9	1.0	0.8	0.6	0.5	0.4	0.4	-51%
CO_2 / population (tCO_2 per capita)	11.5	7.7	7.0	7.4	7.5	7.2	7.0	-39%
Share of electricity output from fossil fuels	74%	67%	64%	63%	65%	65%	64%	
CO_2 / kWh of electricity (gCO_2/kWh)	508	457	448	460	434	415	416	-18%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	67	60	63	64	63	61	-39%
Population index	100	100	99	98	98	100	100	0%
GDP PPP per population index	100	63	69	96	116	127	124	24%
Energy intensity index - TPES / GDP PPP	100	111	95	75	64	59	58	-42%
Carbon intensity index - CO_2 / TPES	100	96	92	89	89	85	85	-15%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**708.7**	**547.8**	**1 117.3**	**29.6**	**2 403.4**	**-39%**
Electricity and heat generation	529.7	44.6	629.8	21.6	1 225.7	-38%
Other energy industry own use	7.6	52.6	82.0	1.4	143.6	31%
Manufacturing industries and construction	137.0	66.8	123.3	5.5	332.7	-51%
Transport	0.2	301.9	77.2	..	379.2	-16%
of which: road	*..*	*270.2*	*2.1*	*..*	*272.3*	-5%
Other	34.3	81.9	205.0	1.0	322.3	-53%
of which: residential	*20.9*	*33.1*	*165.8*	*..*	*219.8*	-20%
of which: services	*9.5*	*11.9*	*33.8*	*0.7*	*56.0*	-57%
Memo: international marine bunkers	*..*	*67.7*	*..*	*..*	*67.7*	*449%*
Memo: international aviation bunkers	*..*	*23.1*	*..*	*..*	*23.1*	*-46%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - gas	463.0	-17.3	11.4	11.4
Main activity prod. elec. and heat - coal	444.8	-37.7	11.0	22.4
Road - oil	270.2	-5.2	6.7	29.0
Unallocated autoproducers - gas	166.8	-23.4	4.1	33.2
Residential - gas	165.8	10.8	4.1	37.2
Manufacturing industries - coal	137.0	-56.8	3.4	40.6
Manufacturing industries - gas	123.3	-38.7	3.0	43.7
Unallocated autoproducers - coal	84.9	-16.3	2.1	45.8
Other energy industry own use - gas	82.0	128.3	2.0	47.8
Memo: total CO_2 from fuel combustion	*2403.4*	*-38.7*	*59.3*	*59.3*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Asia (excluding China)

Figure 1. CO_2 emissions by fuel

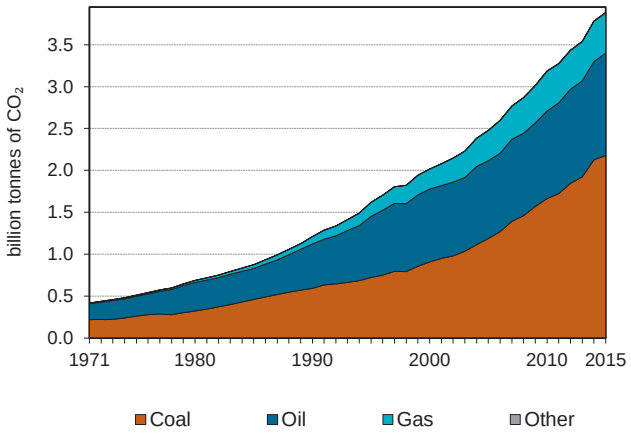


Figure 2. CO_2 emissions by sector

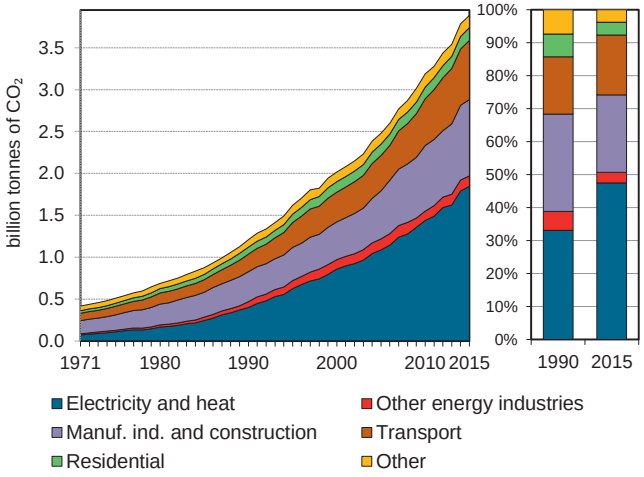


Figure 3. Electricity generation by fuel

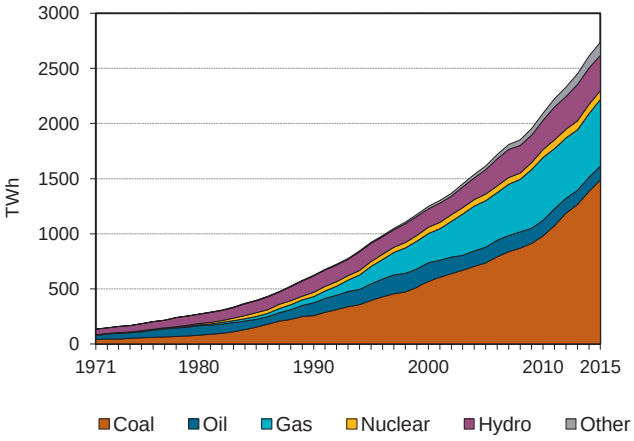


Figure 4. CO_2 from electricity generation: driving factors[1]

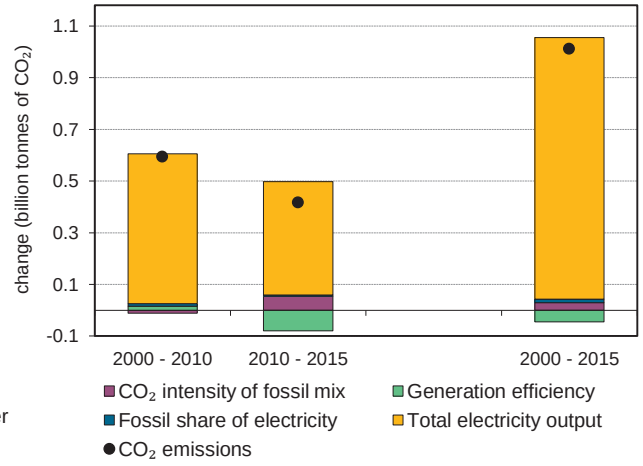


Figure 5. Changes in selected indicators

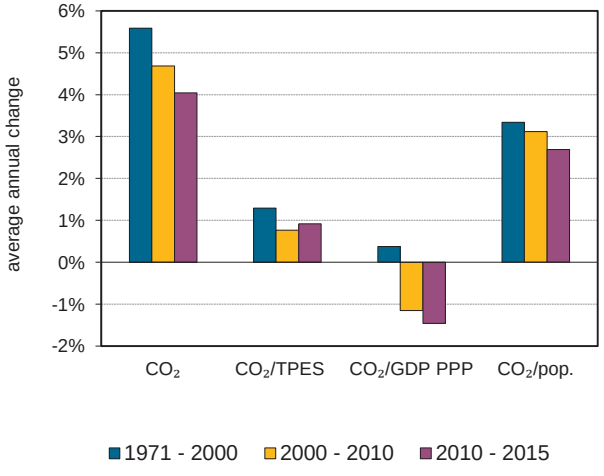
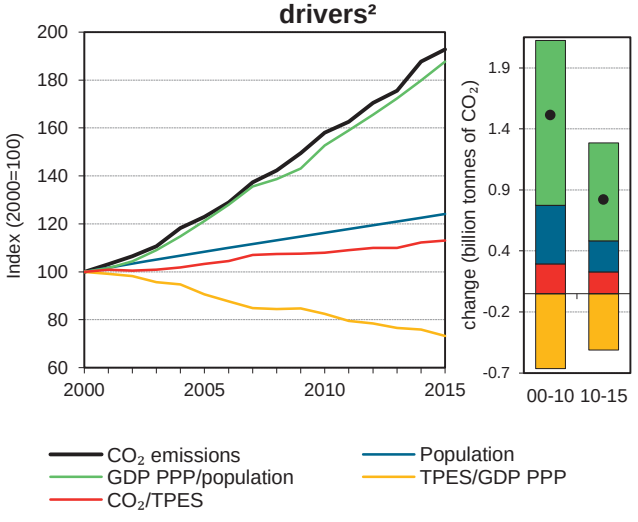


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Asia (excluding China)

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	1209.4	1 619.4	2 016.7	2 479.4	3 188.3	3 785.2	3 886.8	221%
Share of World CO_2 from fuel combustion	6%	8%	9%	9%	10%	12%	12%	
TPES (PJ)	29176	36 301	43 424	51 711	63 607	72 588	74 071	154%
GDP (billion 2010 USD)	1603.2	2 149.2	2 609.5	3 404.7	4 575.5	5 649.0	5 948.3	271%
GDP PPP (billion 2010 USD)	4471.2	5 917.1	7 196.2	9 452.0	12 777.5	15 855.3	16 763.5	275%
Population (millions)	1625.4	1 795.0	1 964.8	2 130.0	2 284.3	2 407.6	2 438.3	50%
CO_2 / TPES (tCO_2 per TJ)	41.5	44.6	46.4	47.9	50.1	52.1	52.5	27%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.75	0.8	0.8	0.7	0.7	0.7	0.7	-13%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.27	0.3	0.3	0.3	0.2	0.2	0.2	-14%
CO_2 / population (tCO_2 per capita)	0.7	0.9	1.0	1.2	1.4	1.6	1.6	114%
Share of electricity output from fossil fuels	69%	76%	80%	81%	81%	80%	81%	
CO_2 / kWh of electricity (gCO_2/kWh)	634	673	685	671	685	684	672	6%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	134	167	205	264	313	321	221%
Population index	100	110	121	131	141	148	150	50%
GDP PPP per population index	100	120	133	161	203	239	250	150%
Energy intensity index - TPES / GDP PPP	100	94	92	84	76	70	68	-32%
Carbon intensity index - CO_2 / TPES	100	108	112	116	121	126	127	27%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**2 177.7**	**1 221.5**	**482.3**	**5.2**	**3 886.8**	**221%**
Electricity and heat generation	1 460.2	100.0	280.3	5.2	1 845.6	361%
Other energy industry own use	13.2	53.1	58.8	-	125.1	80%
Manufacturing industries and construction	636.6	180.4	93.6	0.0	910.7	155%
Transport	0.1	687.4	18.2	-	705.7	237%
of which: road	-	*635.3*	*17.4*	-	*652.7*	262%
Other	67.6	200.6	31.4	-	299.6	73%
of which: residential	*18.4*	*110.1*	*24.5*	-	*152.9*	82%
of which: services	*22.2*	*21.6*	*6.2*	-	*49.9*	116%
Memo: international marine bunkers	-	*157.4*	-	-	*157.4*	*241%*
Memo: international aviation bunkers	-	*79.5*	-	-	*79.5*	*249%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	1262.7	405.6	15.4	15.4
Manufacturing industries - coal	636.6	156.6	7.8	23.1
Road - oil	635.3	252.2	7.7	30.9
Main activity prod. elec. and heat - gas	244.6	603.0	3.0	33.9
Unallocated autoproducers - coal	197.5	+	2.4	36.3
Manufacturing industries - oil	180.4	89.0	2.2	38.5
Residential - oil	110.1	67.0	1.3	39.8
Manufacturing industries - gas	93.6	565.9	1.1	40.9
Non-specified other - oil	90.5	121.7	1.1	42.0
Memo: total CO_2 from fuel combustion	*3886.8*	*221.4*	*47.3*	*47.3*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

China (incl. Hong Kong, China)

Figure 1. CO_2 emissions by fuel

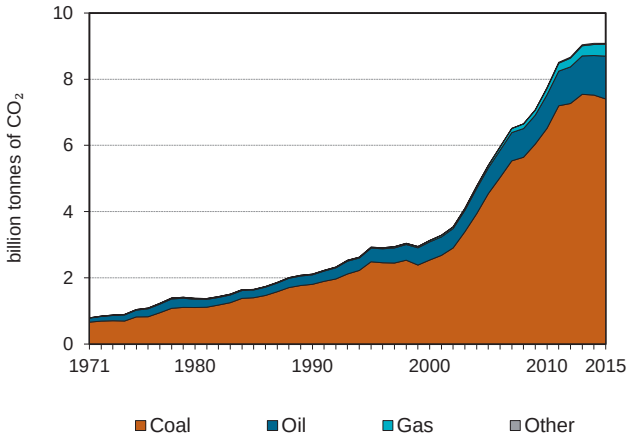


Figure 2. CO_2 emissions by sector

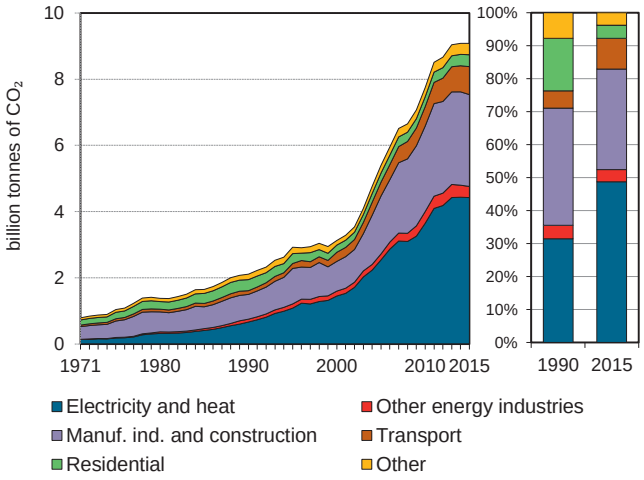


Figure 3. Electricity generation by fuel

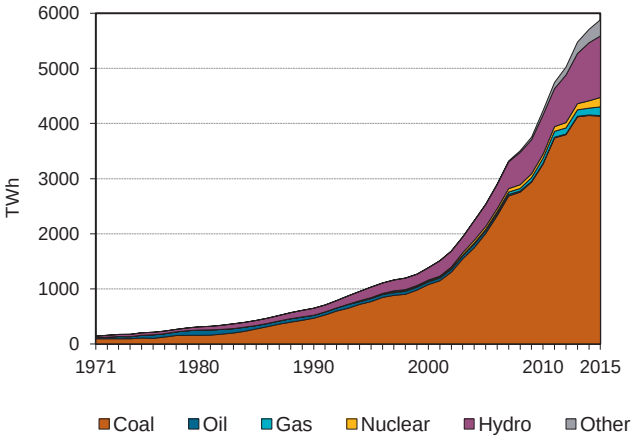


Figure 4. CO_2 from electricity generation: driving factors[1]

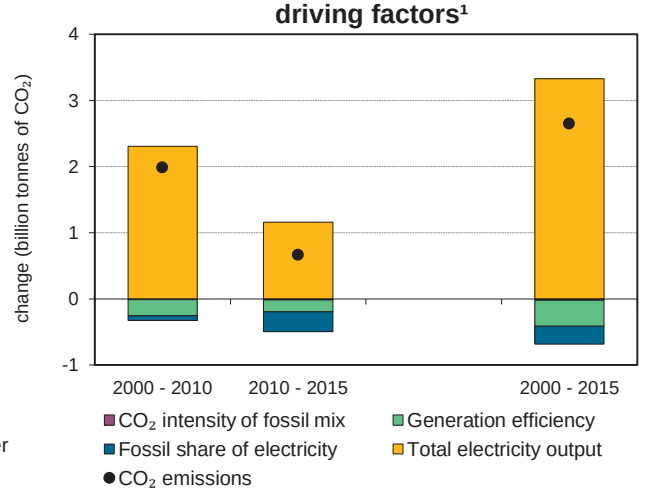


Figure 5. Changes in selected indicators

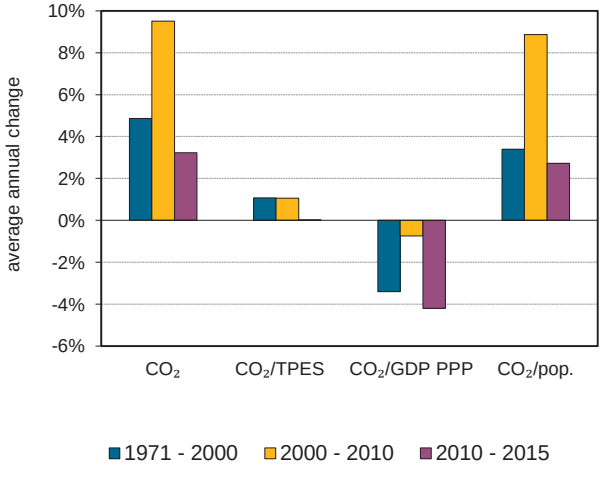
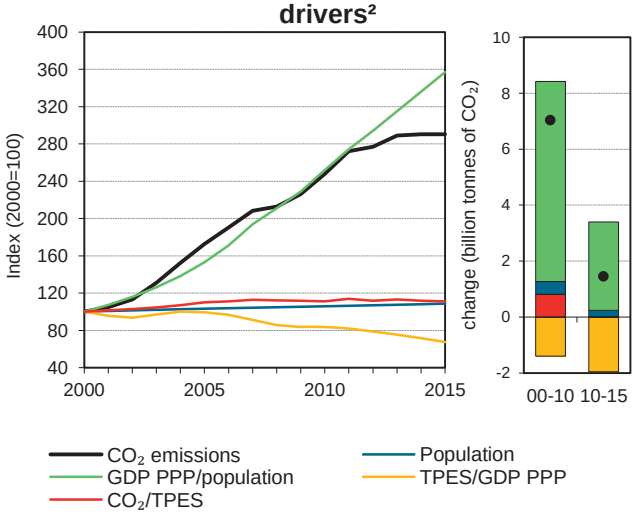


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

China (incl. Hong Kong, China)

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	2109.2	2 923.6	3 127.1	5 399.0	7 748.6	9 084.4	9 084.6	331%
Share of World CO_2 from fuel combustion	10%	14%	14%	20%	25%	28%	28%	
TPES (PJ)	36814	44 171	47 873	75 109	106 762	124 251	125 066	240%
GDP (billion 2010 USD)	933.7	1 613.8	2 390.5	3 758.5	6 329.3	8 591.3	9 174.1	883%
GDP PPP (billion 2010 USD)	1831.3	3 191.4	4 754.0	7 505.0	12 689.8	17 255.3	18 432.3	907%
Population (millions)	1140.9	1 211.0	1 269.3	1 310.5	1 344.7	1 371.5	1 378.5	21%
CO_2 / TPES (tCO_2 per TJ)	57.3	66.2	65.3	71.9	72.6	73.1	72.6	27%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	2.26	1.8	1.3	1.4	1.2	1.1	1.0	-56%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	1.15	0.9	0.7	0.7	0.6	0.5	0.5	-57%
CO_2 / population (tCO_2 per capita)	1.9	2.4	2.5	4.1	5.8	6.6	6.6	256%
Share of electricity output from fossil fuels	81%	80%	83%	82%	80%	75%	73%	
CO_2 / kWh of electricity (gCO_2/kWh)	909	915	889	875	758	683	657	-28%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	139	148	256	367	431	431	331%
Population index	100	106	111	115	118	120	121	21%
GDP PPP per population index	100	164	233	357	588	784	833	733%
Energy intensity index - TPES / GDP PPP	100	69	50	50	42	36	34	-66%
Carbon intensity index - CO_2 / TPES	100	116	114	125	127	128	127	27%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**7 405.0**	**1 295.2**	**355.7**	**28.8**	**9 084.6**	**331%**
Electricity and heat generation	4 290.9	24.3	79.3	28.8	4 423.3	567%
Other energy industry own use	191.0	95.3	50.8	-	337.1	291%
Manufacturing industries and construction	2 505.0	180.4	90.5	-	2 776.0	271%
Transport	9.7	795.2	39.0	-	843.9	656%
of which: road	-	*660.0*	*38.3*	-	*698.2*	+
Other	408.4	199.9	96.1	-	704.4	41%
of which: residential	*191.0*	*97.4*	*71.5*	-	*359.8*	7%
of which: services	*79.7*	*48.1*	*24.4*	-	*152.2*	299%
Memo: international marine bunkers	-	*57.3*	-	-	*57.3*	*543%*
Memo: international aviation bunkers	-	*42.5*	-	-	*42.5*	*509%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	4045.8	565.8	30.5	30.5
Manufacturing industries - coal	2505.0	270.5	18.9	49.5
Road - oil	660.0	945.7	5.0	54.4
Unallocated autoproducers - coal	245.1	+	1.9	56.3
Non-specified other sectors - coal	217.4	109.2	1.6	57.9
Other energy industry - coal	191.0	268.8	1.4	59.4
Residential - coal	191.0	-40.8	1.4	60.8
Manufacturing industries - oil	180.4	172.3	1.4	62.2
Other transport - oil	135.3	+	1.0	63.2
Memo: total CO_2 from fuel combustion	*9084.6*	*330.7*	*68.6*	*68.6*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Non-OECD Americas

Figure 1. CO_2 emissions by fuel

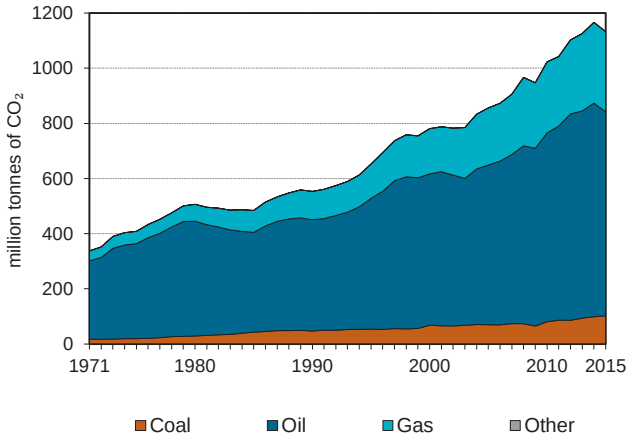


Figure 2. CO_2 emissions by sector

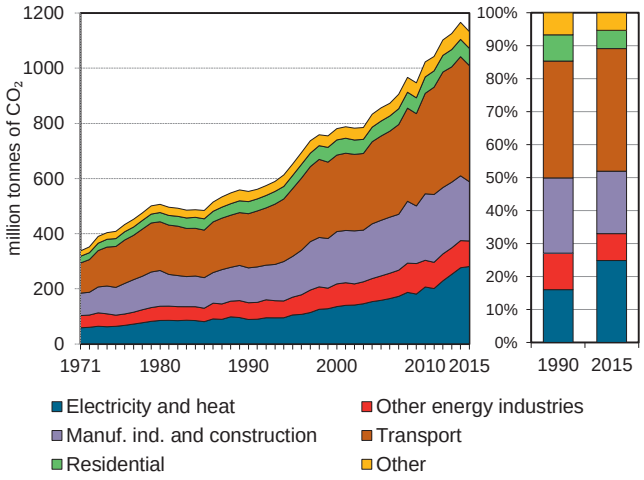


Figure 3. Electricity generation by fuel

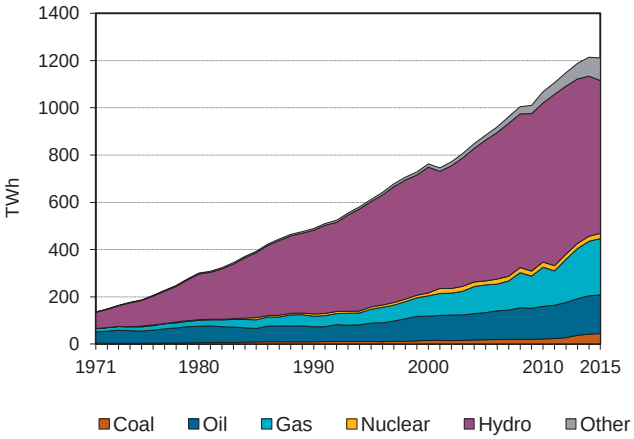


Figure 4. CO_2 from electricity generation: driving factors[1]

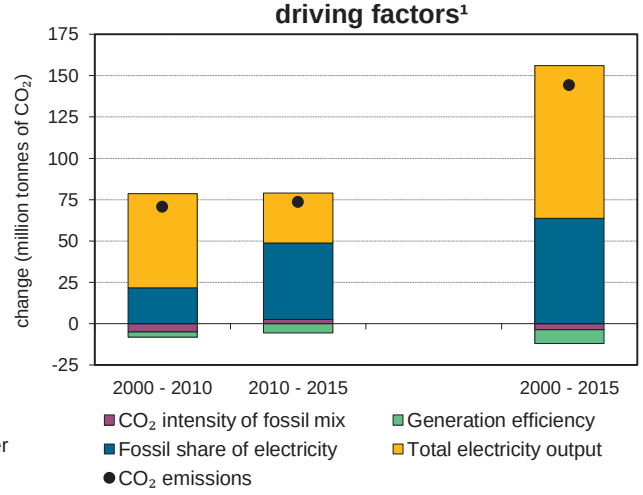


Figure 5. Changes in selected indicators

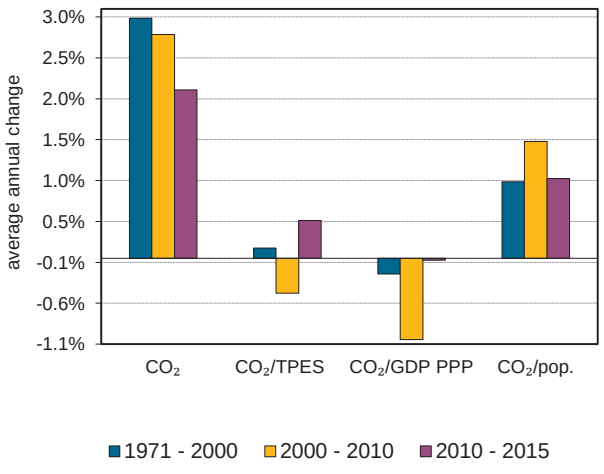
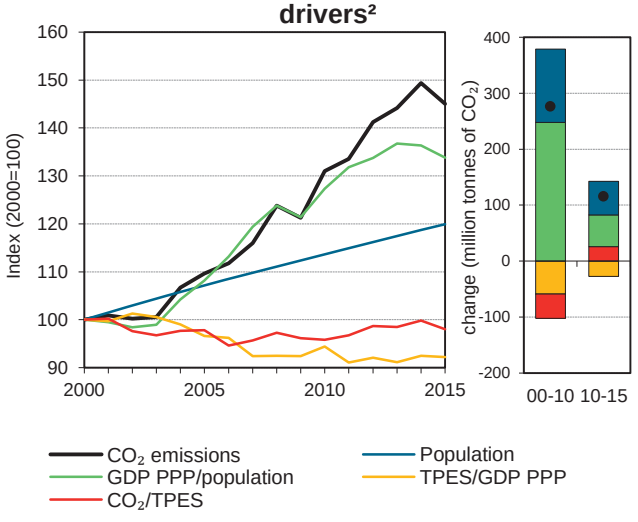


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Non-OECD Americas

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	553.2	652.4	780.8	856.0	1 022.8	1 166.2	1 132.5	105%
Share of World CO_2 from fuel combustion	3%	3%	3%	3%	3%	4%	4%	
TPES (PJ)	13684	15 503	17 765	19 911	24 287	26 591	26 280	92%
GDP (billion 2010 USD)	2096.9	2 487.0	2 762.7	3 190.6	3 971.4	4 410.9	4 342.5	107%
GDP PPP (billion 2010 USD)	3012.1	3 552.0	3 964.7	4 597.6	5 739.9	6 416.6	6 362.4	111%
Population (millions)	344.2	374.6	404.7	433.8	460.0	480.3	485.2	41%
CO_2 / TPES (tCO_2 per TJ)	40.4	42.1	44.0	43.0	42.1	43.9	43.1	7%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.26	0.3	0.3	0.3	0.3	0.3	0.3	-1%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.18	0.2	0.2	0.2	0.2	0.2	0.2	-3%
CO_2 / population (tCO_2 per capita)	1.6	1.7	1.9	2.0	2.2	2.4	2.3	45%
Share of electricity output from fossil fuels	24%	24%	27%	28%	31%	36%	37%	
CO_2 / kWh of electricity (gCO_2/kWh)	182	172	178	179	193	228	232	28%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	118	141	155	185	211	205	105%
Population index	100	109	118	126	134	140	141	41%
GDP PPP per population index	100	108	112	121	143	153	150	50%
Energy intensity index - TPES / GDP PPP	100	96	99	95	93	91	91	-9%
Carbon intensity index - CO_2 / TPES	100	104	109	106	104	108	107	7%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**102.1**	**740.2**	**290.2**	**-**	**1 132.5**	**105%**
Electricity and heat generation	53.7	110.2	117.1	-	281.0	217%
Other energy industry own use	2.4	35.3	54.8	-	92.6	52%
Manufacturing industries and construction	45.2	99.8	69.9	-	214.9	70%
Transport	0.0	403.5	17.7	-	421.2	114%
of which: road	-	*378.3*	*13.5*	-	*391.8*	120%
Other	0.8	91.4	30.6	-	122.9	52%
of which: residential	*0.3*	*36.3*	*25.9*	-	*62.4*	43%
of which: services	*0.0*	*8.1*	*4.7*	-	*12.8*	19%
Memo: international marine bunkers	-	*45.1*	-	-	*45.1*	*127%*
Memo: international aviation bunkers	-	*27.4*	-	-	*27.4*	*213%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	378.3	112.8	11.8	11.8
Main activity prod. elec. and heat - gas	102.6	325.2	3.2	15.0
Manufacturing industries - oil	99.8	45.3	3.1	18.2
Main activity prod. elec. and heat - oil	97.5	169.9	3.0	21.2
Manufacturing industries - gas	69.9	122.7	2.2	23.4
Non-specified other - oil	55.2	69.2	1.7	25.1
Other energy industry own use - gas	54.8	98.9	1.7	26.8
Manufacturing industries - coal	45.2	71.5	1.4	28.2
Residential - oil	36.3	7.8	1.1	29.4
Memo: total CO_2 from fuel combustion	*1132.5*	*104.7*	*35.4*	*35.4*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Middle East

Figure 1. CO_2 emissions by fuel

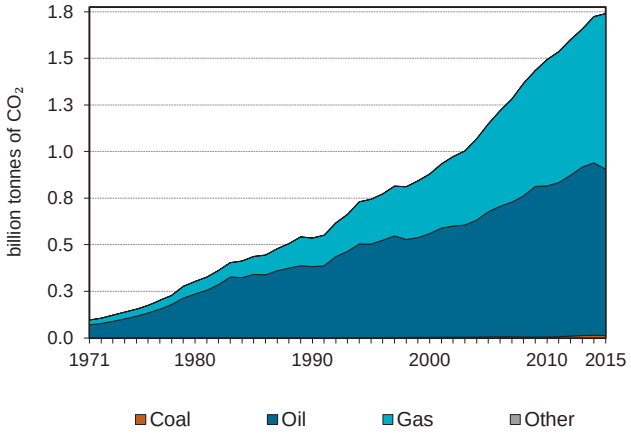


Figure 2. CO_2 emissions by sector

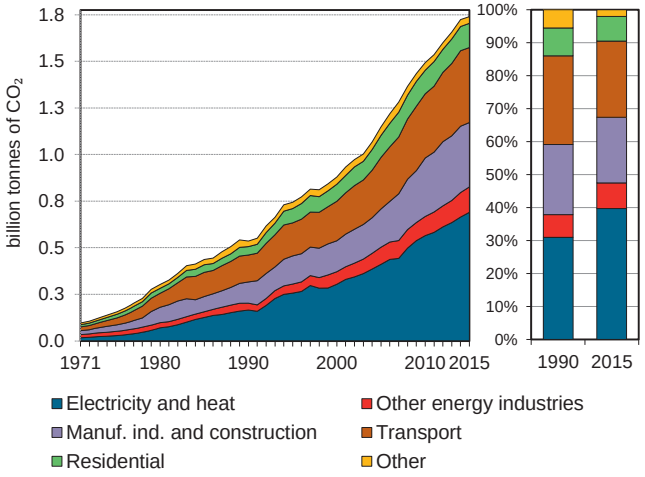


Figure 3. Electricity generation by fuel

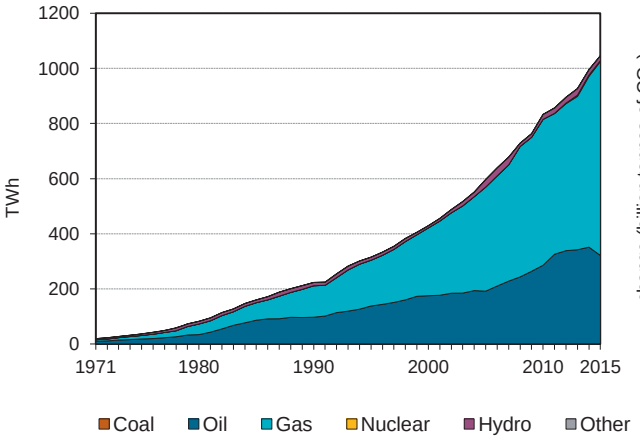


Figure 4. CO_2 from electricity generation: driving factors[1]

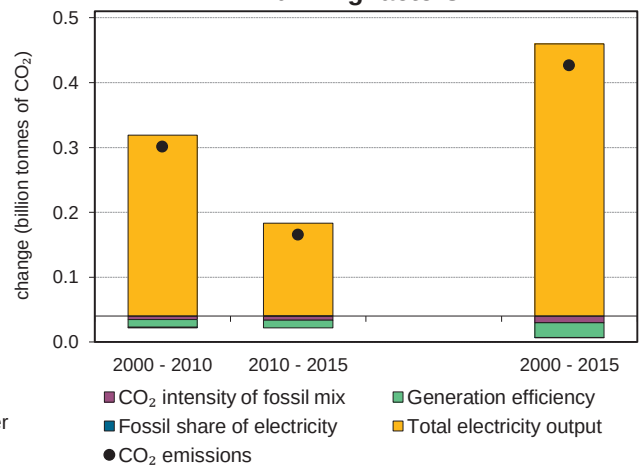


Figure 5. Changes in selected indicators

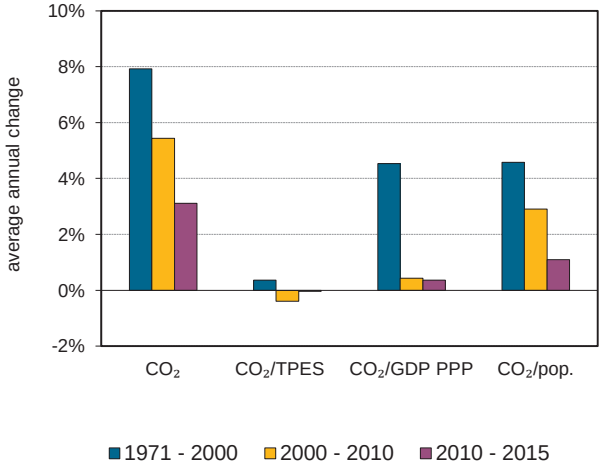
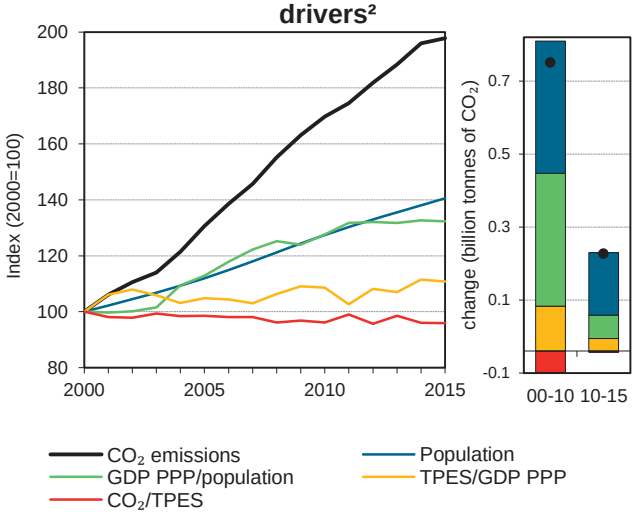


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Middle East

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	535.9	743.8	879.4	1 148.2	1 492.8	1 723.8	1 739.7	225%
Share of World CO_2 from fuel combustion	3%	3%	4%	4%	5%	5%	5%	
TPES (PJ)	8838	12 840	14 801	19 616	26 135	30 220	30 515	245%
GDP (billion 2010 USD)	797.5	936.8	1 161.8	1 477.9	1 899.3	2 160.3	2 201.0	176%
GDP PPP (billion 2010 USD)	1852	2 145.2	2 669.4	3 374.8	4 339.8	4 891.0	4 967.1	168%
Population (millions)	127.1	143.6	161.4	180.8	205.7	222.9	227.0	79%
CO_2 / TPES (tCO_2 per TJ)	60.6	57.9	59.4	58.5	57.1	57.0	57.0	-6%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.67	0.8	0.8	0.8	0.8	0.8	0.8	18%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.29	0.3	0.3	0.3	0.3	0.4	0.4	21%
CO_2 / population (tCO_2 per capita)	4.2	5.2	5.4	6.4	7.3	7.7	7.7	82%
Share of electricity output from fossil fuels	95%	96%	98%	95%	98%	98%	98%	
CO_2 / kWh of electricity (gCO_2/kWh)	742	814	708	688	678	668	659	-11%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	139	164	214	279	322	325	225%
Population index	100	113	127	142	162	175	179	79%
GDP PPP per population index	100	103	114	128	145	151	150	50%
Energy intensity index - TPES / GDP PPP	100	125	116	122	126	129	129	29%
Carbon intensity index - CO_2 / TPES	100	96	98	97	94	94	94	-6%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**12.6**	**893.0**	**834.1**	**-**	**1 739.7**	**225%**
Electricity and heat generation	1.7	297.2	391.2	-	690.2	316%
Other energy industry own use	1.3	47.2	87.8	-	136.3	269%
Manufacturing industries and construction	9.6	106.2	229.4	-	345.3	203%
Transport	-	386.5	15.7	-	402.1	178%
of which: road	-	*368.1*	*14.7*	-	*382.9*	168%
Other	0.0	55.8	109.9	-	165.8	122%
of which: residential	*0.0*	*37.4*	*92.5*	-	*129.9*	189%
of which: services	-	*5.3*	*13.8*	-	*19.1*	85%
Memo: international marine bunkers	-	*84.4*	-	-	*84.4*	*167%*
Memo: international aviation bunkers	-	*49.9*	-	-	*49.9*	*123%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	368.1	157.9	14.1	14.1
Main activity prod. elec. and heat - gas	297.1	444.5	11.4	25.6
Main activity prod. elec. and heat - oil	272.5	232.5	10.5	36.0
Manufacturing industries - gas	229.4	335.0	8.8	44.8
Manufacturing industries - oil	106.2	75.6	4.1	48.9
Unallocated autoproducers - gas	94.1	279.6	3.6	52.5
Residential - gas	92.5	+	3.6	56.1
Other energy industry own use - gas	87.8	569.9	3.4	59.5
Other energy industry own use - oil	47.2	102.8	1.8	61.3
Memo: total CO_2 from fuel combustion	*1739.7*	*224.6*	*66.8*	*66.8*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

G20

Figure 1. CO_2 emissions by fuel

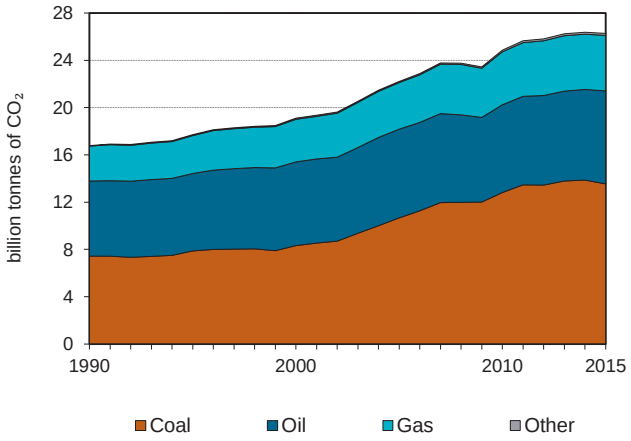


Figure 2. CO_2 emissions by sector

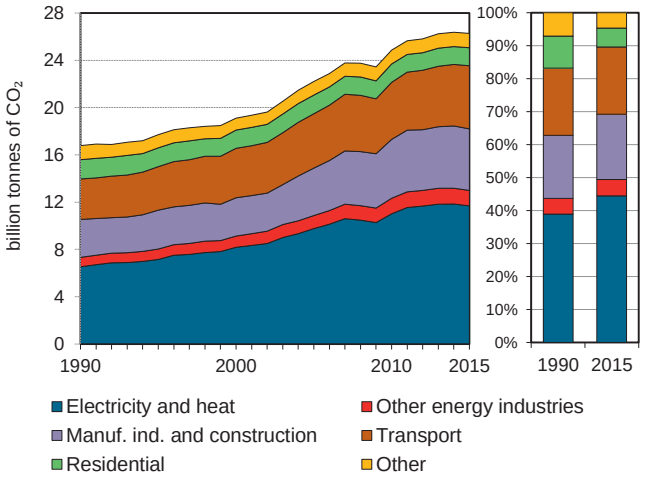


Figure 3. Electricity generation by fuel

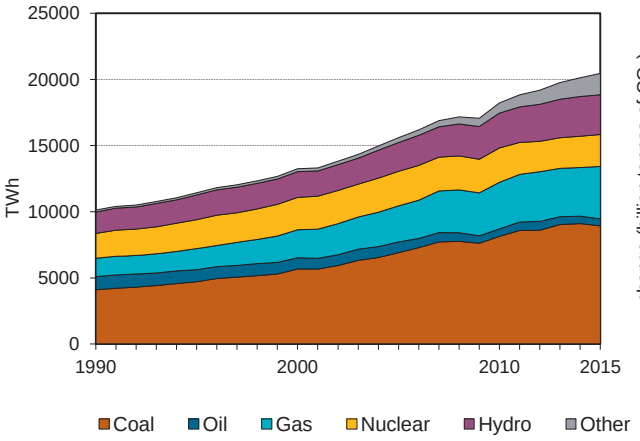


Figure 4. CO_2 from electricity generation: driving factors[1]

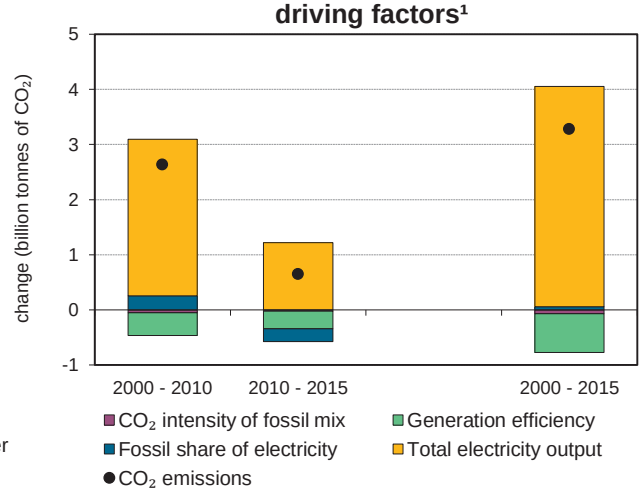


Figure 5. Changes in selected indicators

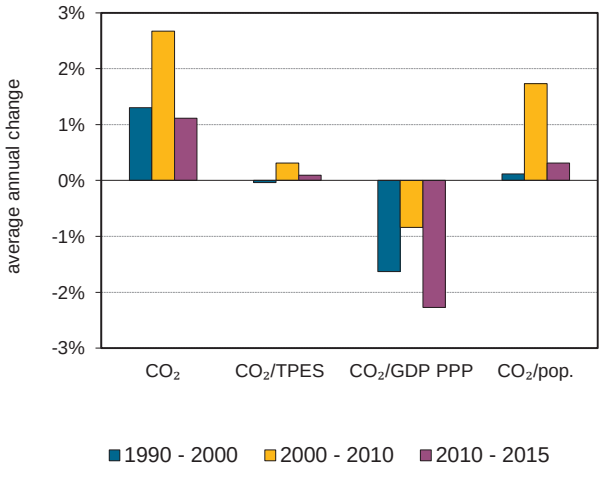
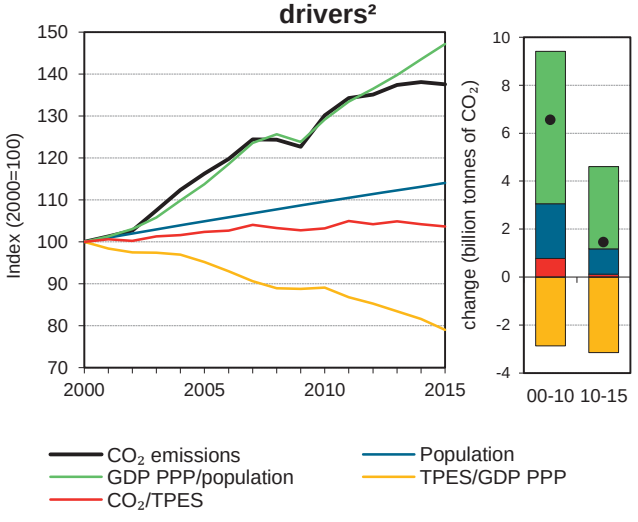


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

G20

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	16783.2	17 709.9	19 107.1	22 209.6	24 864.0	26 375.0	26 278.7	57%
Share of World CO_2 from fuel combustion	82%	83%	83%	82%	82%	82%	81%	
TPES (PJ)	295813	312 797	338 007	383 779	426 303	447 734	448 399	52%
GDP (billion 2010 USD)	33738.6	37 438.5	44 328.9	51 139.5	57 368.1	63 637.4	65 374.7	94%
GDP PPP (billion 2010 USD)	37424.4	41 853.1	50 212.2	59 914.3	71 071.8	81 509.9	84 274.8	125%
Population (millions)	3659.2	3 897.4	4 118.4	4 319.7	4 513.5	4 659.6	4 696.3	28%
CO_2 / TPES (tCO_2 per TJ)	56.7	56.6	56.5	57.9	58.3	58.9	58.6	3%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.5	0.5	0.4	0.4	0.4	0.4	0.4	-19%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.45	0.4	0.4	0.4	0.3	0.3	0.3	-30%
CO_2 / population (tCO_2 per capita)	4.6	4.5	4.6	5.1	5.5	5.7	5.6	22%
Share of electricity output from fossil fuels	64%	63%	65%	67%	67%	67%	66%	
CO_2 / kWh of electricity (gCO_2/kWh)	541	543	547	561	542	530	515	-5%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	106	114	132	148	157	157	57%
Population index	100	107	113	118	123	127	128	28%
GDP PPP per population index	100	105	119	136	154	171	175	75%
Energy intensity index - TPES / GDP PPP	100	95	85	81	76	69	67	-33%
Carbon intensity index - CO_2 / TPES	100	100	100	102	103	104	103	3%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**13 543.3**	**7 866.1**	**4 703.0**	**166.3**	**26 278.7**	**57%**
Electricity and heat generation	9 092.3	464.9	2 010.7	116.8	11 684.7	79%
Other energy industry own use	357.3	518.8	430.4	1.8	1 308.4	64%
Manufacturing industries and construction	3 507.5	754.9	901.5	43.3	5 207.2	62%
Transport	9.7	5 151.5	181.2	-	5 342.5	56%
of which: road	-	*4 595.8*	*62.1*	-	*4 657.9*	67%
Other	576.4	975.9	1 179.3	4.5	2 736.0	-3%
of which: residential	*273.6*	*467.6*	*782.1*	*0.0*	*1 523.3*	-7%
of which: services	*136.6*	*214.7*	*378.0*	*4.2*	*733.4*	4%
Memo: international marine bunkers	-	*377.7*	-	-	*377.7*	*41%*
Memo: international aviation bunkers	-	*369.8*	-	-	*369.8*	*101%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	8416.1	99.2	22.0	22.0
Road - oil	4595.8	64.9	12.0	34.1
Manufacturing industries - coal	3507.5	102.2	9.2	43.3
Main activity prod. elec. and heat - gas	1618.2	117.2	4.2	47.5
Manufacturing industries - gas	901.5	31.9	2.4	49.9
Residential - gas	782.1	31.2	2.0	51.9
Manufacturing industries - oil	754.9	-3.6	2.0	53.9
Unallocated autoproducers - coal	676.2	86.6	1.8	55.7
Other transport - oil	555.7	20.1	1.5	57.1
Memo: total CO_2 from fuel combustion	*26278.7*	*56.6*	*68.8*	*68.8*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

CO_2 EMISSIONS STATISTICS AND INDICATORS

COUNTRIES

Albania

Figure 1. CO_2 emissions by fuel

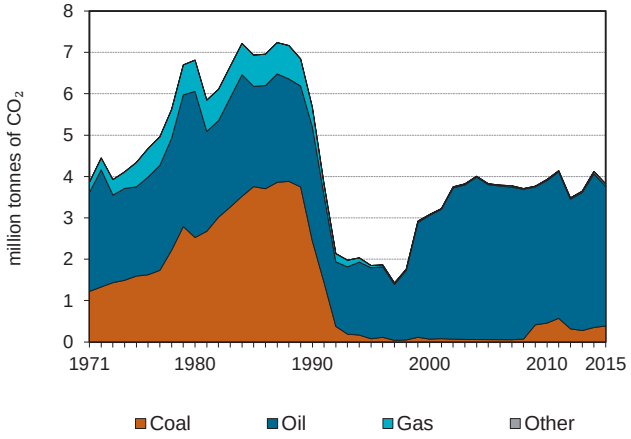


Figure 2. CO_2 emissions by sector

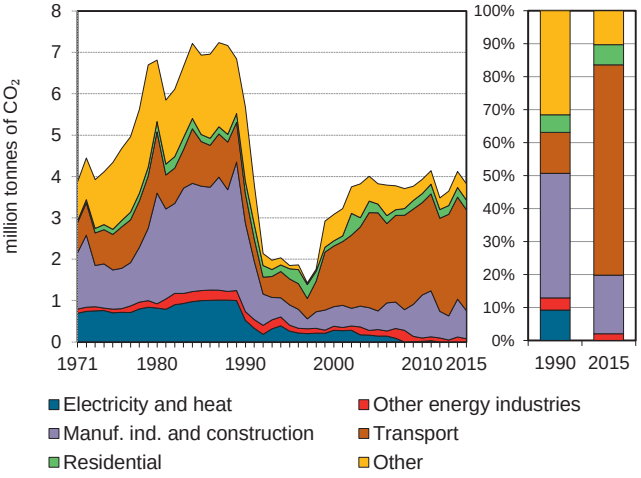


Figure 3. Electricity generation by fuel

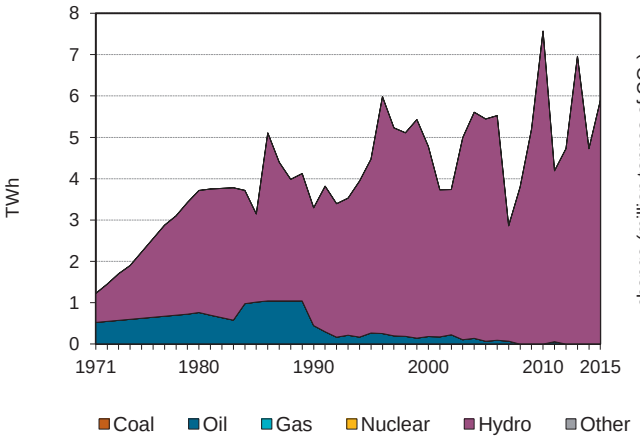


Figure 4. CO_2 from electricity generation: driving factors[1]

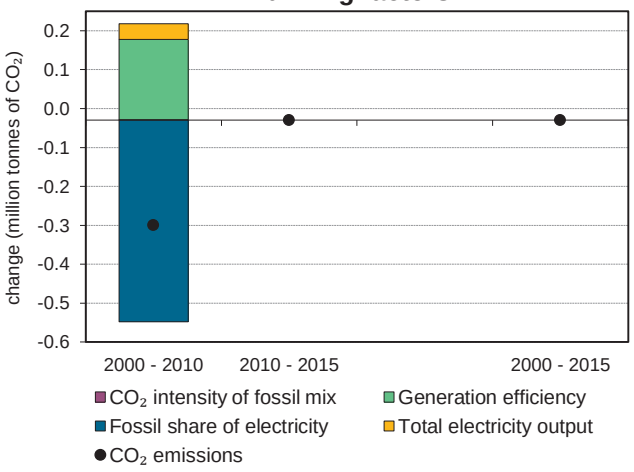


Figure 5. Changes in selected indicators

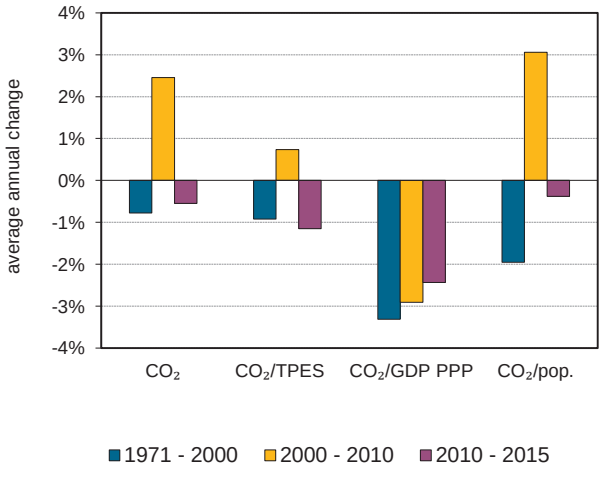
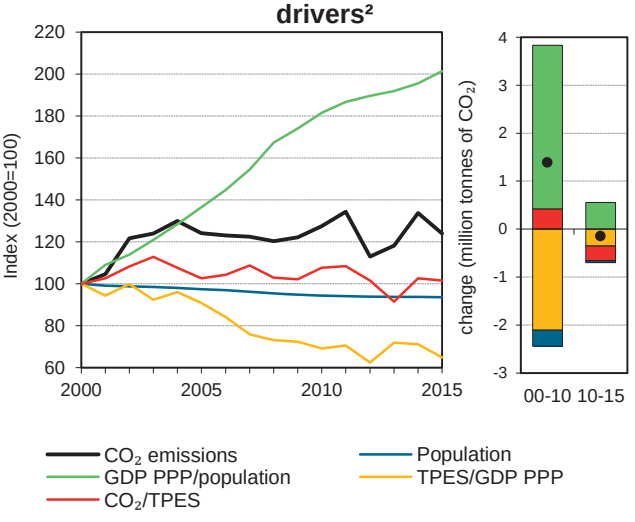


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Albania

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	5.7	1.8	3.1	3.8	3.9	4.1	3.8	-33%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	112	56	75	91	89	98	92	-18%
GDP (billion 2010 USD)	6.2	5.4	7.0	9.3	11.9	12.8	13.1	112%
GDP PPP (billion 2010 USD)	14	12.3	15.8	21.1	27.1	29.0	29.8	112%
Population (millions)	3.3	3.2	3.1	3.0	2.9	2.9	2.9	-12%
CO_2 / TPES (tCO_2 per TJ)	50.7	33.2	41.1	42.2	44.2	42.1	41.7	-18%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.92	0.3	0.4	0.4	0.3	0.3	0.3	-68%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.4	0.1	0.2	0.2	0.1	0.1	0.1	-68%
CO_2 / population (tCO_2 per capita)	1.7	0.6	1.0	1.3	1.3	1.4	1.3	-23%
Share of electricity output from fossil fuels	14%	6%	4%	1%	0%	0%	0%	
CO_2 / kWh of electricity (gCO_2/kWh)	149	55	52	26	2	-	-	-100%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	33	54	67	69	73	67	-33%
Population index	100	97	94	92	89	88	88	-12%
GDP PPP per population index	100	91	120	164	218	235	242	142%
Energy intensity index - TPES / GDP PPP	100	57	59	54	41	42	39	-61%
Carbon intensity index - CO_2 / TPES	100	65	81	83	87	83	82	-18%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**0.4**	**3.4**	**0.1**	**-**	**3.8**	**-33%**
Electricity and heat generation	-	-	-	-	-	-100%
Other energy industry own use	-	0.0	0.0	-	0.1	-62%
Manufacturing industries and construction	0.4	0.3	0.0	-	0.7	-68%
Transport	-	2.4	-	-	2.4	245%
of which: road	-	*2.3*	-	-	*2.3*	230%
Other	0.0	0.6	-	-	0.6	-70%
of which: residential	-	*0.2*	-	-	*0.2*	-23%
of which: services	*0.0*	*0.1*	-	-	*0.1*	x
Memo: international marine bunkers	-	*0.1*	-	-	*0.1*	*..*
Memo: international aviation bunkers	-	*0.0*	-	-	*0.0*	*x*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	2.3	229.5	26.6	26.6
Non-specified other - oil	0.4	x	4.3	30.9
Manufacturing industries - coal	0.4	-48.4	4.3	35.2
Manufacturing industries - oil	0.3	-72.9	3.2	38.4
Residential - oil	0.2	-17.3	2.7	41.0
Other transport - oil	0.1	x	1.3	42.3
Other energy industry own use - oil	0.0	-80.5	0.5	42.8
Other energy industry own use - gas	0.0	x	0.4	43.2
Manufacturing industries - gas	0.0	-93.2	0.3	43.5
Memo: total CO_2 from fuel combustion	*3.8*	*-32.6*	*43.6*	*43.6*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Algeria

Figure 1. CO_2 emissions by fuel

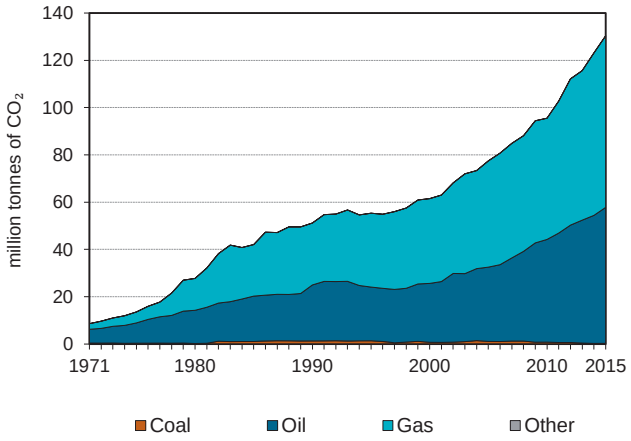


Figure 2. CO_2 emissions by sector

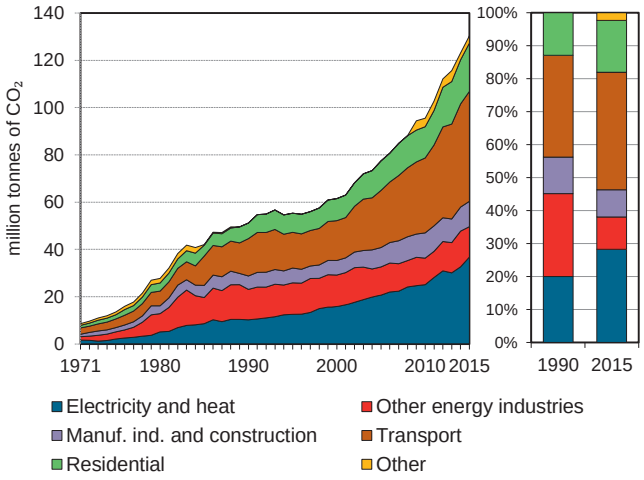


Figure 3. Electricity generation by fuel

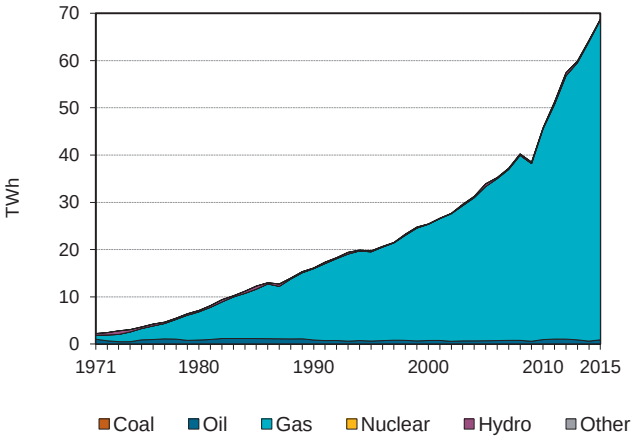


Figure 4. CO_2 from electricity generation: driving factors[1]

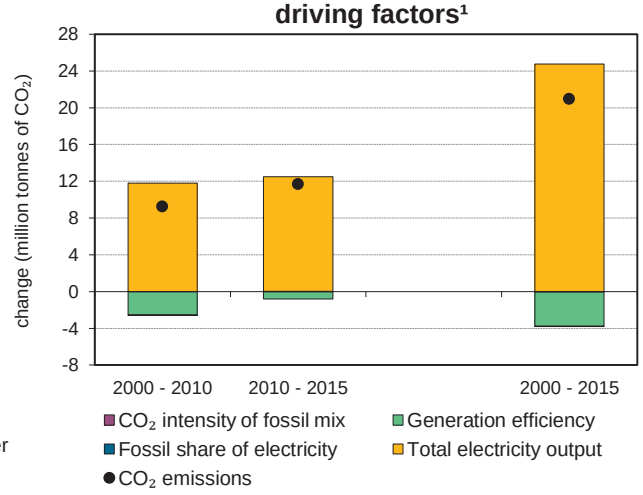


Figure 5. Changes in selected indicators

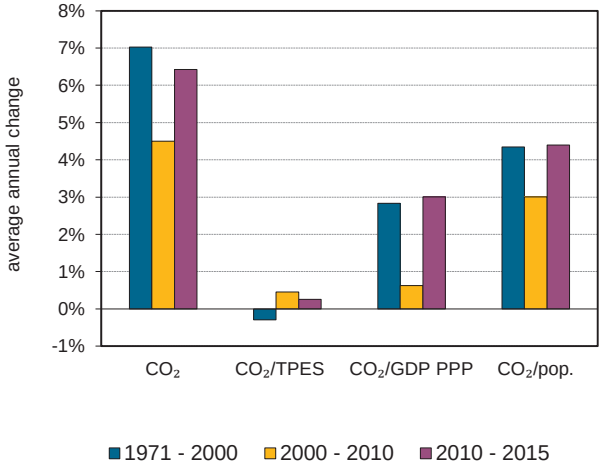
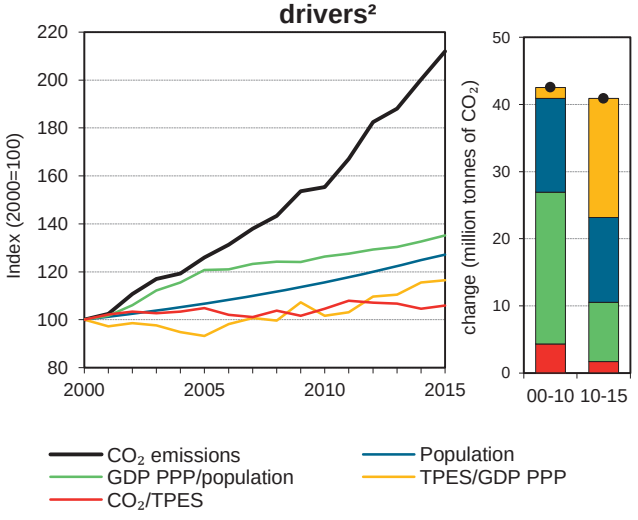


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Algeria

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	51.2	55.3	61.5	77.4	95.5	123.1	130.4	155%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	929	1 015	1 130	1 357	1 678	2 163	2 261	143%
GDP (billion 2010 USD)	92	93.2	110.4	142.3	161.2	182.9	189.8	106%
GDP PPP (billion 2010 USD)	259.9	263.2	311.9	401.9	455.4	516.7	536.1	106%
Population (millions)	25.9	28.9	31.2	33.3	36.0	38.9	39.7	53%
CO_2 / TPES (tCO_2 per TJ)	55.1	54.5	54.4	57.1	56.9	56.9	57.6	5%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.56	0.6	0.6	0.5	0.6	0.7	0.7	23%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	24%
CO_2 / population (tCO_2 per capita)	2	1.9	2.0	2.3	2.7	3.2	3.3	66%
Share of electricity output from fossil fuels	99%	99%	100%	98%	100%	100%	100%	
CO_2 / kWh of electricity (gCO_2/kWh)	635	636	623	609	549	508	535	-16%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	108	120	151	187	241	255	155%
Population index	100	112	120	128	139	150	153	53%
GDP PPP per population index	100	91	100	120	126	132	135	35%
Energy intensity index - TPES / GDP PPP	100	108	101	94	103	117	118	18%
Carbon intensity index - CO_2 / TPES	100	99	99	104	103	103	105	5%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**0.3**	**57.5**	**72.6**	**-**	**130.4**	**155%**
Electricity and heat generation	-	1.4	35.4	-	36.8	260%
Other energy industry own use	-	3.0	9.9	-	12.8	-0%
Manufacturing industries and construction	0.3	2.4	8.1	-	10.7	89%
Transport	-	45.1	1.4	-	46.5	194%
of which: road	-	*44.3*	-	-	*44.3*	193%
Other	-	5.7	17.8	-	23.5	257%
of which: residential	-	*4.7*	*15.8*	-	*20.4*	210%
of which: services	-	-	-	-	-	-
Memo: international marine bunkers	-	*0.9*	-	-	*0.9*	*-37%*
Memo: international aviation bunkers	-	*1.4*	-	-	*1.4*	*32%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	44.3	193.2	18.3	18.3
Main activity prod. elec. and heat - gas	32.6	250.8	13.4	31.7
Residential - gas	15.8	543.0	6.5	38.2
Other energy industry own use - gas	9.9	-10.6	4.1	42.3
Manufacturing industries - gas	8.1	198.7	3.3	45.6
Residential - oil	4.7	12.6	1.9	47.5
Other energy industry own use - oil	3.0	63.2	1.2	48.7
Unallocated autoproducers - gas	2.8	x	1.2	49.9
Manufacturing industries - oil	2.4	42.9	1.0	50.9
Memo: total CO_2 from fuel combustion	*130.4*	*154.8*	*53.7*	*53.7*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Angola

Figure 1. CO_2 emissions by fuel

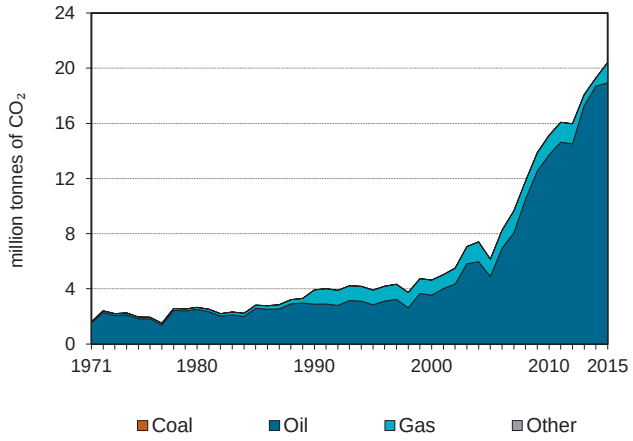


Figure 2. CO_2 emissions by sector

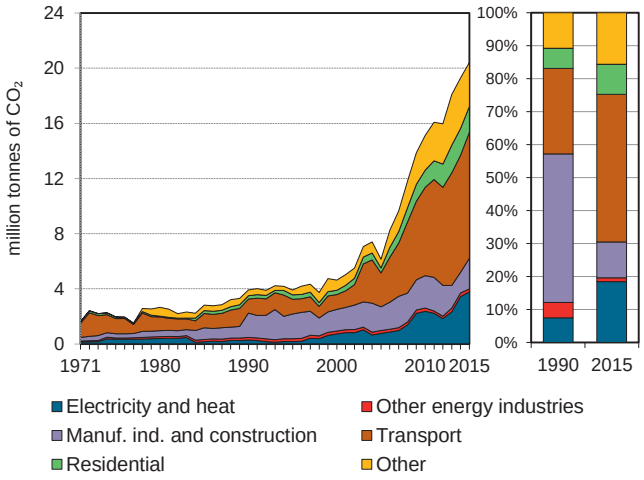


Figure 3. Electricity generation by fuel

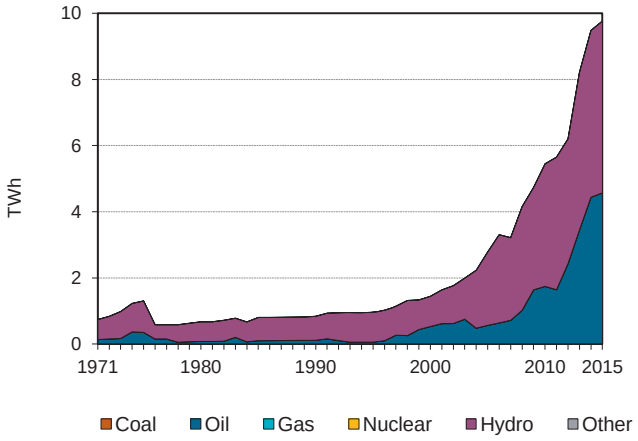


Figure 4. CO_2 from electricity generation: driving factors[1]

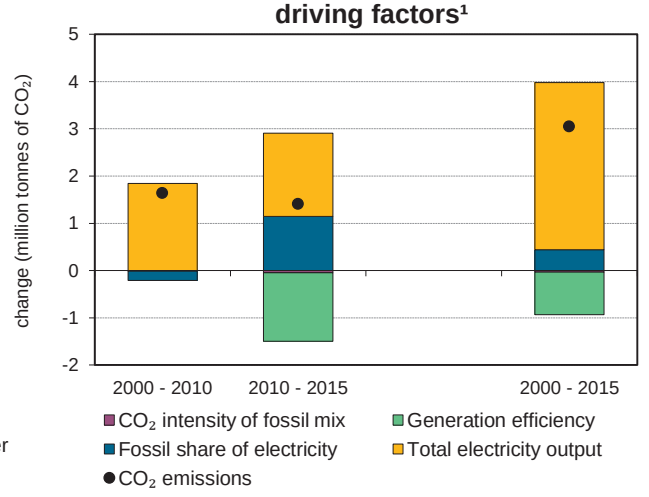


Figure 5. Changes in selected indicators

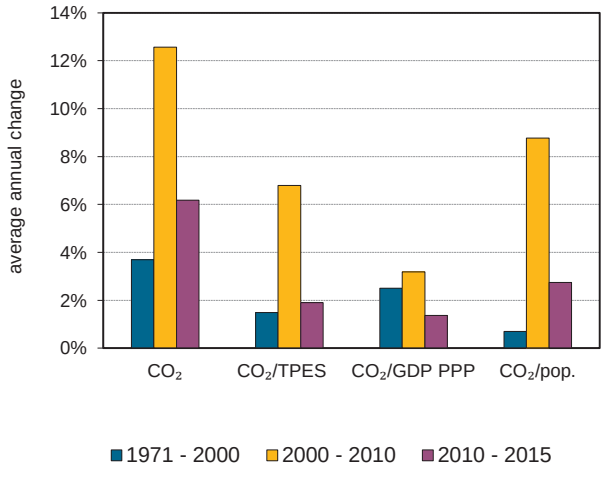
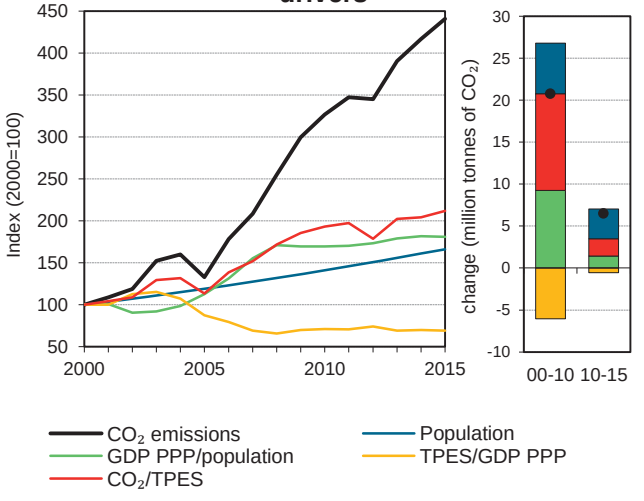


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Angola

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	3.9	3.9	4.6	6.1	15.1	19.3	20.4	421%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	246	266	301	353	509	614	626	154%
GDP (billion 2010 USD)	32	25.3	34.5	46.2	82.5	100.9	103.9	225%
GDP PPP (billion 2010 USD)	52.4	41.5	56.5	75.7	135.0	165.1	170.1	225%
Population (millions)	11.1	13.0	15.1	17.9	21.2	24.2	25.0	125%
CO_2 / TPES (tCO_2 per TJ)	15.9	14.7	15.4	17.4	29.7	31.4	32.6	105%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.12	0.2	0.1	0.1	0.2	0.2	0.2	60%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.07	0.1	0.1	0.1	0.1	0.1	0.1	60%
CO_2 / population (tCO_2 per capita)	0.4	0.3	0.3	0.3	0.7	0.8	0.8	132%
Share of electricity output from fossil fuels	14%	6%	37%	20%	32%	47%	47%	
CO_2 / kWh of electricity (gCO_2/kWh)	347	179	504	275	435	363	387	12%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	100	118	157	386	492	521	421%
Population index	100	117	135	161	191	218	225	125%
GDP PPP per population index	100	68	80	90	135	145	144	44%
Energy intensity index - TPES / GDP PPP	100	136	113	99	80	79	78	-22%
Carbon intensity index - CO_2 / TPES	100	92	97	109	187	197	205	105%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**18.9**	**1.5**	**-**	**20.4**	**421%**
Electricity and heat generation	-	3.8	-	-	3.8	+
Other energy industry own use	-	0.2	-	-	0.2	18%
Manufacturing industries and construction	-	0.7	1.5	-	2.2	26%
Transport	-	9.1	-	-	9.1	800%
of which: road	-	*8.3*	-	-	*8.3*	720%
Other	-	5.1	-	-	5.1	663%
of which: residential	-	*1.9*	-	-	*1.9*	671%
of which: services	-	*3.1*	-	-	*3.1*	699%
Memo: international marine bunkers	-	*1.3*	-	-	*1.3*	+
Memo: international aviation bunkers	-	*0.7*	-	-	*0.7*	*-35%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	8.3	719.6	1.2	1.2
Non-specified other - oil	3.2	658.1	0.4	1.6
Main activity prod. elec. and heat - oil	3.2	+	0.4	2.0
Residential - oil	1.9	671.1	0.3	2.3
Manufacturing industries - gas	1.5	42.6	0.2	2.5
Other transport - oil	0.8	x	0.1	2.6
Manufacturing industries - oil	0.7	2.7	0.1	2.7
Unallocated autoproducers - oil	0.6	713.0	0.1	2.8
Other energy industry own use - oil	0.2	17.9	0.0	2.8
Memo: total CO_2 from fuel combustion	*20.4*	*420.7*	*2.8*	*2.8*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Argentina

Figure 1. CO_2 emissions by fuel

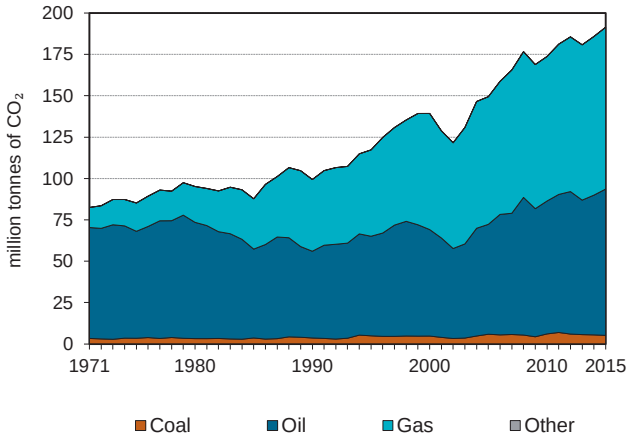


Figure 2. CO_2 emissions by sector

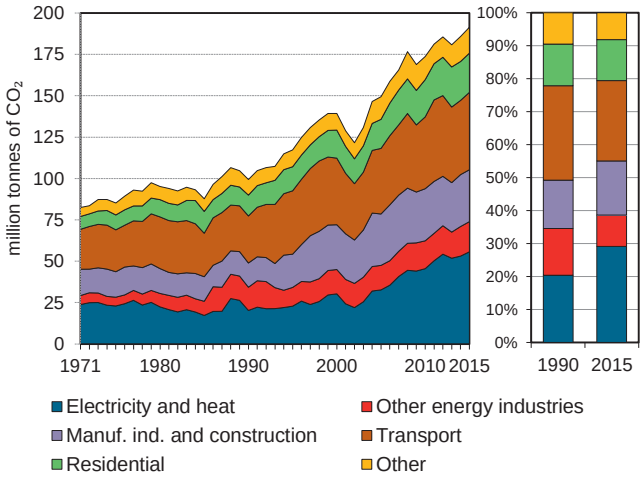


Figure 3. Electricity generation by fuel

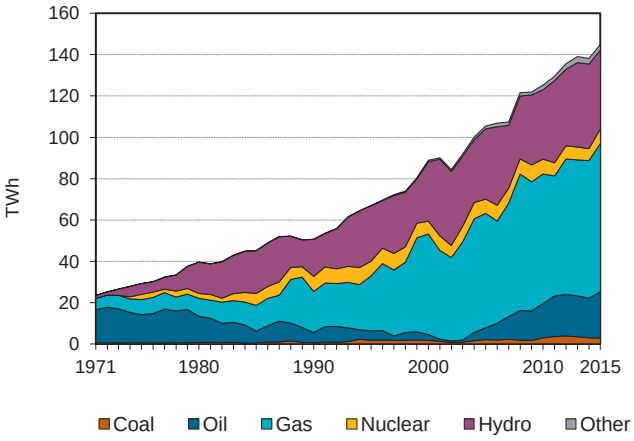


Figure 4. CO_2 from electricity generation: driving factors[1]

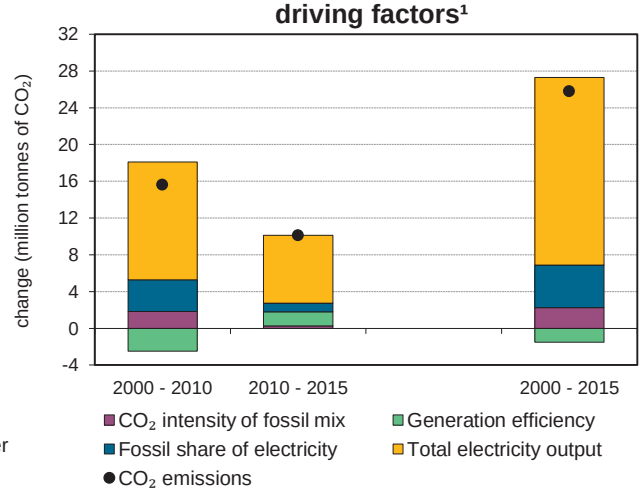


Figure 5. Changes in selected indicators

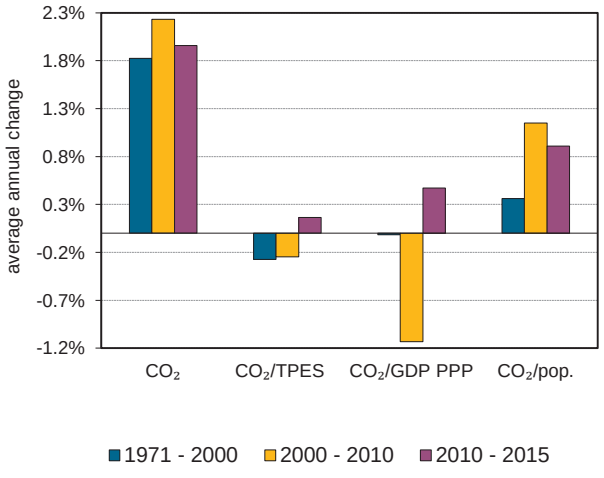
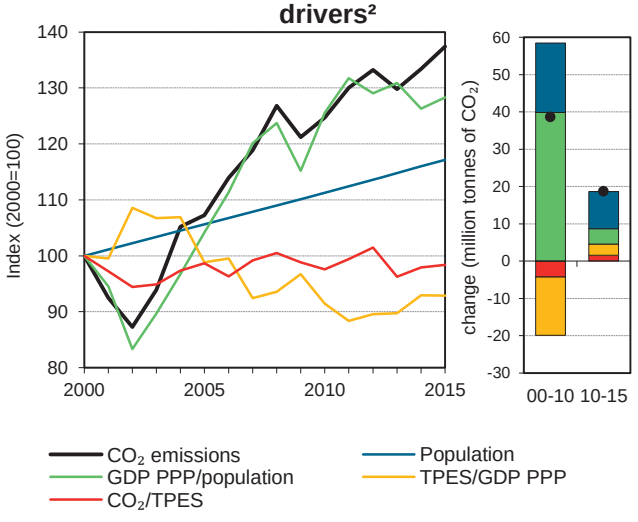


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Argentina

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	99.4	117.3	139.3	149.4	173.7	185.8	191.4	93%
Share of World CO_2 from fuel combustion	0%	1%	1%	1%	1%	1%	1%	
TPES (PJ)	1929	2 263	2 577	2 802	3 294	3 510	3 599	87%
GDP (billion 2010 USD)	194.4	267.0	303.2	333.6	423.6	444.2	455.9	135%
GDP PPP (billion 2010 USD)	301.3	413.8	469.9	517.0	656.5	688.4	706.6	135%
Population (millions)	32.7	35.0	37.1	39.1	41.2	43.0	43.4	33%
CO_2 / TPES (tCO_2 per TJ)	51.5	51.8	54.1	53.3	52.7	52.9	53.2	3%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.51	0.4	0.5	0.4	0.4	0.4	0.4	-18%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.33	0.3	0.3	0.3	0.3	0.3	0.3	-18%
CO_2 / population (tCO_2 per capita)	3	3.4	3.8	3.8	4.2	4.3	4.4	45%
Share of electricity output from fossil fuels	50%	49%	60%	60%	66%	64%	67%	
CO_2 / kWh of electricity (gCO_2/kWh)	400	341	341	310	363	384	384	-4%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	118	140	150	175	187	193	93%
Population index	100	107	113	120	126	131	133	33%
GDP PPP per population index	100	128	138	143	173	174	177	77%
Energy intensity index - TPES / GDP PPP	100	85	86	85	78	80	80	-20%
Carbon intensity index - CO_2 / TPES	100	101	105	103	102	103	103	3%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**5.2**	**88.4**	**97.8**	**-**	**191.4**	**93%**
Electricity and heat generation	3.7	16.5	35.4	-	55.7	175%
Other energy industry own use	-	3.9	14.3	-	18.2	30%
Manufacturing industries and construction	1.4	13.0	17.0	-	31.4	114%
Transport	-	38.4	8.3	-	46.8	64%
of which: road	-	*35.8*	*5.9*	-	*41.7*	58%
Other	-	16.6	22.7	-	39.4	79%
of which: residential	-	*3.6*	*20.1*	-	*23.7*	88%
of which: services	-	*1.1*	*2.6*	-	*3.8*	-22%
Memo: international marine bunkers	-	*2.9*	-	-	*2.9*	*30%*
Memo: international aviation bunkers	-	*2.6*	-	-	*2.6*	*x*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	35.8	38.2	9.0	9.0
Main activity prod. elec. and heat - gas	29.1	177.9	7.3	16.3
Residential - gas	20.1	137.3	5.0	21.3
Manufacturing industries - gas	17.0	73.9	4.3	25.6
Main activity prod. elec. and heat - oil	15.8	243.1	4.0	29.5
Other energy industry own use - gas	14.3	60.6	3.6	33.1
Non-specified other - oil	13.0	119.3	3.3	36.4
Manufacturing industries - oil	13.0	235.7	3.3	39.6
Unallocated autoproducers - gas	6.4	252.1	1.6	41.2
Memo: total CO_2 from fuel combustion	*191.4*	*92.6*	*48.0*	*48.0*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Armenia

Figure 1. CO_2 emissions by fuel

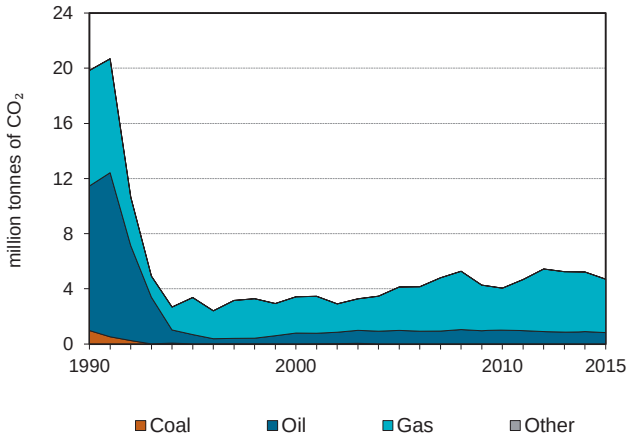


Figure 2. CO_2 emissions by sector

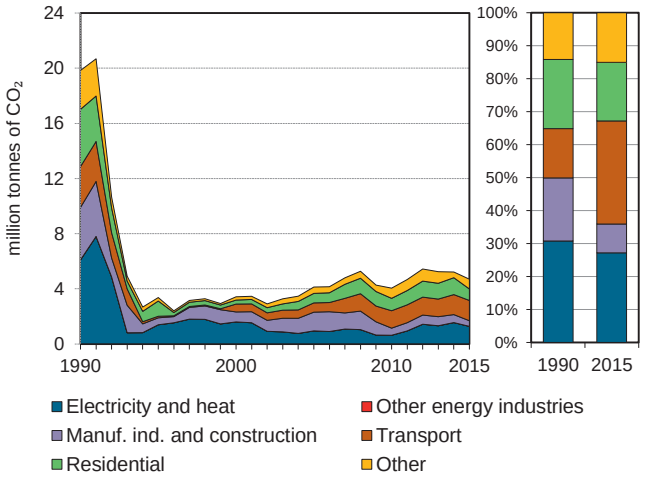


Figure 3. Electricity generation by fuel

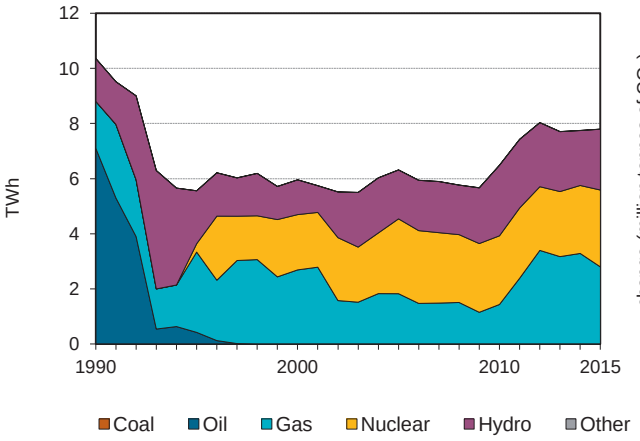


Figure 4. CO_2 from electricity generation: driving factors[1]

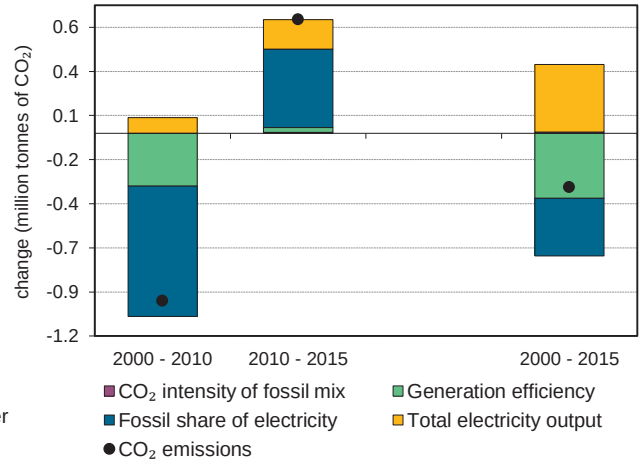


Figure 5. Changes in selected indicators

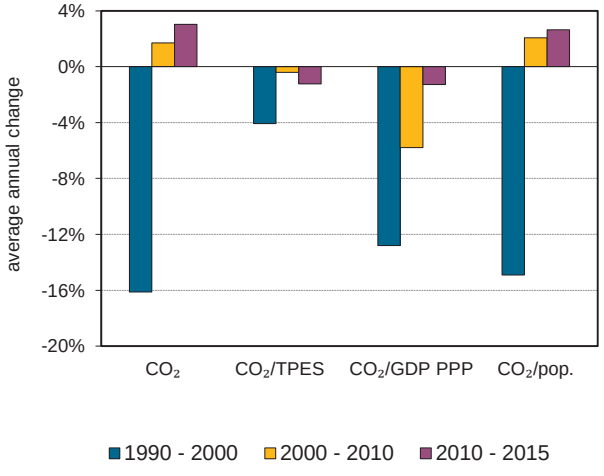
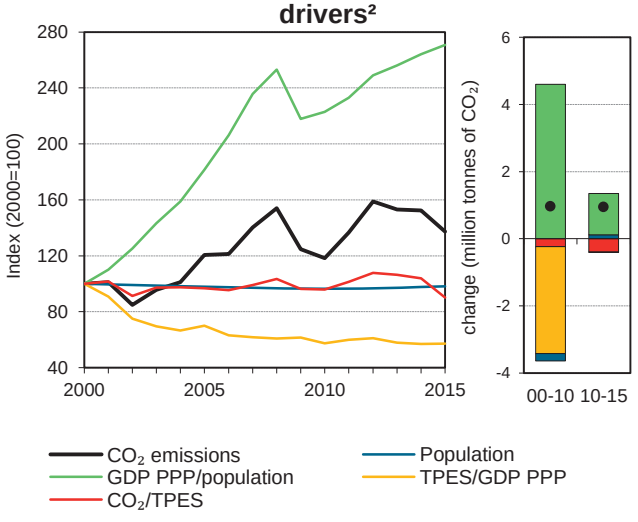


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Armenia

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	19.8	3.4	3.4	4.1	4.0	5.2	4.7	-76%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	323	69	84	105	104	124	128	-60%
GDP (billion 2010 USD)	6.4	3.4	4.3	7.7	9.3	11.1	11.5	80%
GDP PPP (billion 2010 USD)	13	6.9	8.8	15.6	18.9	22.7	23.4	80%
Population (millions)	3.6	3.2	3.1	3.0	3.0	3.0	3.0	-15%
CO_2 / TPES (tCO_2 per TJ)	61.5	48.9	40.6	39.3	38.9	42.1	36.6	-41%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	3.12	1.0	0.8	0.5	0.4	0.5	0.4	-87%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	1.53	0.5	0.4	0.3	0.2	0.2	0.2	-87%
CO_2 / population (tCO_2 per capita)	5.6	1.0	1.1	1.4	1.4	1.7	1.6	-72%
Share of electricity output from fossil fuels	85%	60%	45%	29%	22%	42%	36%	
CO_2 / kWh of electricity (gCO_2/kWh)	499	212	239	132	93	199	163	-67%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	17	17	21	20	26	24	-76%
Population index	100	91	87	85	84	85	85	-15%
GDP PPP per population index	100	58	78	142	174	206	212	112%
Energy intensity index - TPES / GDP PPP	100	40	39	27	22	22	22	-78%
Carbon intensity index - CO_2 / TPES	100	80	66	64	63	69	59	-41%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**0.8**	**3.9**	**-**	**4.7**	**-76%**
Electricity and heat generation	-	-	1.3	-	1.3	-79%
Other energy industry own use	-	-	-	-	-	-
Manufacturing industries and construction	-	0.0	0.4	-	0.4	-89%
Transport	-	0.7	0.8	-	1.5	-50%
of which: road	-	*0.7*	*0.7*	-	*1.5*	-51%
Other	-	0.1	1.4	-	1.5	-78%
of which: residential	-	*0.0*	*0.8*	-	*0.8*	-80%
of which: services	-	*0.0*	*0.6*	-	*0.6*	-72%
Memo: international marine bunkers	-	-	-	-	-	-
Memo: international aviation bunkers	-	*0.1*	-	-	*0.1*	*-84%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - gas	1.3	-33.8	14.9	14.9
Residential - gas	0.8	-69.4	9.5	24.4
Road - gas	0.7	x	8.8	33.2
Road - oil	0.7	-75.9	8.4	41.5
Non-specified other - gas	0.6	-58.9	7.3	48.9
Manufacturing industries - gas	0.4	-82.3	4.7	53.6
Non-specified other - oil	0.1	-93.7	1.0	54.5
Residential - oil	0.0	-95.9	0.3	54.8
Other transport - gas	0.0	x	0.1	54.9
Memo: total CO_2 from fuel combustion	*4.7*	*-76.3*	*55.0*	*55.0*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Australia

Figure 1. CO_2 emissions by fuel

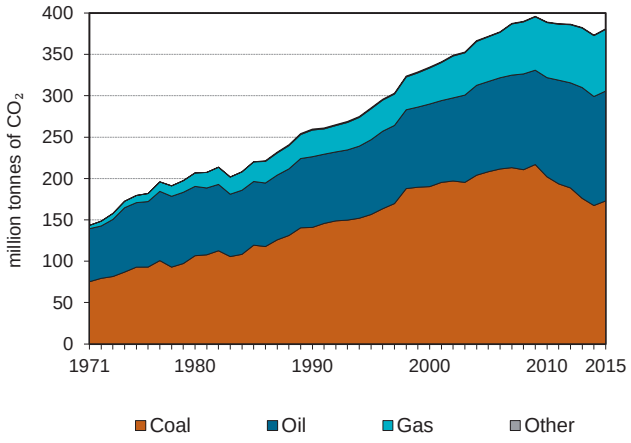


Figure 2. CO_2 emissions by sector

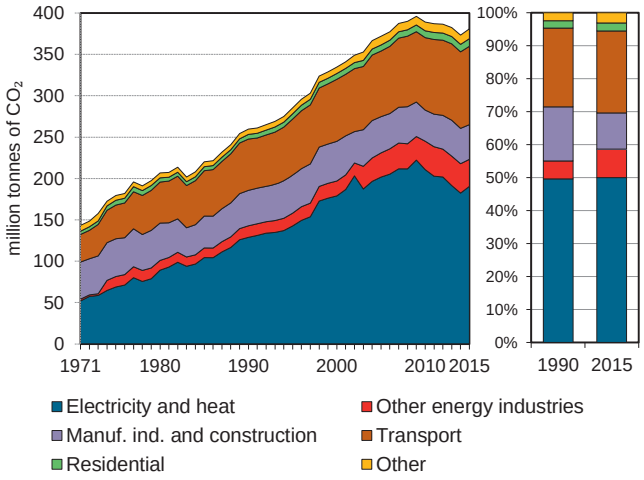


Figure 3. Electricity generation by fuel

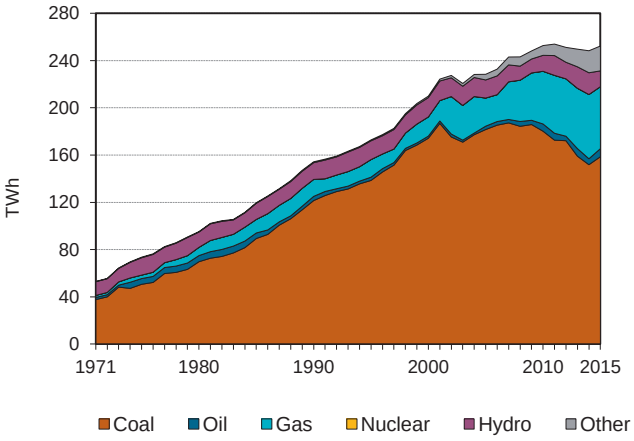


Figure 4. CO_2 from electricity generation: driving factors[1]

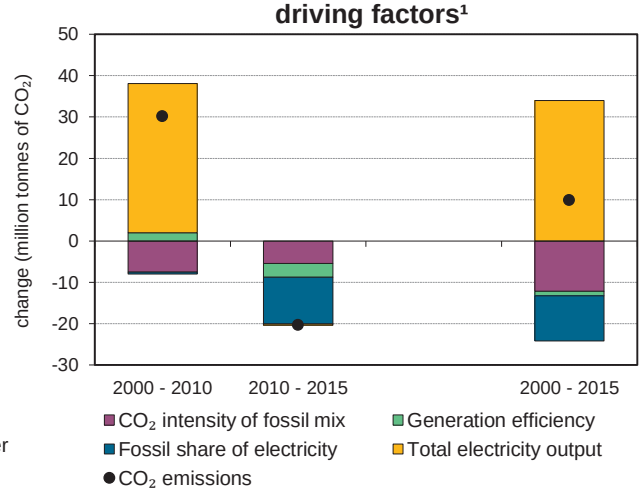


Figure 5. Changes in selected indicators

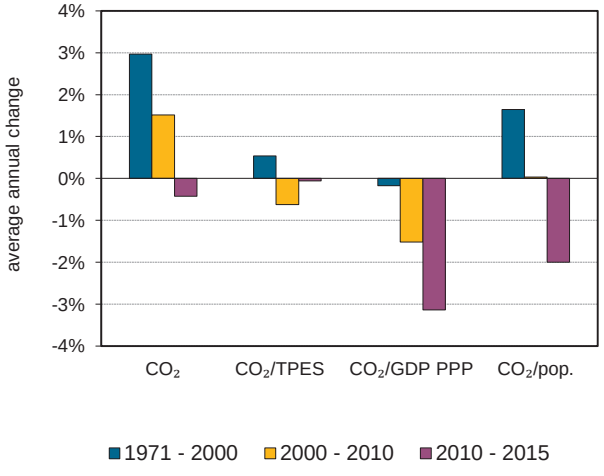
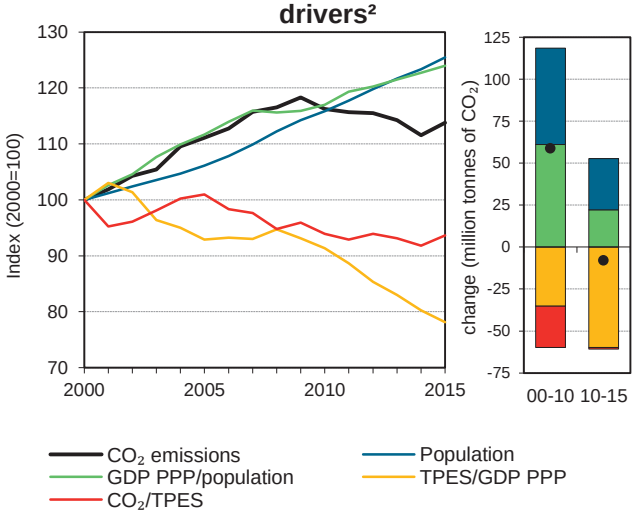


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Australia

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	259.7	285.4	334.7	371.9	389.1	373.3	380.9	47%
Share of World CO_2 from fuel combustion	1%	1%	1%	1%	1%	1%	1%	
TPES (PJ)	3616	3 881	4 316	4 751	5 344	5 244	5 246	45%
GDP (billion 2010 USD)	673.6	791.0	954.7	1 131.1	1 293.8	1 445.3	1 485.3	121%
GDP PPP (billion 2010 USD)	488.6	573.9	692.6	820.6	938.6	1 048.5	1 077.5	121%
Population (millions)	17.2	18.1	19.2	20.4	22.2	23.7	24.1	40%
CO_2 / TPES (tCO_2 per TJ)	71.8	73.5	77.5	78.3	72.8	71.2	72.6	1%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.39	0.4	0.4	0.3	0.3	0.3	0.3	-33%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.53	0.5	0.5	0.5	0.4	0.4	0.4	-33%
CO_2 / population (tCO_2 per capita)	15.1	15.7	17.4	18.3	17.5	15.8	15.8	5%
Share of electricity output from fossil fuels	90%	90%	92%	91%	91%	85%	86%	
CO_2 / kWh of electricity (gCO_2/kWh)	834	826	853	883	834	734	755	-9%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	110	129	143	150	144	147	47%
Population index	100	106	112	119	129	138	140	40%
GDP PPP per population index	100	111	127	142	148	156	157	57%
Energy intensity index - TPES / GDP PPP	100	91	84	78	77	68	66	-34%
Carbon intensity index - CO_2 / TPES	100	102	108	109	101	99	101	1%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**172.9**	**132.8**	**74.7**	**0.6**	**380.9**	**47%**
Electricity and heat generation	158.3	4.3	27.9	-	190.5	48%
Other energy industry own use	5.2	10.6	16.9	-	32.7	134%
Manufacturing industries and construction	9.4	13.8	18.1	0.6	41.9	-2%
Transport	0.0	94.1	0.6	-	94.7	53%
of which: road	-	*79.4*	*0.2*	-	*79.7*	45%
Other	0.0	10.0	11.1	-	21.1	76%
of which: residential	*0.0*	*1.0*	*8.2*	-	*9.2*	63%
of which: services	*0.0*	*2.4*	*2.8*	-	*5.3*	77%
Memo: international marine bunkers	-	*2.4*	-	-	*2.4*	*13%*
Memo: international aviation bunkers	-	*11.6*	-	-	*11.6*	*169%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	158.3	37.5	29.1	29.1
Road - oil	79.4	44.3	14.6	43.7
Main activity prod. elec. and heat - gas	21.5	202.0	3.9	47.6
Manufacturing industries - gas	18.1	38.2	3.3	51.0
Other energy industry own use - gas	16.9	248.9	3.1	54.1
Other transport - oil	14.6	120.0	2.7	56.7
Manufacturing industries - oil	13.8	53.8	2.5	59.3
Other energy industry own use - oil	10.6	60.9	1.9	61.2
Manufacturing industries - coal	9.4	-51.9	1.7	63.0
Memo: total CO_2 from fuel combustion	*380.9*	*46.7*	*70.0*	*70.0*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Austria

Figure 1. CO_2 emissions by fuel

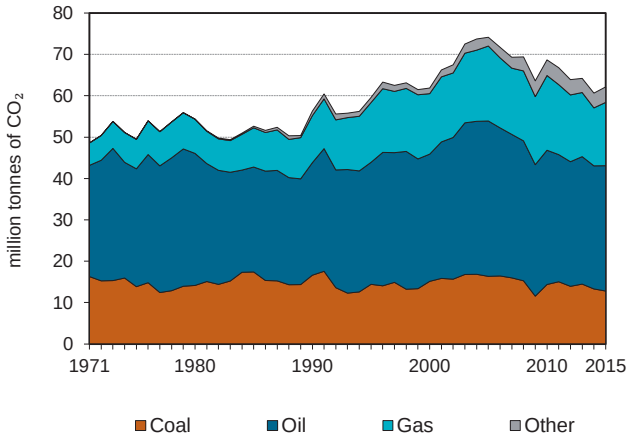


Figure 2. CO_2 emissions by sector

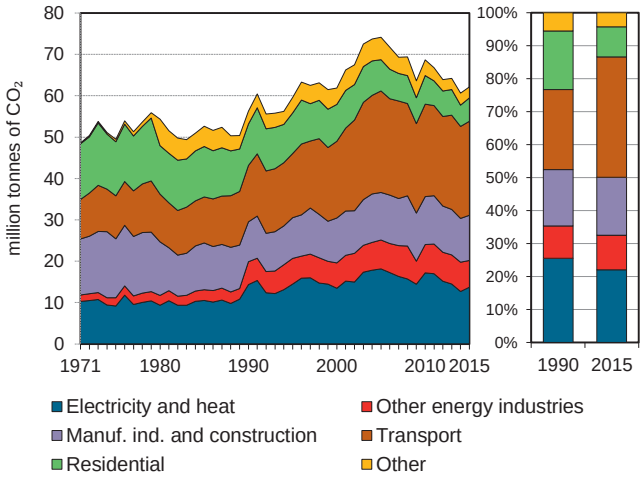


Figure 3. Electricity generation by fuel

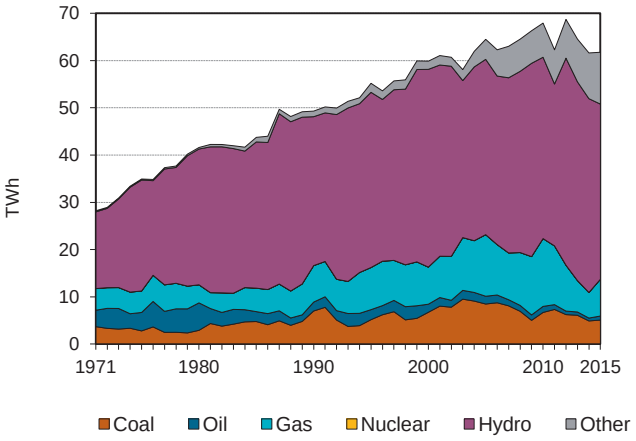


Figure 4. CO_2 from electricity generation: driving factors[1]

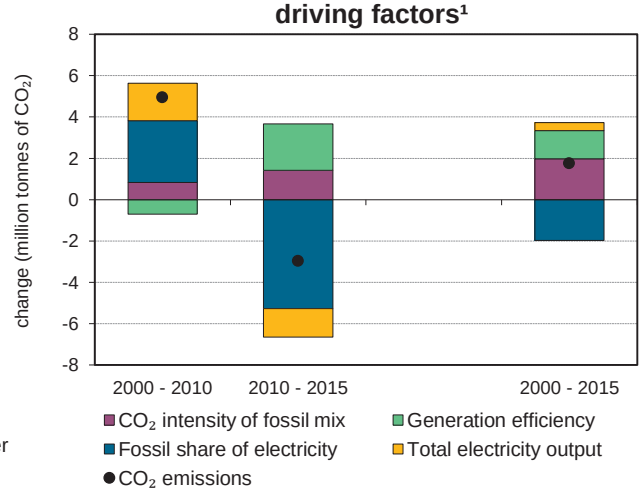


Figure 5. Changes in selected indicators

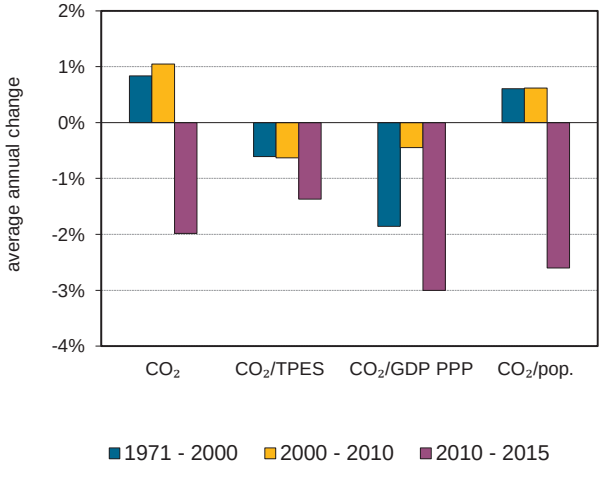
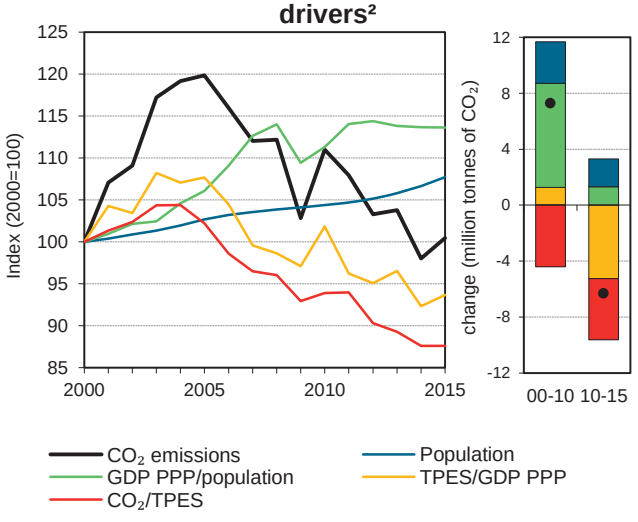


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Austria

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	56.3	59.6	61.9	74.1	68.7	60.6	62.1	10%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	1042	1 123	1 198	1 404	1 416	1 340	1 373	32%
GDP (billion 2010 USD)	259.4	289.5	336.0	365.9	390.2	407.3	411.2	59%
GDP PPP (billion 2010 USD)	233	260.1	301.8	328.7	350.5	365.8	369.3	59%
Population (millions)	7.7	7.9	8.0	8.2	8.4	8.5	8.6	12%
CO_2 / TPES (tCO_2 per TJ)	54	53.1	51.7	52.8	48.5	45.3	45.3	-16%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.22	0.2	0.2	0.2	0.2	0.1	0.2	-30%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.24	0.2	0.2	0.2	0.2	0.2	0.2	-30%
CO_2 / population (tCO_2 per capita)	7.3	7.5	7.7	9.0	8.2	7.1	7.2	-2%
Share of electricity output from fossil fuels	34%	29%	27%	36%	34%	19%	24%	
CO_2 / kWh of electricity (gCO_2/kWh)	245	211	175	227	200	152	164	-33%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	106	110	132	122	108	110	10%
Population index	100	104	104	107	109	111	112	12%
GDP PPP per population index	100	108	124	132	138	141	141	41%
Energy intensity index - TPES / GDP PPP	100	97	89	96	90	82	83	-17%
Carbon intensity index - CO_2 / TPES	100	98	96	98	90	84	84	-16%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**12.8**	**30.3**	**15.3**	**3.7**	**62.1**	**10%**
Electricity and heat generation	6.7	0.8	4.3	1.9	13.7	-4%
Other energy industry own use	4.3	1.1	0.8	0.3	6.5	17%
Manufacturing industries and construction	1.7	1.8	5.9	1.6	10.9	13%
Transport	-	22.1	0.6	-	22.7	67%
of which: road	-	*21.9*	*0.0*	-	*21.9*	67%
Other	0.1	4.5	3.7	0.0	8.3	-37%
of which: residential	*0.1*	*3.0*	*2.6*	-	*5.7*	-44%
of which: services	*0.0*	*0.8*	*1.1*	*0.0*	*1.9*	3%
Memo: international marine bunkers	-	*0.1*	-	-	*0.1*	*6%*
Memo: international aviation bunkers	-	*2.1*	-	-	*2.1*	*141%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	21.9	66.4	24.6	24.6
Manufacturing industries - gas	5.9	54.7	6.6	31.2
Unallocated autoproducers - coal	4.3	174.4	4.8	36.0
Other energy industry - coal	4.3	49.0	4.8	40.8
Main activity prod. elec. and heat - gas	3.7	9.7	4.1	44.9
Residential - oil	3.0	-44.4	3.3	48.3
Residential - gas	2.6	37.9	2.9	51.2
Main activity prod. elec. and heat - coal	2.4	-60.3	2.7	53.8
Manufacturing industries - oil	1.8	-17.8	2.0	55.8
Memo: total CO_2 from fuel combustion	*62.1*	*10.4*	*69.8*	*69.8*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Azerbaijan

Figure 1. CO_2 emissions by fuel

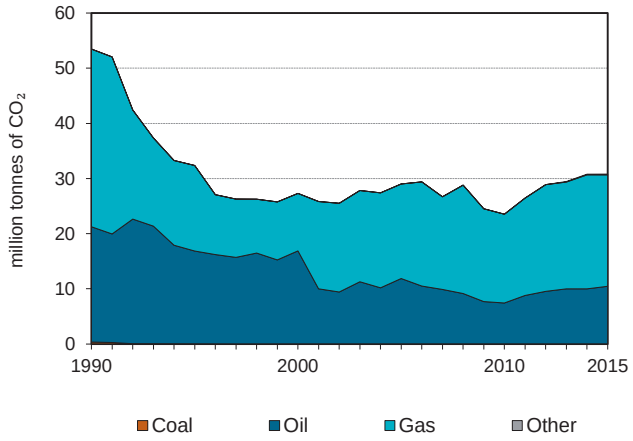


Figure 2. CO_2 emissions by sector

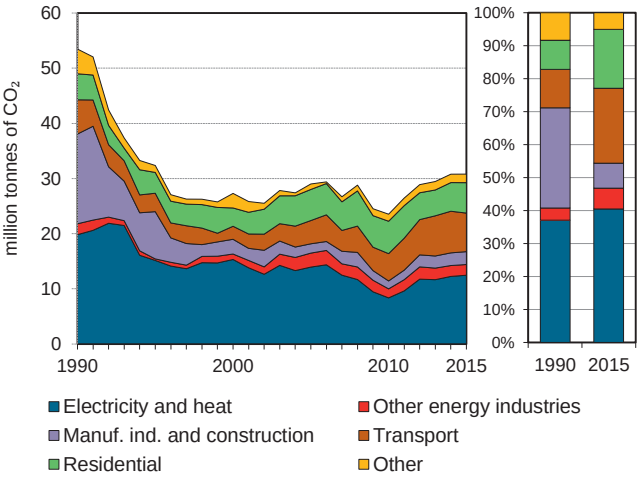


Figure 3. Electricity generation by fuel

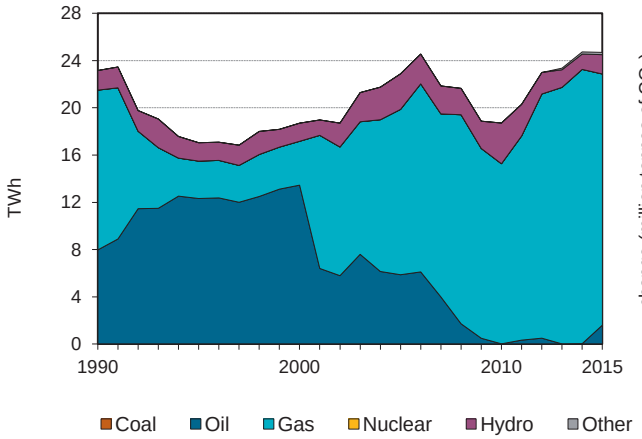


Figure 4. CO_2 from electricity generation: driving factors[1]

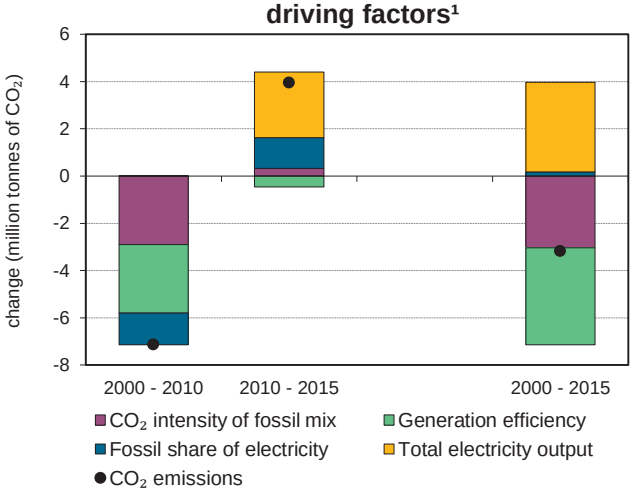


Figure 5. Changes in selected indicators

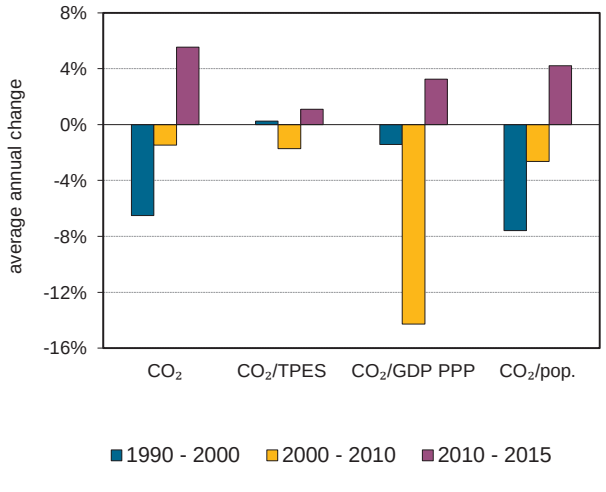
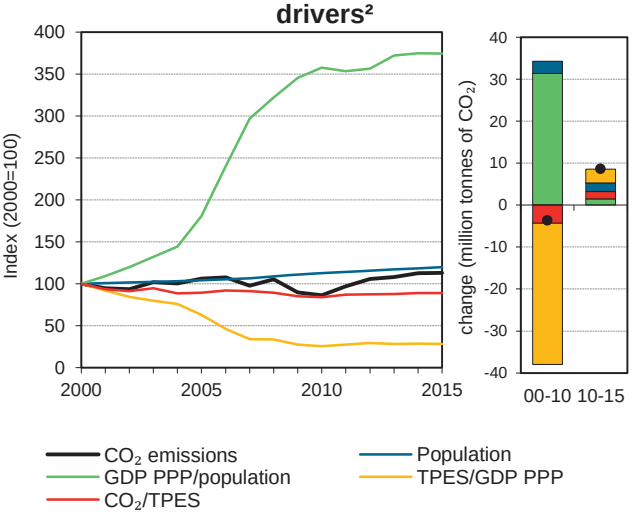


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Azerbaijan

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	53.5	32.4	27.3	29.0	23.5	30.8	30.8	-42%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	949	582	473	562	485	600	601	-37%
GDP (billion 2010 USD)	22.3	9.3	13.1	24.8	52.9	58.4	59.0	164%
GDP PPP (billion 2010 USD)	59.7	25.0	35.2	66.2	141.5	156.2	157.9	164%
Population (millions)	7.2	7.7	8.0	8.4	9.1	9.5	9.6	35%
CO_2 / TPES (tCO_2 per TJ)	56.4	55.6	57.7	51.6	48.5	51.3	51.2	-9%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	2.39	3.5	2.1	1.2	0.4	0.5	0.5	-78%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.9	1.3	0.8	0.4	0.2	0.2	0.2	-78%
CO_2 / population (tCO_2 per capita)	7.5	4.2	3.4	3.5	2.6	3.2	3.2	-57%
Share of electricity output from fossil fuels	93%	91%	92%	87%	82%	94%	93%	
CO_2 / kWh of electricity (gCO_2/kWh)	579	702	746	540	433	477	487	-16%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	61	51	54	44	58	58	-42%
Population index	100	107	112	117	126	133	135	35%
GDP PPP per population index	100	39	52	95	187	196	196	96%
Energy intensity index - TPES / GDP PPP	100	147	85	53	22	24	24	-76%
Carbon intensity index - CO_2 / TPES	100	99	102	92	86	91	91	-9%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**10.5**	**20.2**	**0.1**	**30.8**	**-42%**
Electricity and heat generation	-	1.2	11.1	0.1	12.5	-37%
Other energy industry own use	-	0.9	1.0	-	1.9	-2%
Manufacturing industries and construction	-	0.2	2.1	-	2.3	-86%
Transport	-	7.0	0.0	-	7.0	13%
of which: road	-	*6.3*	*0.0*	-	*6.3*	20%
Other	-	1.1	6.0	-	7.1	-23%
of which: residential	-	*0.1*	*5.4*	-	*5.5*	17%
of which: services	-	*0.0*	*0.4*	-	*0.5*	103%
Memo: international marine bunkers	-	*0.2*	-	-	*0.2*	..
Memo: international aviation bunkers	-	*0.8*	-	-	*0.8*	*-22%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - gas	9.7	-6.5	17.6	17.6
Road - oil	6.3	22.9	11.3	28.9
Residential - gas	5.4	17.9	9.8	38.7
Manufacturing industries - gas	2.1	-85.5	3.8	42.5
Unallocated autoproducers - gas	1.4	x	2.5	45.0
Main activity prod. elec. and heat - oil	1.2	-87.2	2.2	47.1
Non-specified other - oil	1.0	-50.6	1.8	49.0
Other energy industry own use - gas	1.0	x	1.8	50.7
Other energy industry own use - oil	0.9	-51.9	1.7	52.5
Memo: total CO_2 from fuel combustion	*30.8*	*-42.4*	*55.5*	*55.5*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Bahrain

Figure 1. CO_2 emissions by fuel

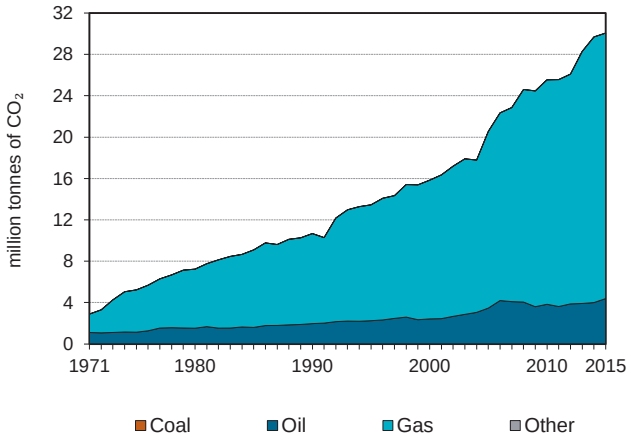


Figure 2. CO_2 emissions by sector

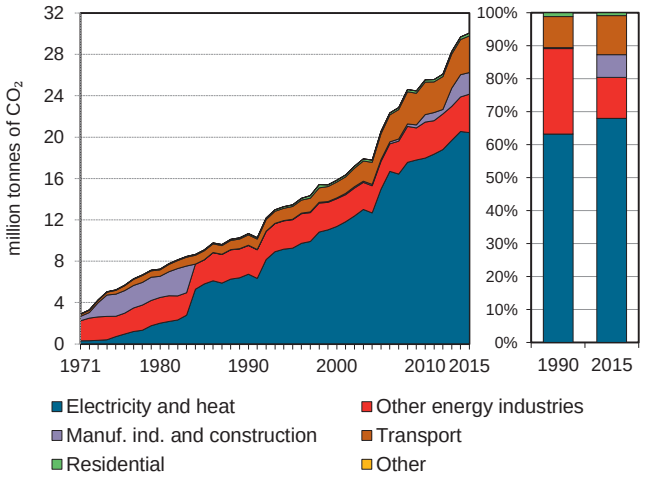


Figure 3. Electricity generation by fuel

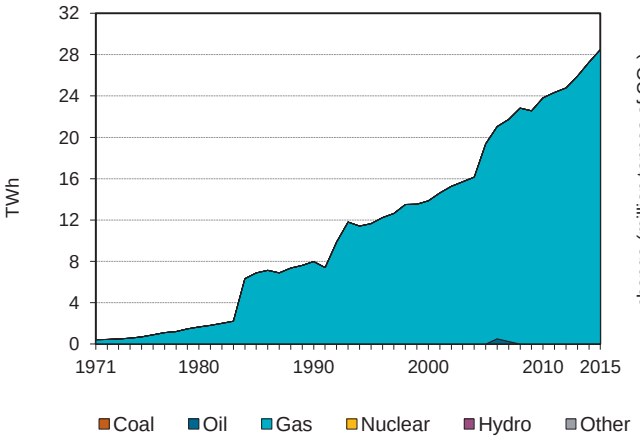


Figure 4. CO_2 from electricity generation: driving factors[1]

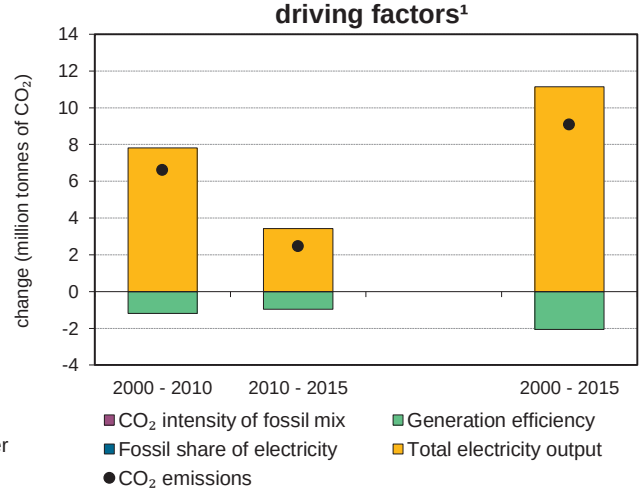


Figure 5. Changes in selected indicators

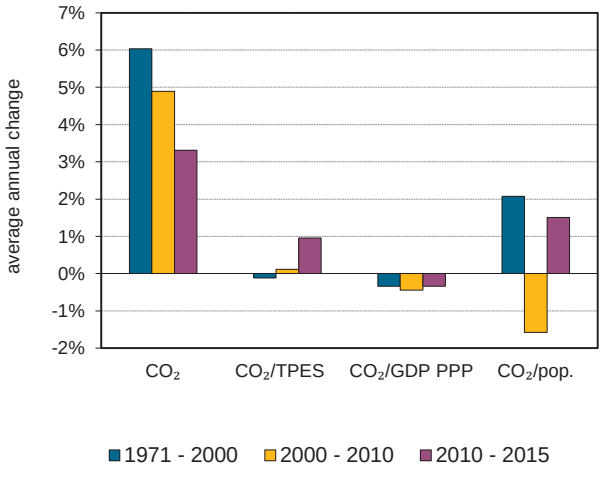
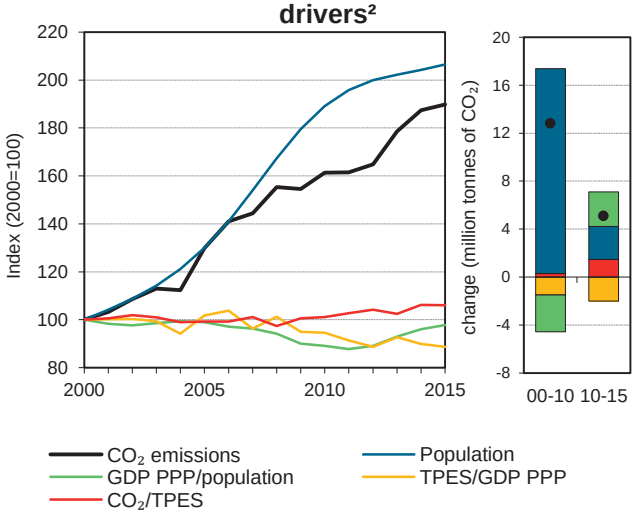


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Bahrain

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	10.7	13.5	15.8	20.6	25.5	29.7	30.1	182%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	219	269	334	437	532	589	597	173%
GDP (billion 2010 USD)	8.9	12.4	15.3	19.6	25.7	29.9	30.8	246%
GDP PPP (billion 2010 USD)	17.2	23.9	29.5	37.9	49.7	57.9	59.5	246%
Population (millions)	0.5	0.6	0.7	0.9	1.3	1.4	1.4	178%
CO_2 / TPES (tCO_2 per TJ)	48.8	50.0	47.4	47.1	48.0	50.4	50.3	3%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	1.2	1.1	1.0	1.0	1.0	1.0	1.0	-19%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.62	0.6	0.5	0.5	0.5	0.5	0.5	-19%
CO_2 / population (tCO_2 per capita)	21.5	23.9	23.7	23.7	20.3	21.8	21.8	1%
Share of electricity output from fossil fuels	100%	100%	100%	100%	100%	100%	100%	
CO_2 / kWh of electricity (gCO_2/kWh)	845	795	820	773	754	754	718	-15%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	126	148	193	239	278	282	182%
Population index	100	114	134	175	254	275	278	178%
GDP PPP per population index	100	122	128	126	114	123	125	25%
Energy intensity index - TPES / GDP PPP	100	89	89	91	84	80	79	-21%
Carbon intensity index - CO_2 / TPES	100	102	97	96	98	103	103	3%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**4.4**	**25.7**	**-**	**30.1**	**182%**
Electricity and heat generation	-	0.0	20.4	-	20.4	203%
Other energy industry own use	-	0.6	3.2	-	3.7	34%
Manufacturing industries and construction	-	-	2.1	-	2.1	+
Transport	-	3.5	-	-	3.5	254%
of which: road	-	*3.4*	-	-	*3.4*	244%
Other	-	0.3	-	-	0.3	117%
of which: residential	-	*0.3*	-	-	*0.3*	117%
of which: services	-	-	-	-	-	-
Memo: international marine bunkers	-	*0.3*	-	-	*0.3*	*4%*
Memo: international aviation bunkers	-	*1.4*	-	-	*1.4*	*-6%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - gas	12.8	245.8	32.0	32.0
Unallocated autoproducers - gas	7.6	150.1	18.9	50.9
Road - oil	3.4	243.8	8.6	59.5
Other energy industry own use - gas	3.2	63.6	7.9	67.4
Manufacturing industries - gas	2.1	+	5.2	72.6
Other energy industry own use - oil	0.6	-33.6	1.4	74.0
Residential - oil	0.3	117.1	0.7	74.7
Other transport - oil	0.1	x	0.3	74.9
Main activity prod. elec. and heat - oil	0.0	x	0.0	75.0
Memo: total CO_2 from fuel combustion	*30.1*	*181.6*	*75.0*	*75.0*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Bangladesh

Figure 1. CO_2 emissions by fuel

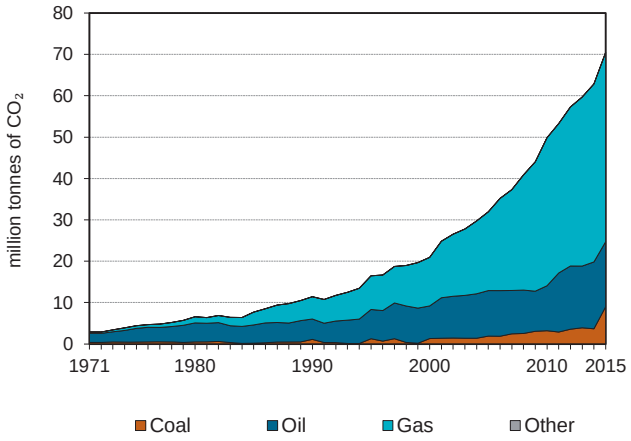


Figure 2. CO_2 emissions by sector

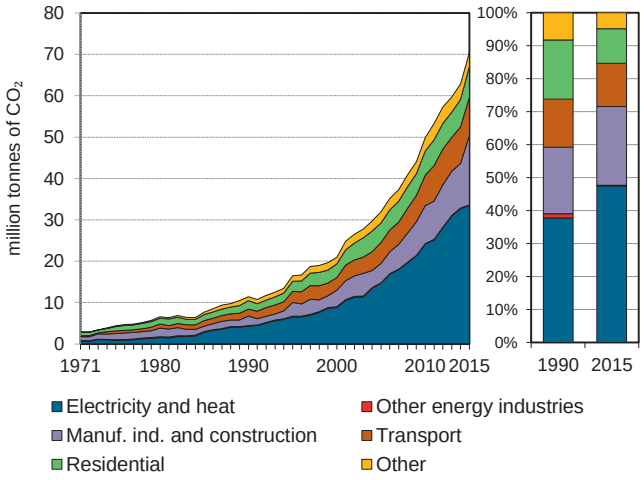


Figure 3. Electricity generation by fuel

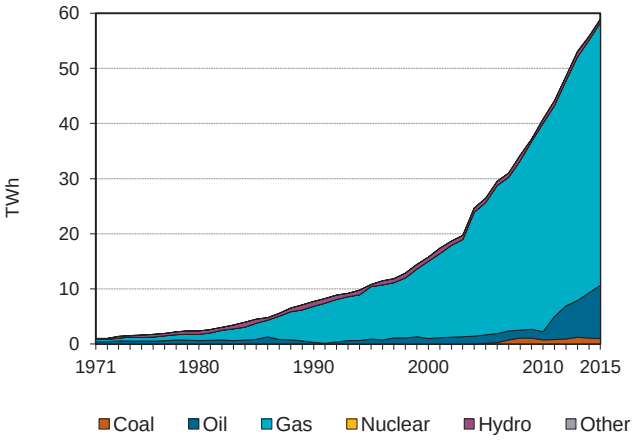


Figure 4. CO_2 from electricity generation: driving factors[1]

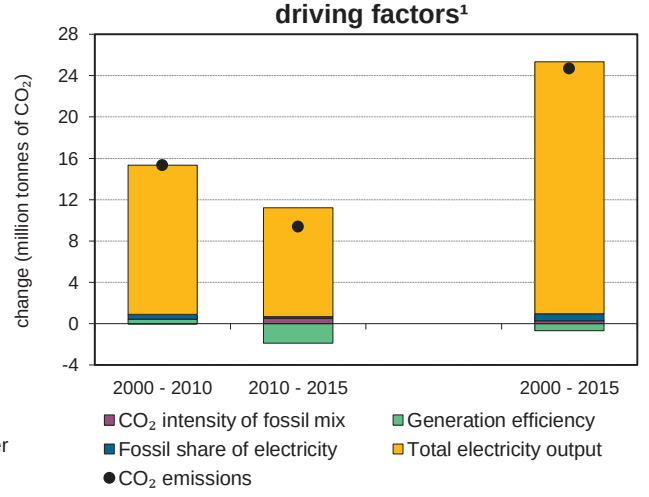


Figure 5. Changes in selected indicators

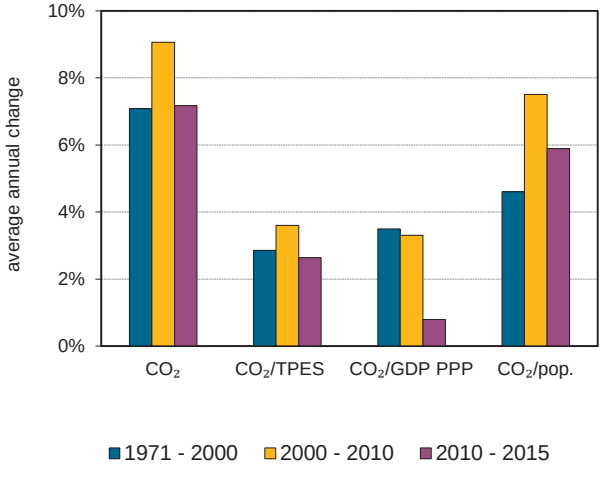
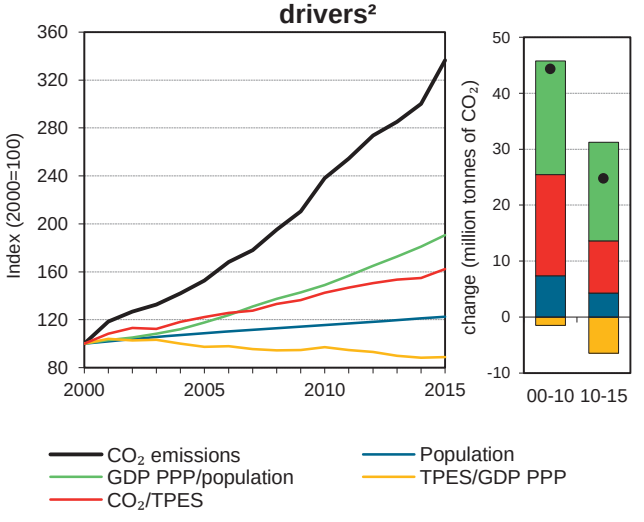


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Bangladesh

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	11.4	16.5	20.9	32.0	49.9	62.9	70.5	517%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	533	666	765	954	1 278	1 483	1 586	197%
GDP (billion 2010 USD)	42.4	52.9	67.0	85.9	115.3	147.0	156.6	269%
GDP PPP (billion 2010 USD)	134	167.2	211.7	271.2	364.1	464.3	494.8	269%
Population (millions)	106	118.4	131.3	142.9	151.6	159.1	161.0	52%
CO_2 / TPES (tCO_2 per TJ)	21.4	24.8	27.4	33.5	39.0	42.4	44.4	108%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.27	0.3	0.3	0.4	0.4	0.4	0.4	67%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.09	0.1	0.1	0.1	0.1	0.1	0.1	67%
CO_2 / population (tCO_2 per capita)	0.1	0.1	0.2	0.2	0.3	0.4	0.4	306%
Share of electricity output from fossil fuels	89%	97%	95%	97%	98%	99%	99%	
CO_2 / kWh of electricity (gCO_2/kWh)	558	605	558	554	591	587	567	2%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	144	183	280	437	550	617	517%
Population index	100	112	124	135	143	150	152	52%
GDP PPP per population index	100	112	128	150	190	231	243	143%
Energy intensity index - TPES / GDP PPP	100	100	91	88	88	80	81	-19%
Carbon intensity index - CO_2 / TPES	100	116	128	156	182	198	208	108%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**9.0**	**15.7**	**45.8**	**-**	**70.5**	**517%**
Electricity and heat generation	1.1	4.3	28.1	-	33.5	676%
Other energy industry own use	-	0.1	-	-	0.1	-9%
Manufacturing industries and construction	7.9	0.7	8.2	-	16.8	629%
Transport	-	6.9	2.4	-	9.3	455%
of which: road	-	*4.7*	*2.4*	-	*7.1*	491%
Other	-	3.8	7.1	-	10.8	261%
of which: residential	-	*0.9*	*6.5*	-	*7.4*	261%
of which: services	-	*-*	*0.5*	-	*0.5*	214%
Memo: international marine bunkers	-	*0.3*	-	-	*0.3*	*431%*
Memo: international aviation bunkers	-	*1.1*	-	-	*1.1*	*294%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - gas	19.7	400.7	8.7	8.7
Unallocated autoproducers - gas	8.4	x	3.7	12.4
Manufacturing industries - gas	8.2	+	3.6	16.1
Manufacturing industries - coal	7.9	610.0	3.5	19.6
Residential - gas	6.5	+	2.9	22.4
Road - oil	4.7	292.3	2.1	24.5
Main activity prod. elec. and heat - oil	4.3	+	1.9	26.4
Non-specified other - oil	2.9	265.8	1.3	27.7
Road - gas	2.4	x	1.1	28.7
Memo: total CO_2 from fuel combustion	*70.5*	*517.1*	*31.2*	*31.2*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Belarus

Figure 1. CO_2 emissions by fuel

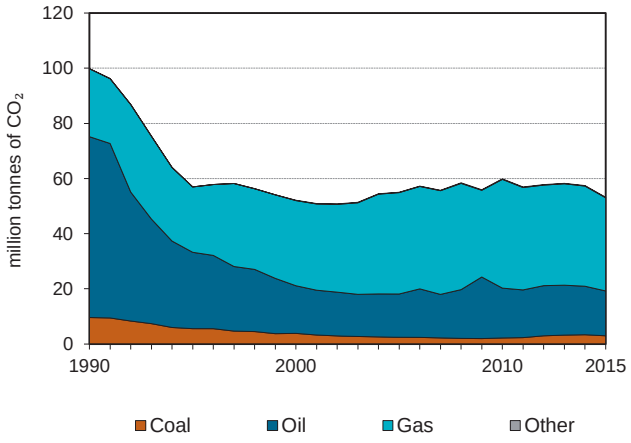


Figure 2. CO_2 emissions by sector

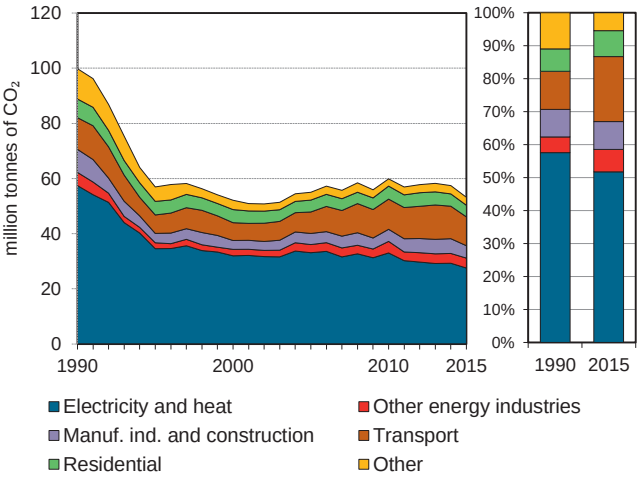


Figure 3. Electricity generation by fuel

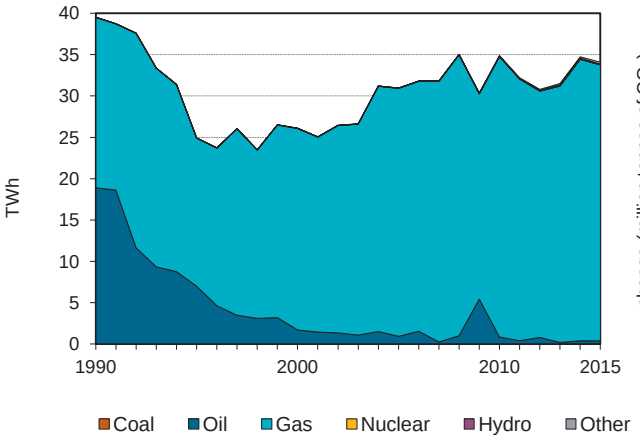


Figure 4. CO_2 from electricity generation: driving factors[1]

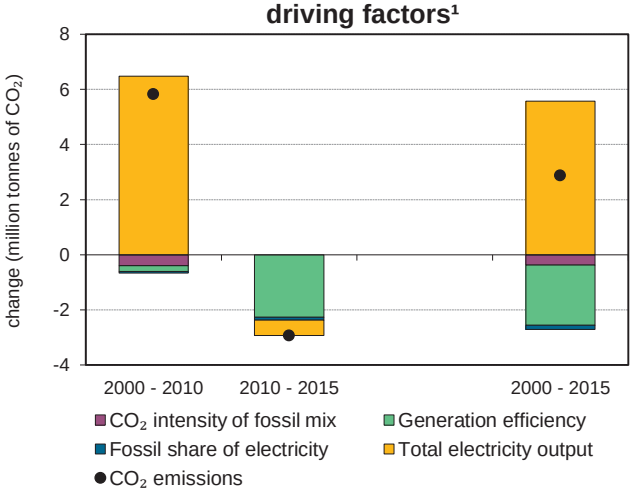


Figure 5. Changes in selected indicators

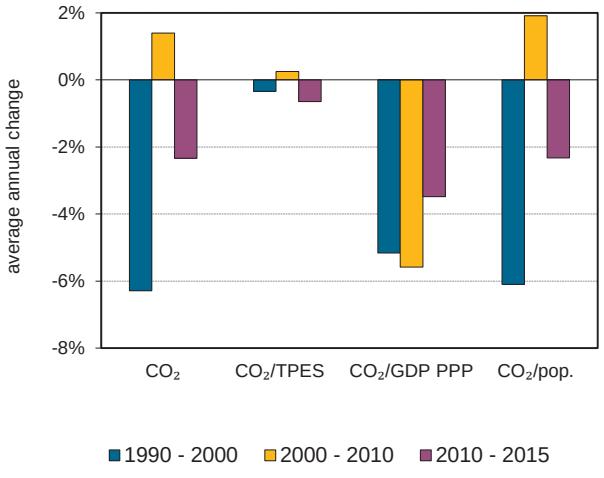
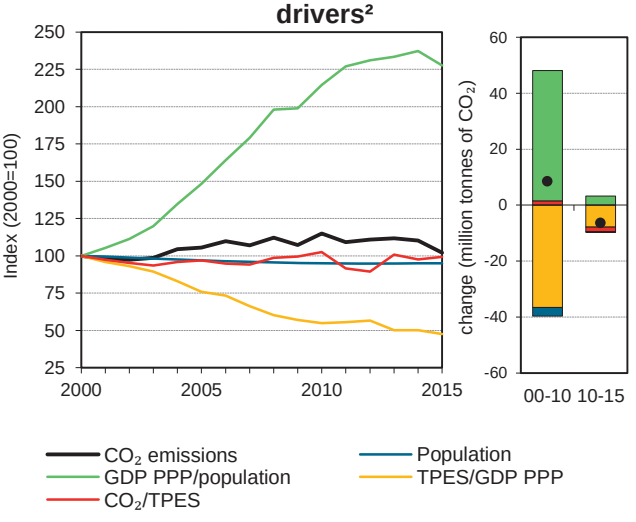


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Belarus

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	99.8	56.9	52.1	55.0	59.9	57.4	53.2	-47%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	1905	1 036	1 029	1 120	1 152	1 162	1 058	-44%
GDP (billion 2010 USD)	30.5	19.9	27.1	38.9	55.2	61.0	58.6	92%
GDP PPP (billion 2010 USD)	80.7	52.7	71.6	102.7	146.0	161.2	154.9	92%
Population (millions)	10.2	10.2	10.0	9.7	9.5	9.5	9.5	-7%
CO_2 / TPES (tCO_2 per TJ)	52.4	55.0	50.7	49.1	52.0	49.4	50.3	-4%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	3.27	2.9	1.9	1.4	1.1	0.9	0.9	-72%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	1.24	1.1	0.7	0.5	0.4	0.4	0.3	-72%
CO_2 / population (tCO_2 per capita)	9.8	5.6	5.2	5.7	6.3	6.1	5.6	-43%
Share of electricity output from fossil fuels	100%	100%	100%	100%	100%	99%	99%	
CO_2 / kWh of electricity (gCO_2/kWh)	553	503	474	461	451	404	387	-30%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	57	52	55	60	58	53	-47%
Population index	100	100	98	95	93	93	93	-7%
GDP PPP per population index	100	65	91	134	194	215	206	106%
Energy intensity index - TPES / GDP PPP	100	83	61	46	33	31	29	-71%
Carbon intensity index - CO_2 / TPES	100	105	97	94	99	94	96	-4%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**3.0**	**16.3**	**33.8**	**0.2**	**53.2**	**-47%**
Electricity and heat generation	0.4	0.6	26.3	0.1	27.5	-52%
Other energy industry own use	0.0	3.1	0.5	-	3.6	-24%
Manufacturing industries and construction	1.8	0.5	2.2	0.0	4.5	-46%
Transport	0.0	9.4	1.0	-	10.5	-9%
of which: road	-	*8.8*	*0.0*	-	*8.8*	-7%
Other	0.7	2.7	3.8	-	7.1	-60%
of which: residential	*0.5*	*0.2*	*3.5*	-	*4.2*	-38%
of which: services	*0.1*	*0.3*	*0.1*	-	*0.6*	-92%
Memo: international marine bunkers	-	-	-	-	-	-
Memo: international aviation bunkers	-	*0.3*	-	-	*0.3*	*x*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - gas	21.8	32.2	23.8	23.8
Road - oil	8.8	-6.2	9.6	33.3
Unallocated autoproducers - gas	4.5	104.4	4.9	38.2
Residential - gas	3.5	102.0	3.8	42.1
Other energy industry own use - oil	3.1	-30.3	3.4	45.4
Non-specified other - oil	2.4	-67.4	2.7	48.1
Manufacturing industries - gas	2.2	-9.0	2.4	50.5
Manufacturing industries - coal	1.8	490.2	2.0	52.4
Other transport - gas	1.0	320.1	1.1	53.5
Memo: total CO_2 from fuel combustion	*53.2*	*-46.7*	*58.0*	*58.0*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Belgium

Figure 1. CO_2 emissions by fuel

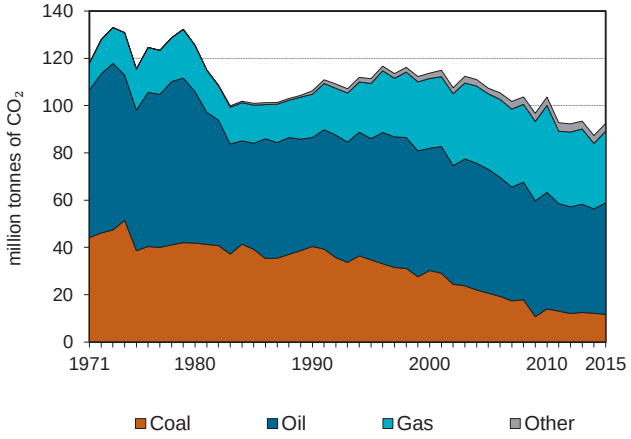


Figure 2. CO_2 emissions by sector

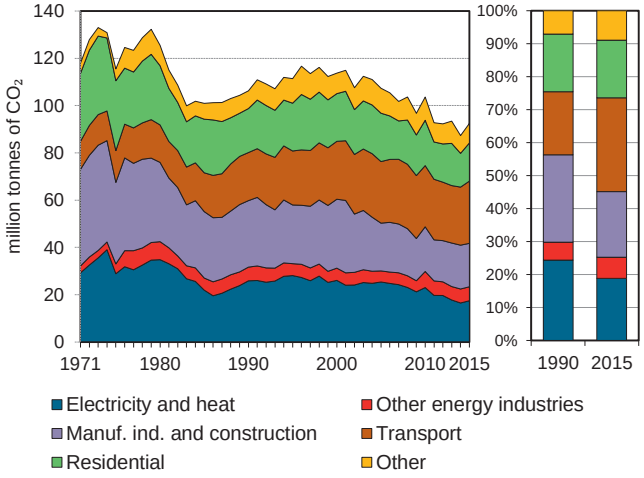


Figure 3. Electricity generation by fuel

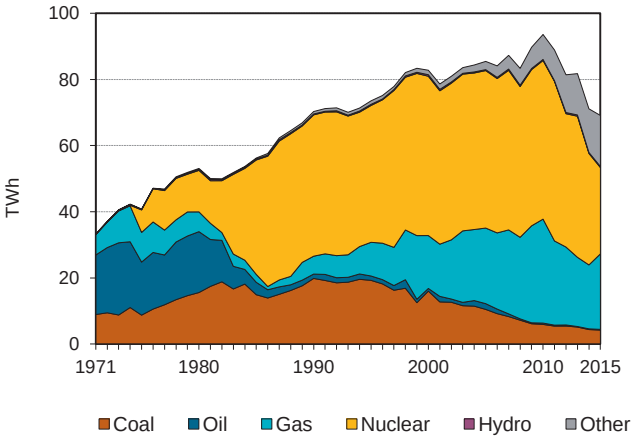


Figure 4. CO_2 from electricity generation: driving factors[1]

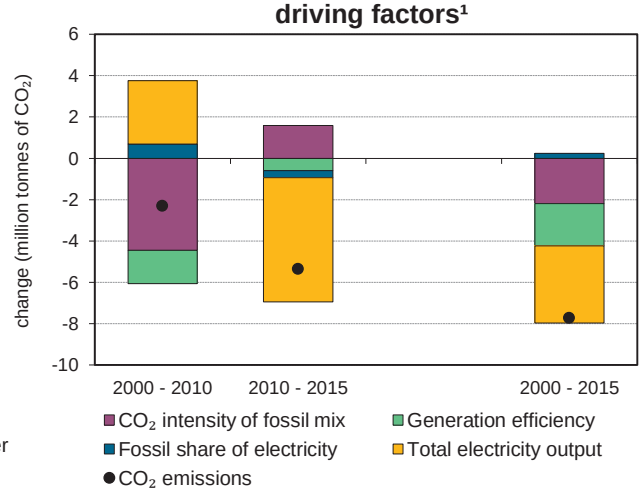


Figure 5. Changes in selected indicators

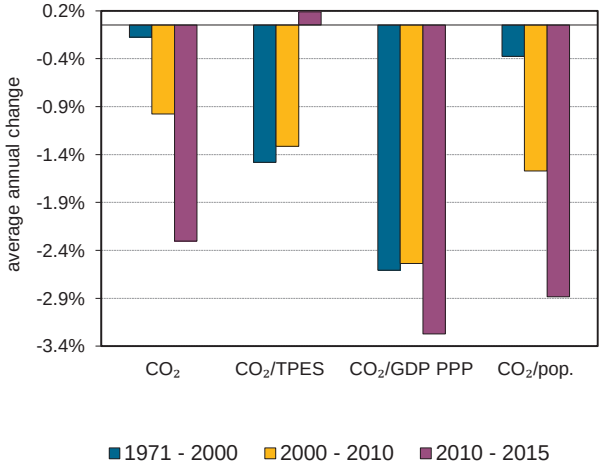
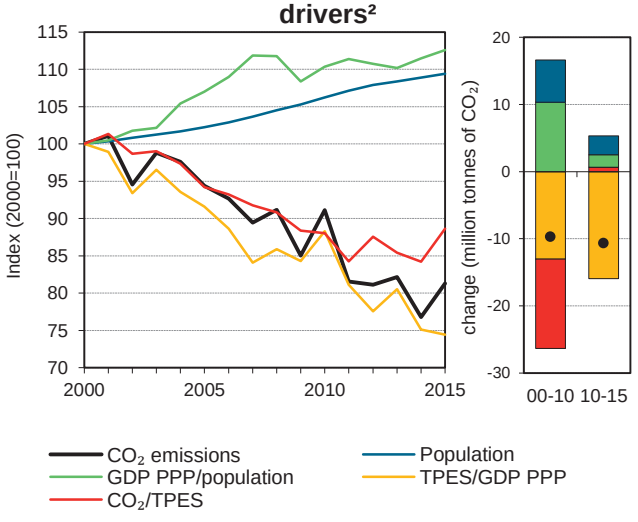


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Belgium

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	106.3	111.4	113.7	107.3	103.6	87.3	92.5	-13%
Share of World CO_2 from fuel combustion	1%	1%	0%	0%	0%	0%	0%	
TPES (PJ)	2007	2 236	2 432	2 437	2 517	2 217	2 230	11%
GDP (billion 2010 USD)	330.5	357.7	412.5	451.3	483.5	500.7	508.1	54%
GDP PPP (billion 2010 USD)	298.9	323.5	373.0	408.1	437.2	452.8	459.6	54%
Population (millions)	10	10.1	10.2	10.5	10.9	11.2	11.2	12%
CO_2 / TPES (tCO_2 per TJ)	52.9	49.8	46.8	44.1	41.2	39.4	41.5	-22%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.32	0.3	0.3	0.2	0.2	0.2	0.2	-43%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.36	0.3	0.3	0.3	0.2	0.2	0.2	-43%
CO_2 / population (tCO_2 per capita)	10.7	11.0	11.1	10.2	9.5	7.8	8.2	-23%
Share of electricity output from fossil fuels	38%	43%	41%	42%	42%	36%	42%	
CO_2 / kWh of electricity (gCO_2/kWh)	357	373	299	281	222	208	226	-37%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	105	107	101	98	82	87	-13%
Population index	100	102	103	105	109	112	112	12%
GDP PPP per population index	100	106	121	130	134	135	137	37%
Energy intensity index - TPES / GDP PPP	100	103	97	89	86	73	72	-28%
Carbon intensity index - CO_2 / TPES	100	94	88	83	78	74	78	-22%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**11.7**	**47.2**	**30.3**	**3.3**	**92.5**	**-13%**
Electricity and heat generation	6.3	0.1	8.6	2.4	17.4	-33%
Other energy industry own use	1.7	3.4	0.8	-	5.9	2%
Manufacturing industries and construction	3.3	5.5	8.8	0.9	18.4	-35%
Transport	-	26.2	0.1	-	26.3	29%
of which: road	-	*25.5*	*0.0*	-	*25.5*	31%
Other	0.4	12.1	12.0	-	24.4	-7%
of which: residential	*0.4*	*8.3*	*7.5*	-	*16.1*	-13%
of which: services	-	*2.7*	*4.0*	-	*6.7*	12%
Memo: international marine bunkers	-	*18.6*	-	-	*18.6*	*43%*
Memo: international aviation bunkers	-	*4.3*	-	-	*4.3*	*53%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	25.5	30.9	20.3	20.3
Manufacturing industries - gas	8.8	29.7	7.0	27.3
Residential - oil	8.3	-22.3	6.6	33.9
Main activity prod. elec. and heat - gas	7.6	179.3	6.0	40.0
Residential - gas	7.5	28.3	6.0	45.9
Main activity prod. elec. and heat - coal	6.3	-65.9	5.0	51.0
Manufacturing industries - oil	5.5	3.8	4.4	55.3
Non-specified other - gas	4.5	83.9	3.6	58.9
Non-specified other - oil	3.8	-25.8	3.0	61.9
Memo: total CO_2 from fuel combustion	*92.5*	*-13.0*	*73.7*	*73.7*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Benin

Figure 1. CO_2 emissions by fuel

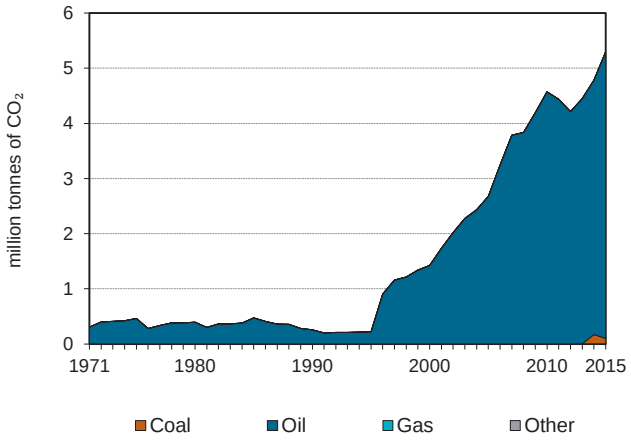


Figure 2. CO_2 emissions by sector

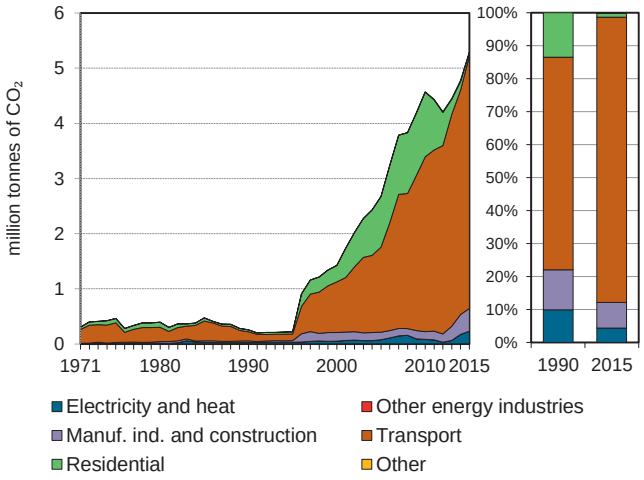


Figure 3. Electricity generation by fuel

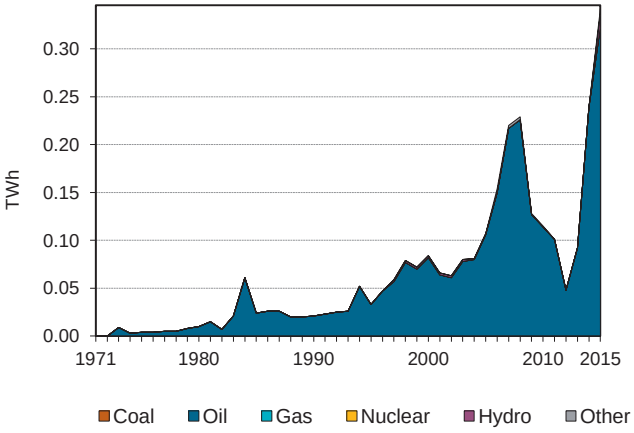


Figure 4. CO_2 from electricity generation: driving factors[1]

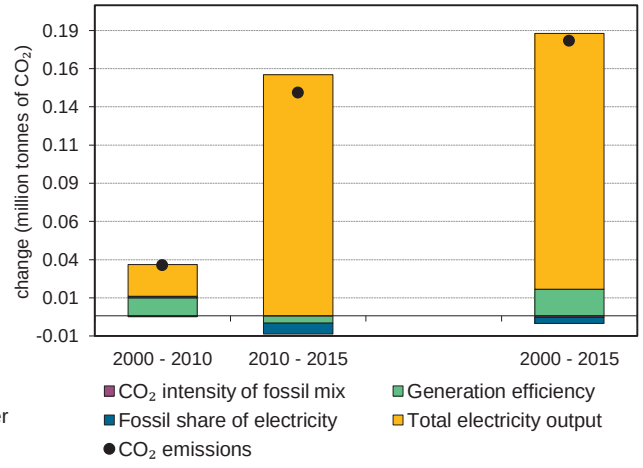


Figure 5. Changes in selected indicators

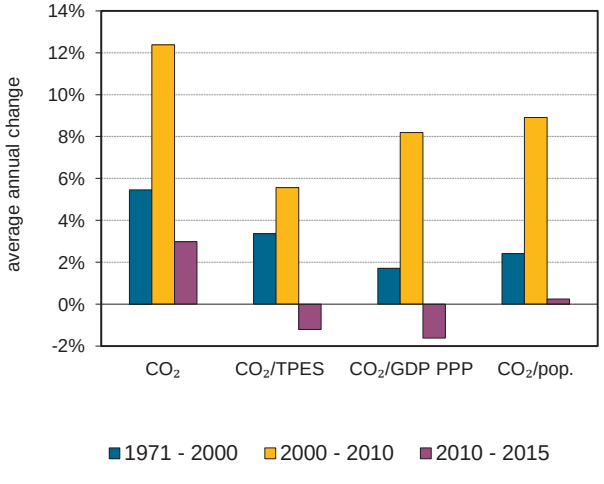
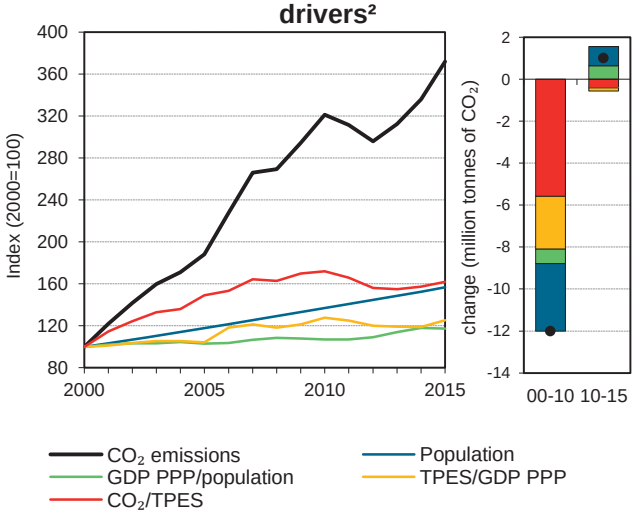


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Benin

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	0.3	0.2	1.4	2.7	4.6	4.8	5.3	+
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	70	77	83	105	155	177	191	174%
GDP (billion 2010 USD)	3	3.7	4.8	5.8	7.0	8.6	8.8	189%
GDP PPP (billion 2010 USD)	7.1	8.8	11.2	13.6	16.4	20.2	20.6	189%
Population (millions)	5	6.0	6.9	8.2	9.5	10.6	10.9	118%
CO_2 / TPES (tCO_2 per TJ)	3.7	2.9	17.2	25.6	29.5	27.0	27.8	654%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.08	0.1	0.3	0.5	0.7	0.6	0.6	616%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.04	0.0	0.1	0.2	0.3	0.2	0.3	616%
CO_2 / population (tCO_2 per capita)	0.1	0.0	0.2	0.3	0.5	0.5	0.5	849%
Share of electricity output from fossil fuels	100%	100%	98%	99%	99%	100%	94%	
CO_2 / kWh of electricity (gCO_2/kWh)	1212	960	607	717	725	725	675	-44%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	86	556	1044	1784	1866	2066	1966%
Population index	100	120	139	164	190	212	218	118%
GDP PPP per population index	100	103	113	116	121	133	133	33%
Energy intensity index - TPES / GDP PPP	100	90	76	79	97	90	95	-5%
Carbon intensity index - CO_2 / TPES	100	78	466	694	800	732	754	654%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**0.1**	**5.2**	**-**	**-**	**5.3**	**+**
Electricity and heat generation	-	0.2	-	-	0.2	807%
Other energy industry own use	-	-	-	-	-	-
Manufacturing industries and construction	0.1	0.3	-	-	0.4	+
Transport	-	4.6	-	-	4.6	+
of which: road	-	*4.6*	-	-	*4.6*	+
Other	-	0.1	-	-	0.1	112%
of which: residential	-	*0.1*	-	-	*0.1*	86%
of which: services	-	*0.0*	-	-	*0.0*	x
Memo: international marine bunkers	-	..	-	-	..	..
Memo: international aviation bunkers	-	-	-	-	-	*-100%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	4.6	+	17.3	17.3
Manufacturing industries - oil	0.3	903.6	1.2	18.5
Main activity prod. elec. and heat - oil	0.2	492.0	0.6	19.1
Manufacturing industries - coal	0.1	x	0.4	19.5
Unallocated autoproducers - oil	0.1	x	0.3	19.8
Residential - oil	0.1	85.7	0.2	20.0
Non-specified other - oil	0.0	x	0.0	20.0
-	-	-	-	-
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*5.3*	+	*20.0*	*20.0*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Plurinational State of Bolivia

Figure 1. CO_2 emissions by fuel

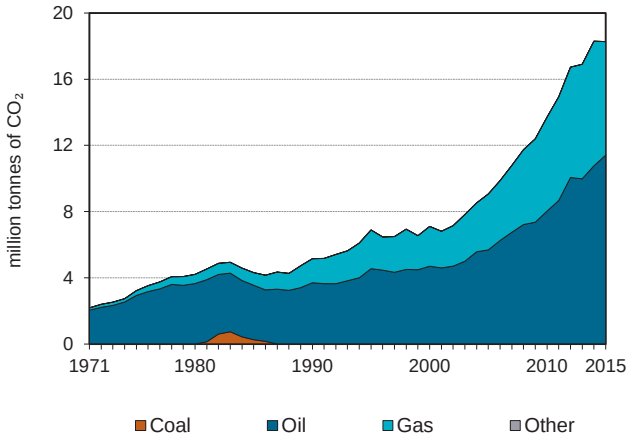


Figure 2. CO_2 emissions by sector

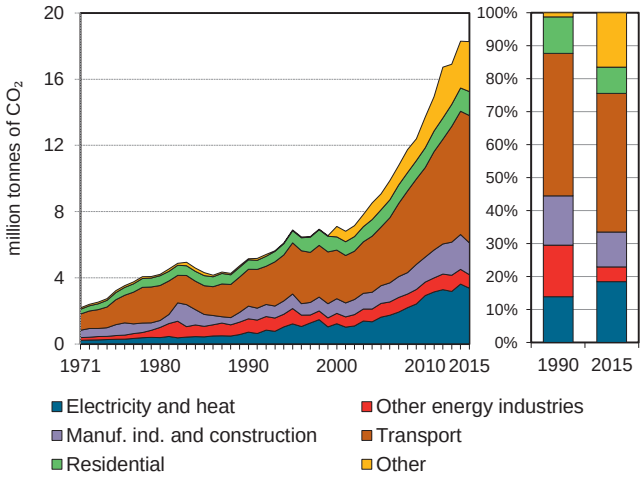


Figure 3. Electricity generation by fuel

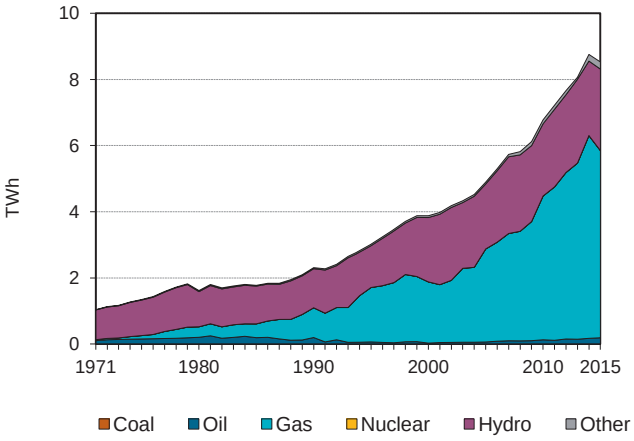


Figure 4. CO_2 from electricity generation: driving factors[1]

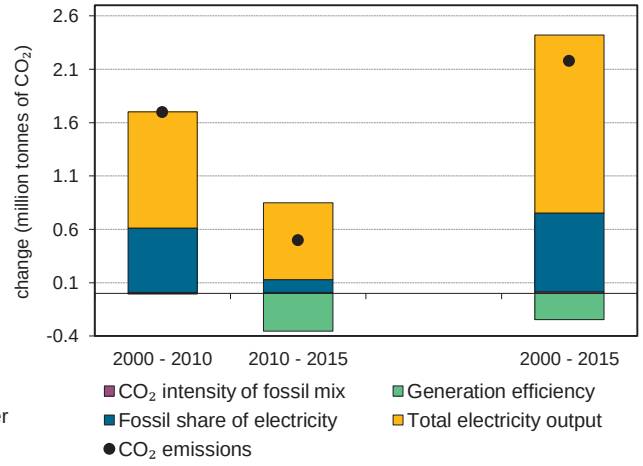


Figure 5. Changes in selected indicators

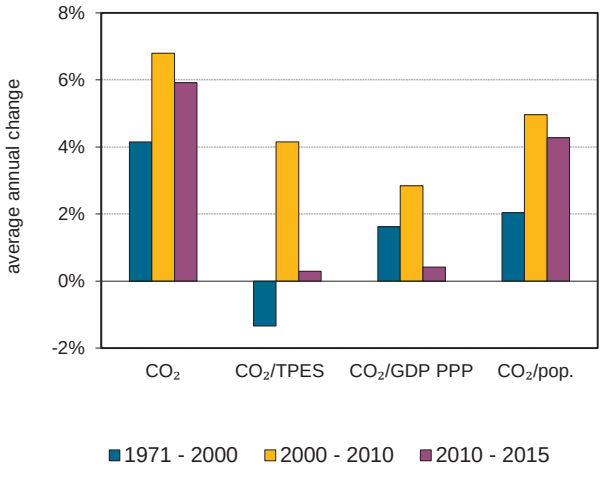
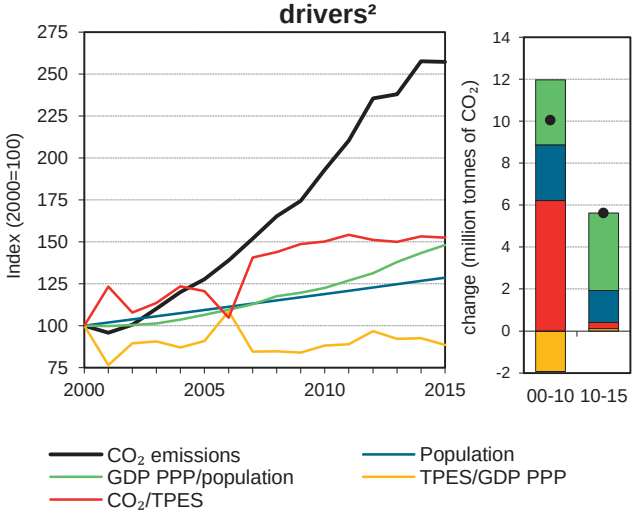


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Plurinational State of Bolivia

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	5.2	6.9	7.1	9.1	13.7	18.3	18.3	255%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	109	158	205	217	264	345	347	217%
GDP (billion 2010 USD)	9.3	11.4	13.5	15.7	19.7	24.5	25.7	176%
GDP PPP (billion 2010 USD)	24.9	30.4	36.1	42.0	52.5	65.5	68.6	176%
Population (millions)	6.9	7.6	8.3	9.1	9.9	10.6	10.7	56%
CO_2 / TPES (tCO_2 per TJ)	47.1	43.7	34.6	41.7	52.0	53.0	52.7	12%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.55	0.6	0.5	0.6	0.7	0.7	0.7	29%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.21	0.2	0.2	0.2	0.3	0.3	0.3	29%
CO_2 / population (tCO_2 per capita)	0.8	0.9	0.9	1.0	1.4	1.7	1.7	127%
Share of electricity output from fossil fuels	48%	57%	48%	59%	66%	72%	69%	
CO_2 / kWh of electricity (gCO_2/kWh)	309	402	315	331	432	414	395	28%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	134	138	176	266	355	355	255%
Population index	100	110	122	133	145	154	156	56%
GDP PPP per population index	100	111	119	127	146	171	176	76%
Energy intensity index - TPES / GDP PPP	100	118	130	118	114	120	115	15%
Carbon intensity index - CO_2 / TPES	100	93	73	88	110	112	112	12%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**11.4**	**6.9**	**-**	**18.3**	**255%**
Electricity and heat generation	-	0.2	3.2	-	3.4	371%
Other energy industry own use	-	0.3	0.6	-	0.8	1%
Manufacturing industries and construction	-	0.3	1.6	-	1.9	150%
Transport	-	6.5	1.2	-	7.7	246%
of which: road	-	*6.1*	*1.2*	-	*7.3*	288%
Other	-	4.2	0.3	-	4.5	601%
of which: residential	-	*1.2*	*0.2*	-	*1.4*	153%
of which: services	-	*0.0*	*0.1*	-	*0.1*	x
Memo: international marine bunkers	-	-	-	-	-	-
Memo: international aviation bunkers	-	*0.2*	-	-	*0.2*	*x*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	6.1	223.8	6.4	6.4
Main activity prod. elec. and heat - gas	3.2	506.3	3.4	9.8
Non-specified other - oil	2.9	+	3.1	12.9
Manufacturing industries - gas	1.6	313.5	1.7	14.6
Residential - oil	1.2	113.9	1.3	15.9
Road - gas	1.2	x	1.3	17.2
Other energy industry own use - gas	0.6	3.2	0.6	17.8
Other transport - oil	0.4	19.0	0.4	18.2
Manufacturing industries - oil	0.3	-15.7	0.3	18.6
Memo: total CO_2 from fuel combustion	*18.3*	*254.7*	*19.4*	*19.4*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Bosnia and Herzegovina

Figure 1. CO_2 emissions by fuel

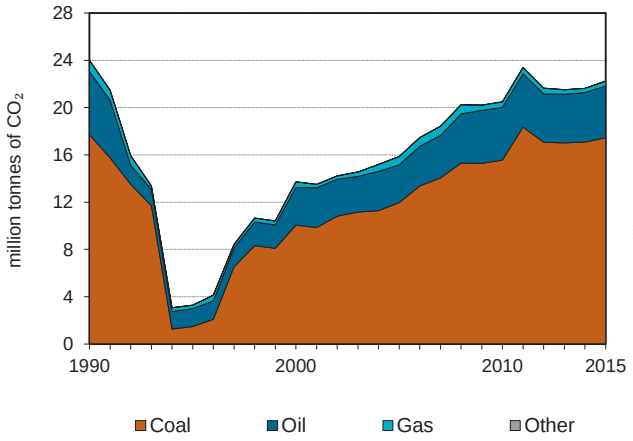


Figure 2. CO_2 emissions by sector

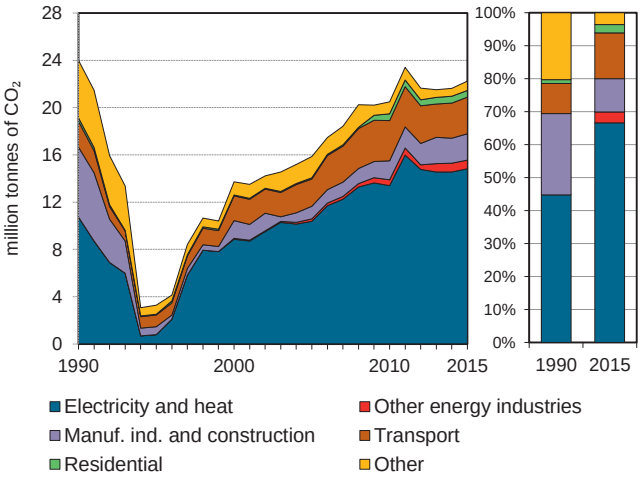


Figure 3. Electricity generation by fuel

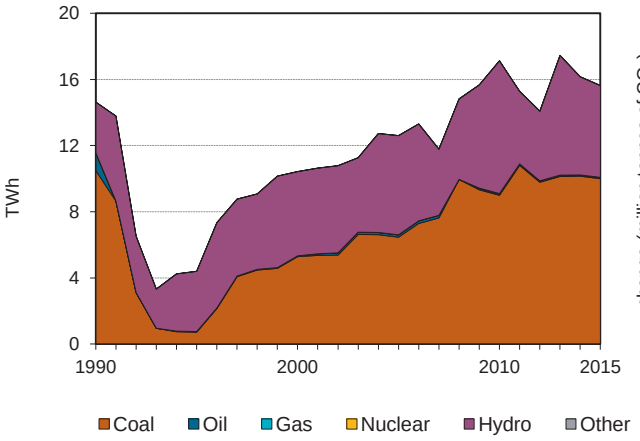


Figure 4. CO_2 from electricity generation: driving factors[1]

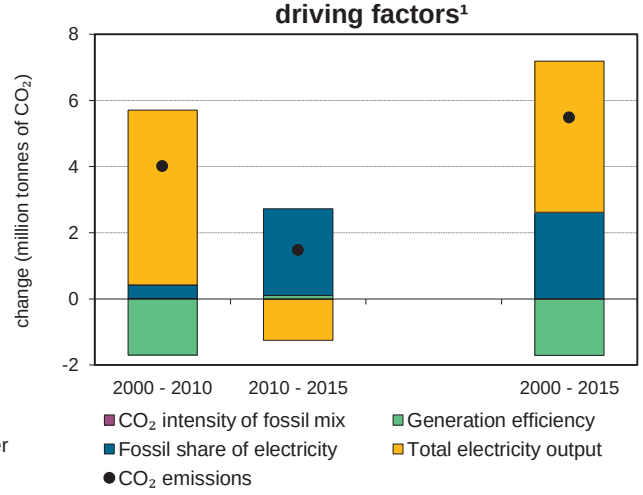


Figure 5. Changes in selected indicators

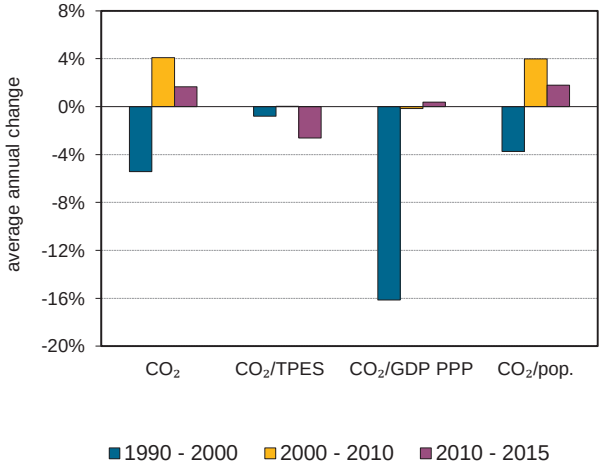
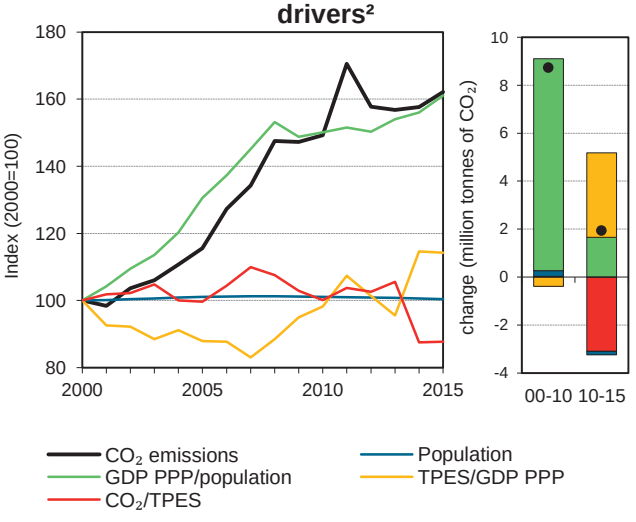


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Bosnia and Herzegovina

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	24	3.3	13.7	15.9	20.5	21.6	22.2	-7%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	294	63	182	211	271	328	336	14%
GDP (billion 2010 USD)	3.4	3.3	11.3	14.9	17.2	17.8	18.3	439%
GDP PPP (billion 2010 USD)	6.8	6.7	22.6	29.8	34.3	35.5	36.6	439%
Population (millions)	4.5	3.9	3.8	3.8	3.8	3.8	3.8	-16%
CO_2 / TPES (tCO_2 per TJ)	81.7	52.5	75.4	75.2	75.5	66.0	66.1	-19%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	7.07	1.0	1.2	1.1	1.2	1.2	1.2	-83%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	3.54	0.5	0.6	0.5	0.6	0.6	0.6	-83%
CO_2 / population (tCO_2 per capita)	5.3	0.8	3.6	4.1	5.3	5.7	5.8	10%
Share of electricity output from fossil fuels	79%	17%	51%	52%	53%	63%	64%	
CO_2 / kWh of electricity (gCO_2/kWh)	726	180	841	813	737	858	901	24%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	14	57	66	85	90	93	-7%
Population index	100	86	84	85	85	84	84	-16%
GDP PPP per population index	100	115	397	519	597	620	640	540%
Energy intensity index - TPES / GDP PPP	100	22	19	16	18	21	21	-79%
Carbon intensity index - CO_2 / TPES	100	64	92	92	92	81	81	-19%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**17.4**	**4.4**	**0.4**	**-**	**22.2**	**-7%**
Electricity and heat generation	14.6	0.1	0.1	-	14.8	38%
Other energy industry own use	0.3	0.4	-	-	0.7	x
Manufacturing industries and construction	1.7	0.3	0.2	-	2.2	-62%
Transport	-	3.1	-	-	3.1	41%
of which: road	-	*3.1*	-	-	*3.1*	41%
Other	0.8	0.4	0.1	-	1.4	-74%
of which: residential	*0.2*	*0.2*	*0.1*	-	*0.6*	92%
of which: services	-	-	-	-	-	-
Memo: international marine bunkers	-	-	-	-	-	-
Memo: international aviation bunkers	-	*0.0*	-	-	*0.0*	*-76%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	13.3	38.7	44.0	44.0
Road - oil	3.1	41.4	10.2	54.2
Manufacturing industries - coal	1.7	-46.0	5.8	60.0
Unallocated autoproducers - coal	1.3	x	4.2	64.1
Non-specified other sectors - coal	0.6	-88.3	1.9	66.0
Other energy industry own use - oil	0.4	x	1.4	67.4
Manufacturing industries - oil	0.3	-83.8	1.0	68.5
Other energy industry - coal	0.3	x	1.0	69.5
Residential - coal	0.2	x	0.8	70.3
Memo: total CO_2 from fuel combustion	*22.2*	*-7.3*	*73.5*	*73.5*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Botswana [1]

Figure 1. CO_2 emissions by fuel

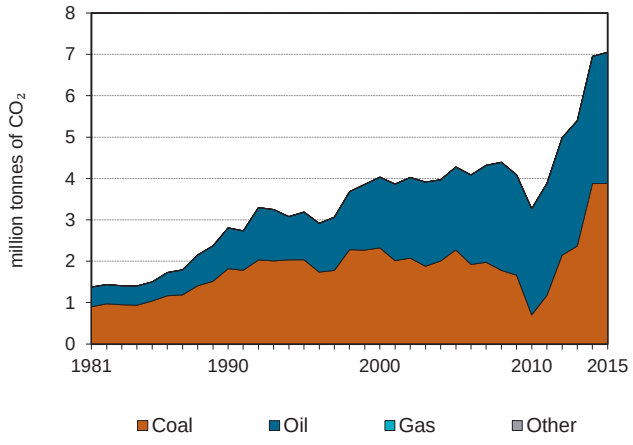


Figure 2. CO_2 emissions by sector

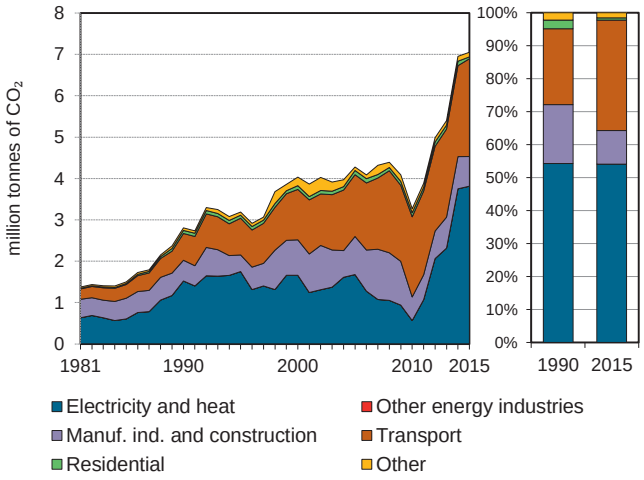


Figure 3. Electricity generation by fuel

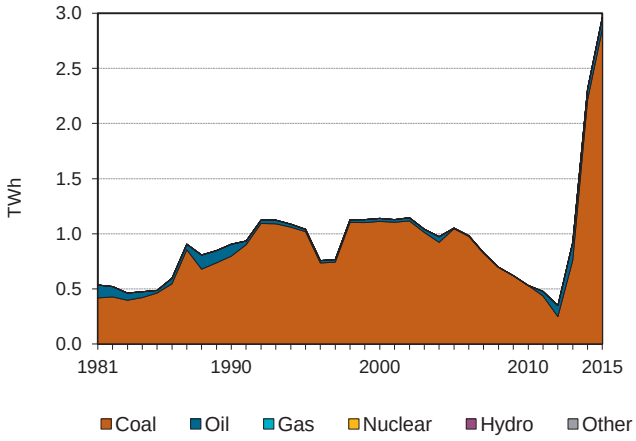


Figure 4. CO_2 from electricity generation: driving factors[2]

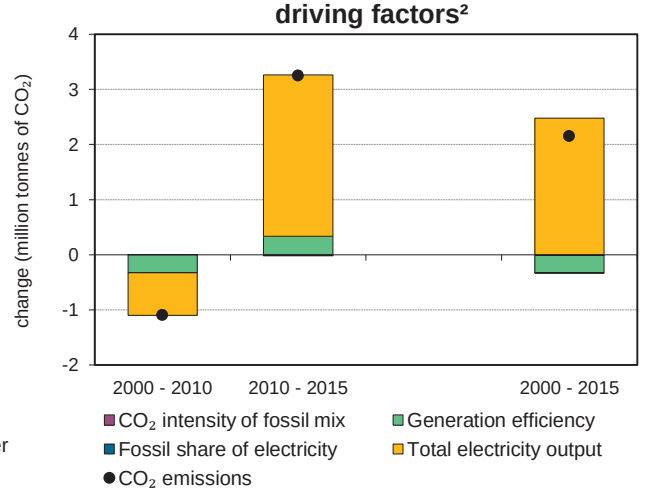


Figure 5. Changes in selected indicators

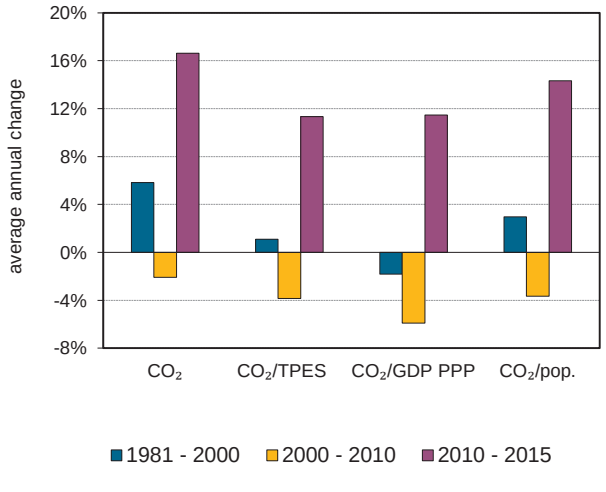
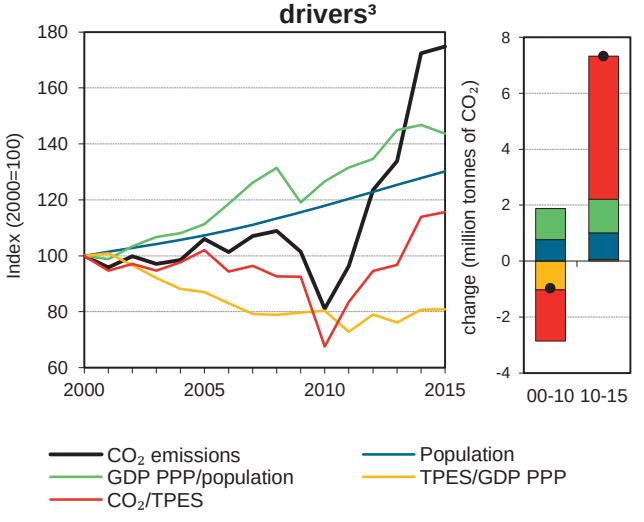


Figure 6. Total CO_2 emissions and drivers[3]



1. Prior to 1980, data for Botswana were included in Other Africa.
2. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
3. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Botswana [1]

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	2.8	3.2	4.0	4.3	3.3	7.0	7.1	151%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	51	61	75	78	90	114	114	123%
GDP (billion 2010 USD)	5.3	6.6	8.6	10.2	12.8	16.1	16.0	201%
GDP PPP (billion 2010 USD)	11	13.7	17.6	21.1	26.3	33.1	33.0	201%
Population (millions)	1.4	1.6	1.7	1.9	2.0	2.2	2.3	64%
CO_2 / TPES (tCO_2 per TJ)	55	52.6	53.7	54.7	36.3	61.1	62.0	13%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.53	0.5	0.5	0.4	0.3	0.4	0.4	-17%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.26	0.2	0.2	0.2	0.1	0.2	0.2	-17%
CO_2 / population (tCO_2 per capita)	2	2.0	2.3	2.3	1.6	3.1	3.1	53%
Share of electricity output from fossil fuels	100%	100%	100%	100%	100%	100%	100%	
CO_2 / kWh of electricity (gCO_2/kWh)	1681	1681	1457	1595	1066	1622	1286	-24%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [2]								
CO_2 emissions index	100	114	144	152	117	248	251	151%
Population index	100	114	126	135	148	161	164	64%
GDP PPP per population index	100	109	128	142	162	188	184	84%
Energy intensity index - TPES / GDP PPP	100	95	92	80	74	74	74	-26%
Carbon intensity index - CO_2 / TPES	100	96	98	99	66	111	113	13%

1. Prior to 1980, data for Botswana were included in Other Africa. 2. Please see Part I for methodological notes.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [3]	Total	%change 90-15
CO_2 fuel combustion	**3.9**	**3.2**	**-**	**-**	**7.1**	**151%**
Electricity and heat generation	3.7	0.1	-	-	3.8	150%
Other energy industry own use	-	-	-	-	-	-
Manufacturing industries and construction	0.2	0.5	-	-	0.7	43%
Transport	-	2.4	-	-	2.4	265%
of which: road	-	*2.3*	-	-	*2.3*	285%
Other	0.0	0.1	-	-	0.2	16%
of which: residential	-	*0.0*	-	-	*0.0*	-37%
of which: services	*0.0*	*0.1*	-	-	*0.1*	116%
Memo: international marine bunkers	-	-	-	-	-	-
Memo: international aviation bunkers	-	*0.0*	-	-	*0.0*	*18%*

3. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[4] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	3.7	238.9	14.6	14.6
Road - oil	2.3	284.5	9.2	23.9
Manufacturing industries - oil	0.5	455.8	2.2	26.0
Manufacturing industries - coal	0.2	-58.3	0.7	26.7
Main activity prod. elec. and heat - oil	0.1	-3.0	0.5	27.1
Non-specified other - oil	0.1	65.9	0.4	27.5
Residential - oil	0.0	-28.6	0.2	27.7
Other transport - oil	0.0	-22.8	0.1	27.8
Non-specified other sectors - coal	0.0	250.0	0.1	27.9
Memo: total CO_2 from fuel combustion	*7.1*	*151.2*	*27.9*	*27.9*

4. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Brazil

Figure 1. CO_2 emissions by fuel

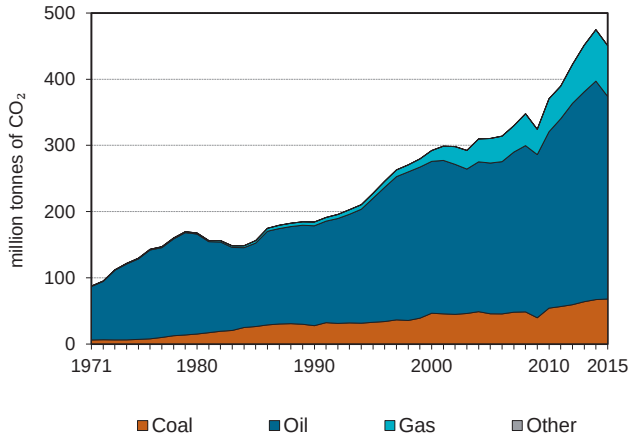


Figure 2. CO_2 emissions by sector

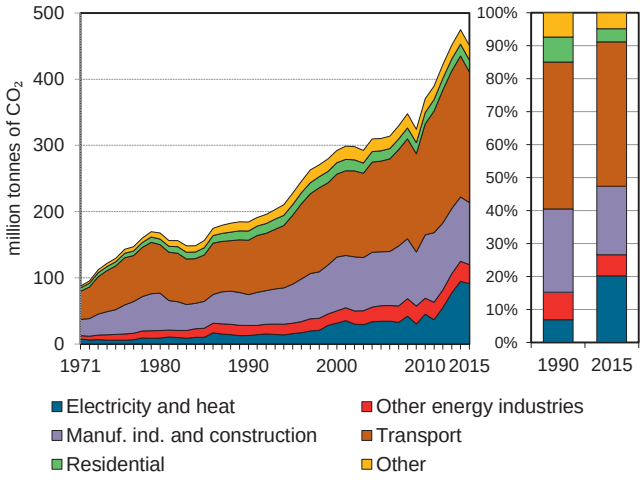


Figure 3. Electricity generation by fuel

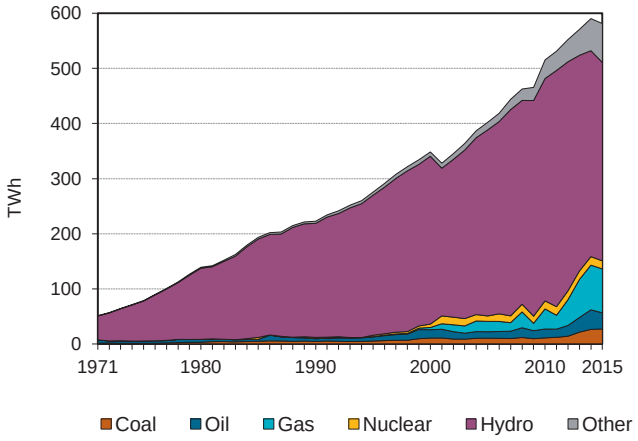


Figure 4. CO_2 from electricity generation: driving factors[1]

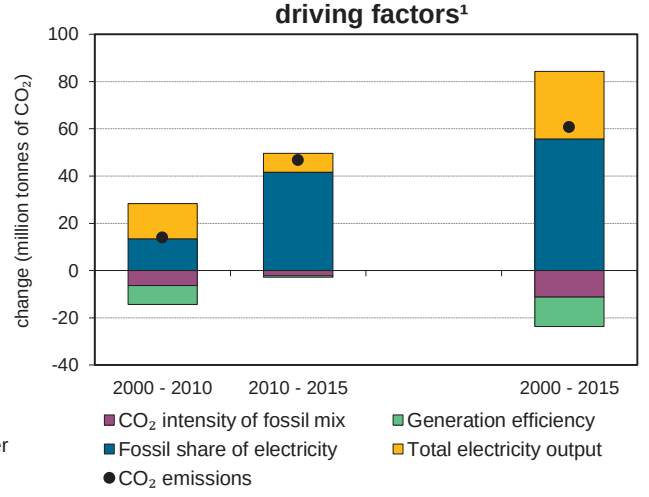


Figure 5. Changes in selected indicators

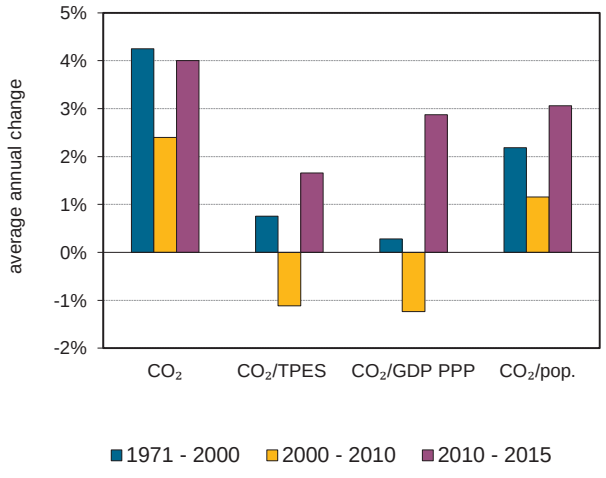
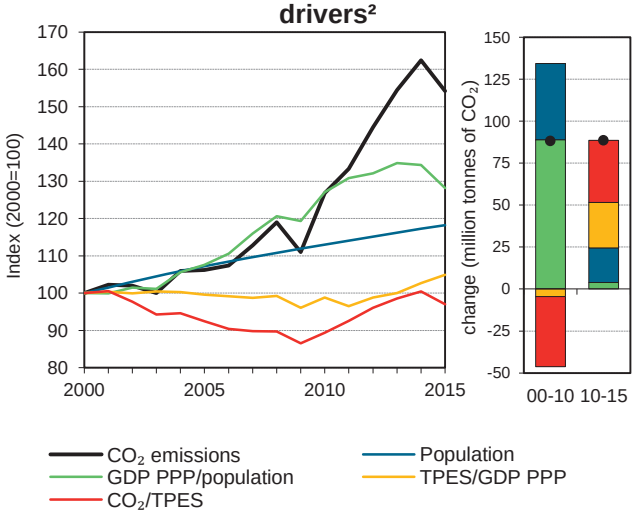


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Brazil

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	184.3	227.7	292.3	310.5	370.5	474.9	450.8	145%
Share of World CO_2 from fuel combustion	1%	1%	1%	1%	1%	1%	1%	
TPES (PJ)	5870	6 745	7 848	9 016	11 132	12 693	12 476	113%
GDP (billion 2010 USD)	1192.7	1 387.3	1 538.7	1 774.8	2 208.9	2 421.6	2 330.4	95%
GDP PPP (billion 2010 USD)	1513.7	1 760.7	1 952.8	2 252.5	2 803.3	3 075.4	2 959.5	96%
Population (millions)	150.4	162.8	175.8	188.5	198.6	206.1	207.8	38%
CO_2 / TPES (tCO_2 per TJ)	31.4	33.8	37.2	34.4	33.3	37.4	36.1	15%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.15	0.2	0.2	0.2	0.2	0.2	0.2	25%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.12	0.1	0.1	0.1	0.1	0.2	0.2	25%
CO_2 / population (tCO_2 per capita)	1.2	1.4	1.7	1.6	1.9	2.3	2.2	77%
Share of electricity output from fossil fuels	4%	5%	9%	10%	12%	24%	23%	
CO_2 / kWh of electricity (gCO_2/kWh)	57	57	90	85	87	160	157	174%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	124	159	169	201	258	245	145%
Population index	100	108	117	125	132	137	138	38%
GDP PPP per population index	100	107	110	119	140	148	141	41%
Energy intensity index - TPES / GDP PPP	100	99	104	103	102	106	109	9%
Carbon intensity index - CO_2 / TPES	100	108	119	110	106	119	115	15%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**68.0**	**306.2**	**76.7**	**-**	**450.8**	**145%**
Electricity and heat generation	34.5	20.1	36.5	-	91.1	614%
Other energy industry own use	2.4	14.5	11.9	-	28.8	89%
Manufacturing industries and construction	31.1	40.6	22.1	-	93.8	101%
Transport	-	192.1	5.2	-	197.3	140%
of which: road	-	*175.0*	*3.5*	-	*178.5*	151%
Other	-	38.8	1.0	-	39.9	45%
of which: residential	-	*17.3*	*0.7*	-	*18.0*	29%
of which: services	-	*1.9*	*0.4*	-	*2.2*	-14%
Memo: international marine bunkers	-	*13.3*	-	-	*13.3*	*666%*
Memo: international aviation bunkers	-	*7.3*	-	-	*7.3*	*410%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	175.0	146.1	11.0	11.0
Manufacturing industries - oil	40.6	49.0	2.5	13.5
Manufacturing industries - coal	31.1	92.9	1.9	15.5
Main activity prod. elec. and heat - gas	30.5	+	1.9	17.4
Manufacturing industries - gas	22.1	586.8	1.4	18.8
Non-specified other - oil	21.5	59.5	1.4	20.1
Main activity prod. elec. and heat - coal	17.3	318.0	1.1	21.2
Residential - oil	17.3	27.4	1.1	22.3
Unallocated autoproducers - coal	17.2	298.7	1.1	23.4
Memo: total CO_2 from fuel combustion	*450.8*	*144.7*	*28.3*	*28.3*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Brunei Darussalam

Figure 1. CO_2 emissions by fuel

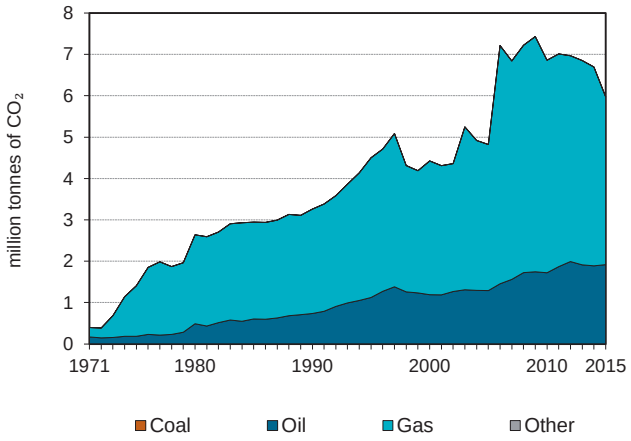


Figure 2. CO_2 emissions by sector

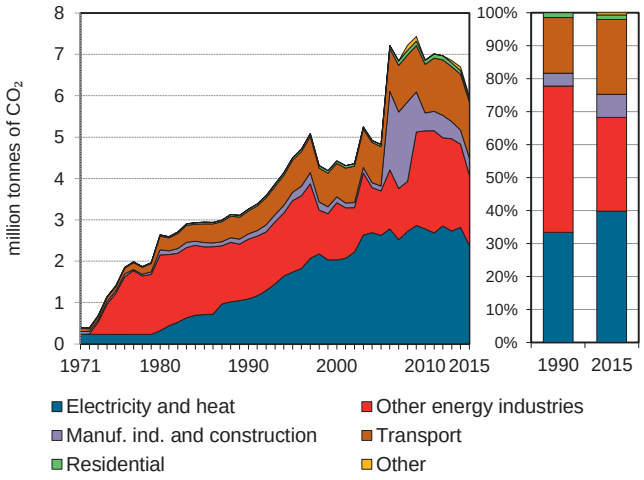


Figure 3. Electricity generation by fuel

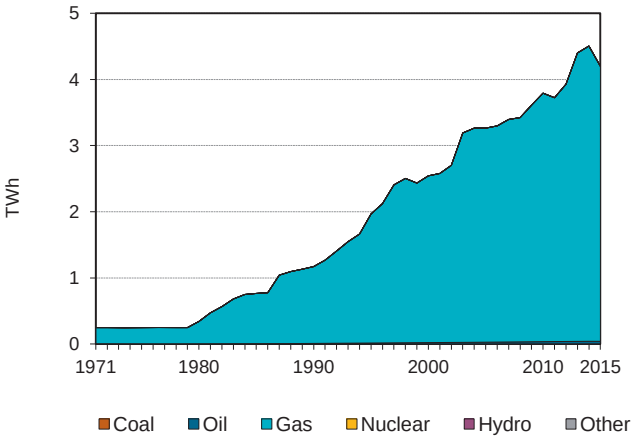


Figure 4. CO_2 from electricity generation: driving factors[1]

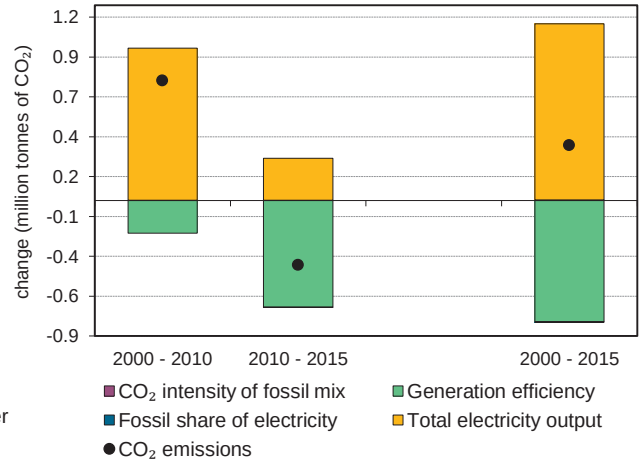


Figure 5. Changes in selected indicators

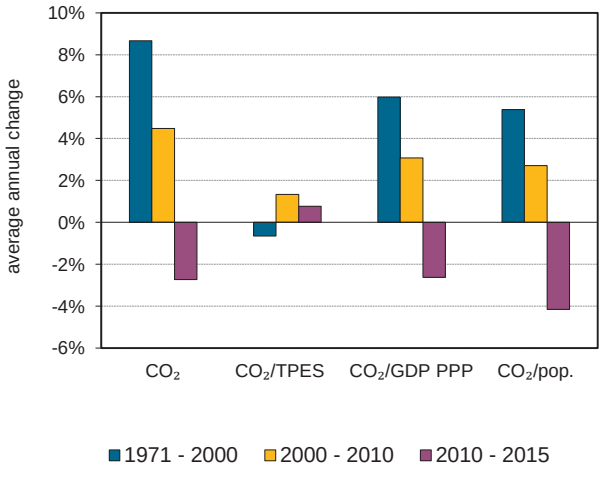
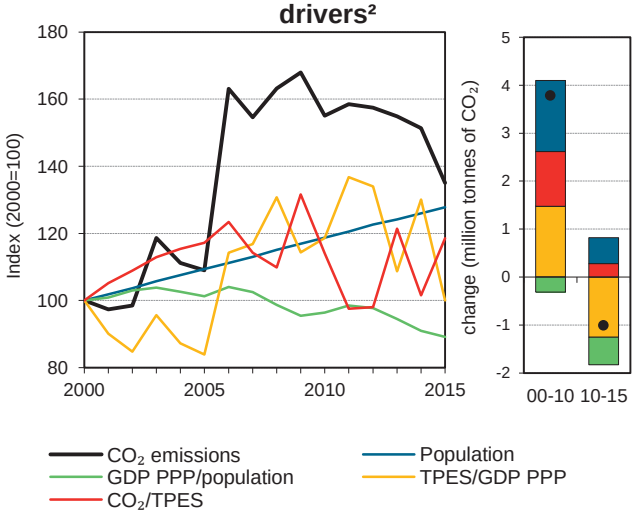


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Brunei Darussalam

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	3.3	4.5	4.4	4.8	6.9	6.7	6.0	83%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	72	94	100	93	136	149	114	57%
GDP (billion 2010 USD)	9.6	11.2	12.0	13.3	13.7	13.7	13.6	42%
GDP PPP (billion 2010 USD)	19.4	22.7	24.2	26.8	27.7	27.7	27.6	42%
Population (millions)	0.3	0.3	0.3	0.4	0.4	0.4	0.4	65%
CO_2 / TPES (tCO_2 per TJ)	45.1	47.8	44.3	51.9	50.6	45.0	52.5	17%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.34	0.4	0.4	0.4	0.5	0.5	0.4	29%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.17	0.2	0.2	0.2	0.2	0.2	0.2	29%
CO_2 / population (tCO_2 per capita)	12.7	15.3	13.4	13.3	17.5	16.1	14.1	11%
Share of electricity output from fossil fuels	100%	100%	100%	100%	100%	100%	100%	
CO_2 / kWh of electricity (gCO_2/kWh)	928	885	799	804	734	626	566	-39%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	138	136	148	210	205	183	83%
Population index	100	115	129	141	153	162	165	65%
GDP PPP per population index	100	102	97	98	93	88	86	-14%
Energy intensity index - TPES / GDP PPP	100	111	111	93	131	144	111	11%
Carbon intensity index - CO_2 / TPES	100	106	98	115	112	100	117	17%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**1.9**	**4.1**	**-**	**6.0**	**83%**
Electricity and heat generation	-	0.0	2.3	-	2.4	119%
Other energy industry own use	-	0.0	1.7	-	1.7	18%
Manufacturing industries and construction	-	0.4	-	-	0.4	232%
Transport	-	1.4	-	-	1.4	145%
of which: road	-	*1.4*	-	-	*1.4*	145%
Other	-	0.1	0.0	-	0.1	170%
of which: residential	-	*0.0*	*0.0*	-	*0.1*	86%
of which: services	-	-	-	-	-	-
Memo: international marine bunkers	-	*0.3*	-	-	*0.3*	*149%*
Memo: international aviation bunkers	-	*0.3*	-	-	*0.3*	*128%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - gas	2.1	90.6	17.2	17.2
Other energy industry own use - gas	1.7	16.1	14.0	31.2
Road - oil	1.4	145.2	11.3	42.6
Manufacturing industries - oil	0.4	231.6	3.5	46.0
Unallocated autoproducers - gas	0.3	x	2.4	48.4
Residential - oil	0.0	4.3	0.4	48.8
Non-specified other - oil	0.0	x	0.3	49.1
Residential - gas	0.0	x	0.3	49.5
Main activity prod. elec. and heat - oil	0.0	266.6	0.3	49.8
Memo: total CO_2 from fuel combustion	*6.0*	*83.3*	*50.0*	*50.0*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Bulgaria [1]

Figure 1. CO_2 emissions by fuel

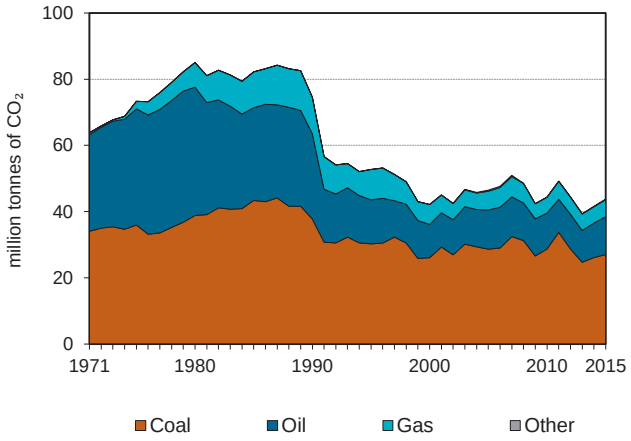


Figure 2. CO_2 emissions by sector

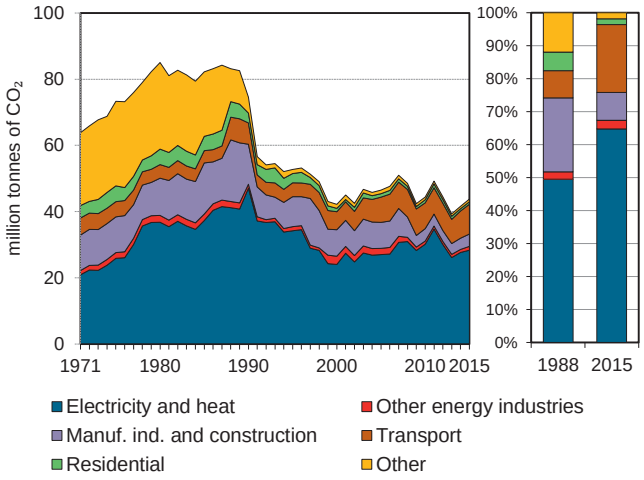


Figure 3. Electricity generation by fuel

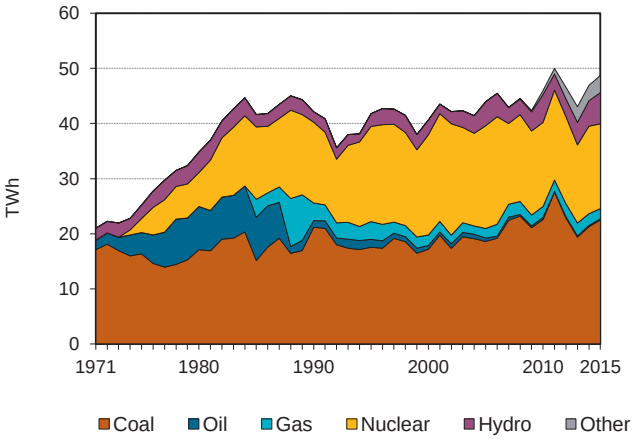


Figure 4. CO_2 from electricity generation: driving factors[2]

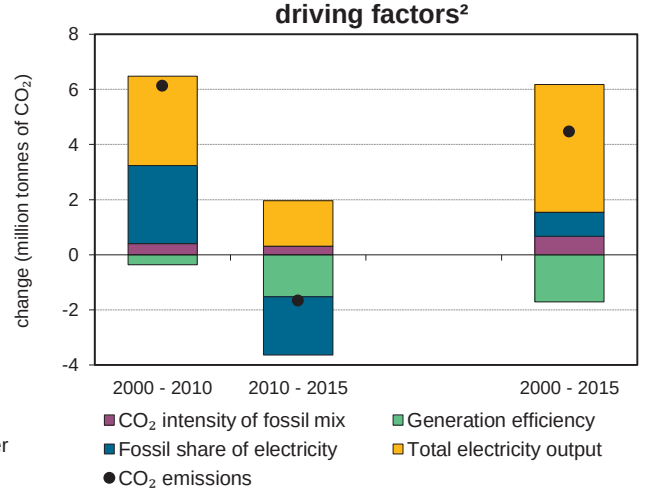


Figure 5. Changes in selected indicators

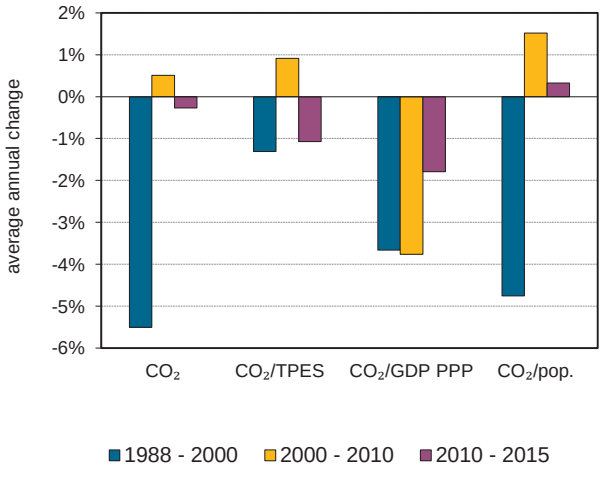
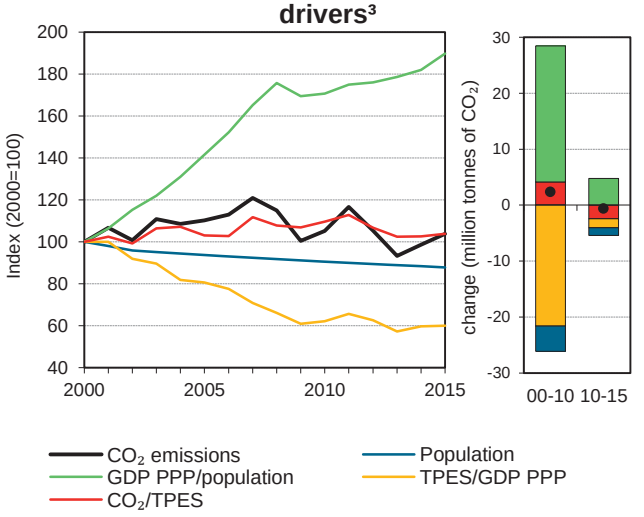


Figure 6. Total CO_2 emissions and drivers[3]



1. Under the Convention Bulgaria is allowed use 1988 as its base year.
2. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
3. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Bulgaria [1]

Key indicators

	1988	1990	1995	2005	2010	2014	2015	%change 88-15
CO_2 fuel combustion ($MtCO_2$)	83.2	74.6	52.7	46.5	44.4	41.6	43.8	-47%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	1312	1 182	967	833	748	749	779	-41%
GDP (billion 2010 USD)	41.3	36.3	31.8	43.5	50.6	52.7	54.6	32%
GDP PPP (billion 2010 USD)	91	80.0	70.1	95.9	111.6	116.2	120.4	32%
Population (millions)	9	8.7	8.4	7.7	7.4	7.2	7.2	-20%
CO_2 / TPES (tCO_2 per TJ)	63.4	63.1	54.6	55.8	59.3	55.6	56.2	-11%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	2.01	2.1	1.7	1.1	0.9	0.8	0.8	-60%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.91	0.9	0.8	0.5	0.4	0.4	0.4	-60%
CO_2 / population (tCO_2 per capita)	9.3	8.6	6.3	6.1	6.0	5.8	6.1	-34%
Share of electricity output from fossil fuels	59%	61%	53%	48%	54%	50%	50%	
CO_2 / kWh of electricity (gCO_2/kWh)	..	773	589	517	553	493	498	..
CO_2 emissions and drivers - Kaya decomposition (1988=100) [2]								
CO_2 emissions index	100	90	63	56	53	50	53	-47%
Population index	100	97	94	85	82	80	80	-20%
GDP PPP per population index	100	91	82	123	149	159	166	66%
Energy intensity index - TPES / GDP PPP	100	102	96	60	47	45	45	-55%
Carbon intensity index - CO_2 / TPES	100	100	86	88	94	88	89	-11%

1. Under the Convention Bulgaria is allowed use 1988 as its base year. 2. Please see Part I for methodological notes.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [3]	Total	%change 88-15
CO_2 fuel combustion	**27.0**	**11.5**	**5.1**	**0.2**	**43.8**	**-47%**
Electricity and heat generation	25.7	0.7	2.0	-	28.3	-31%
Other energy industry own use	0.0	1.1	0.1	-	1.2	-37%
Manufacturing industries and construction	0.8	0.6	2.2	0.2	3.7	-80%
Transport	-	8.4	0.6	-	9.0	31%
of which: road	-	*8.3*	*0.2*	-	*8.6*	25%
Other	0.6	0.6	0.4	-	1.6	-89%
of which: residential	*0.5*	*0.1*	*0.1*	-	*0.7*	-84%
of which: services	*0.0*	*0.1*	*0.2*	-	*0.3*	x
Memo: international marine bunkers	-	*0.3*	-	-	*0.3*	*-71%*
Memo: international aviation bunkers	-	*0.5*	-	-	*0.5*	*-59%*

3. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 88-15	Level assessment[4] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	25.7	5.3	41.8	41.8
Road - oil	8.3	21.8	13.6	55.4
Manufacturing industries - gas	2.2	x	3.5	58.9
Main activity prod. elec. and heat - gas	1.9	-71.7	3.0	61.9
Other energy industry own use - oil	1.1	-43.0	1.7	63.7
Manufacturing industries - coal	0.8	-93.3	1.2	64.9
Main activity prod. elec. and heat - oil	0.7	-91.6	1.1	66.0
Manufacturing industries - oil	0.6	-91.2	1.0	67.1
Residential - coal	0.5	-84.8	0.9	67.9
Memo: total CO_2 from fuel combustion	*43.8*	*-47.4*	*71.3*	*71.3*

4. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Cambodia [1]

Figure 1. CO_2 emissions by fuel

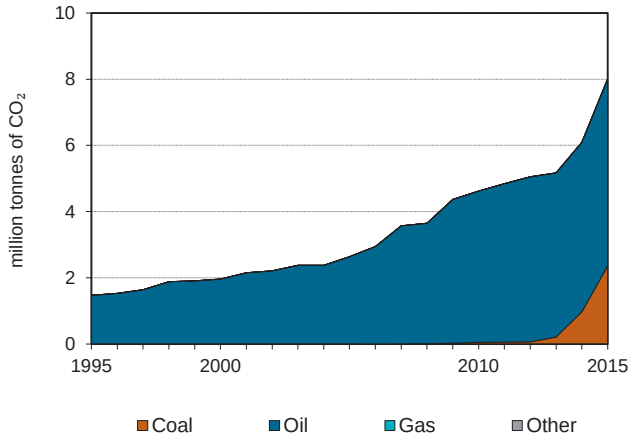


Figure 2. CO_2 emissions by sector

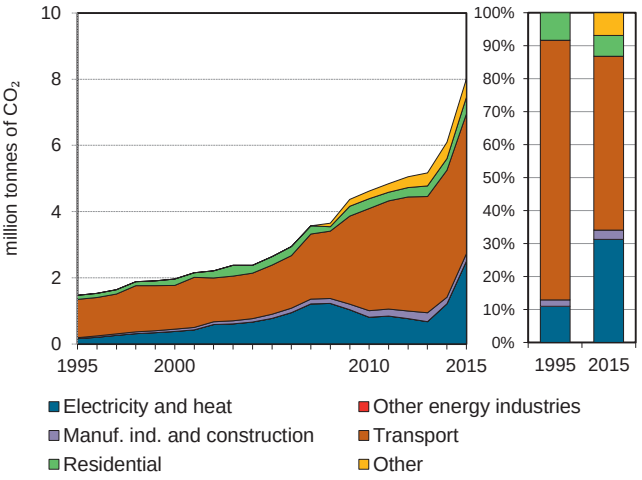


Figure 3. Electricity generation by fuel

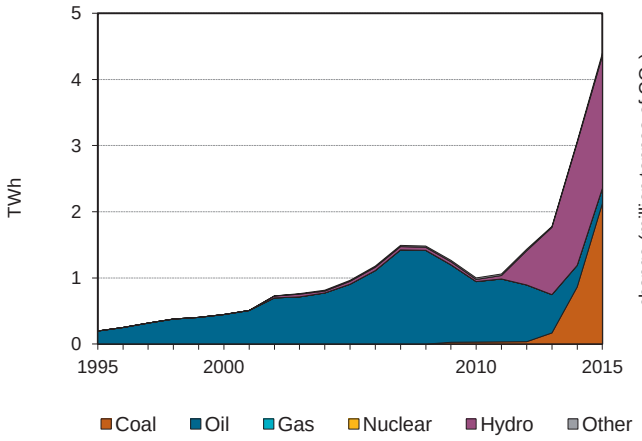


Figure 4. CO_2 from electricity generation: driving factors[2]

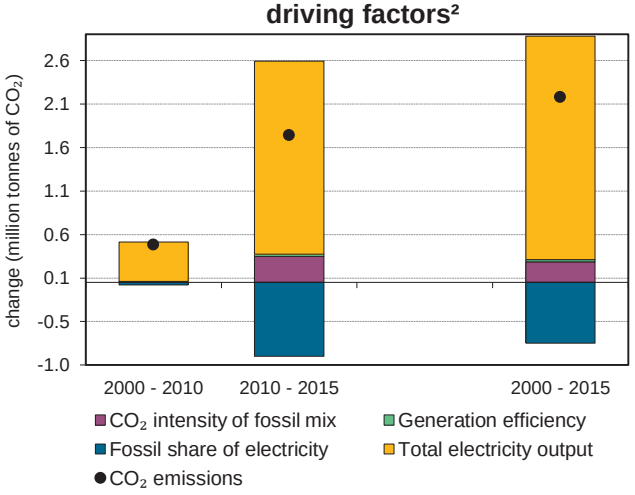


Figure 5. Changes in selected indicators

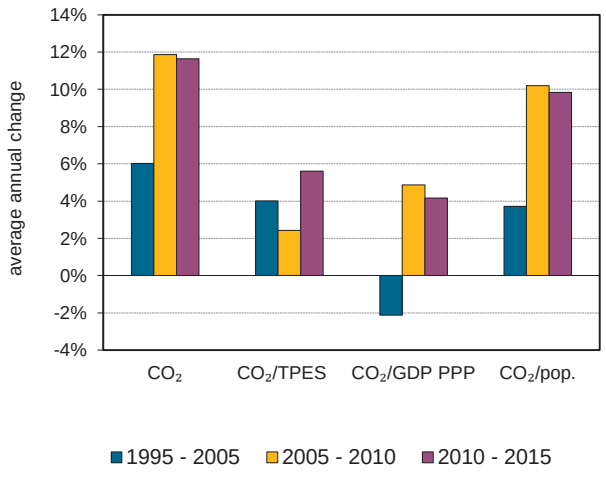
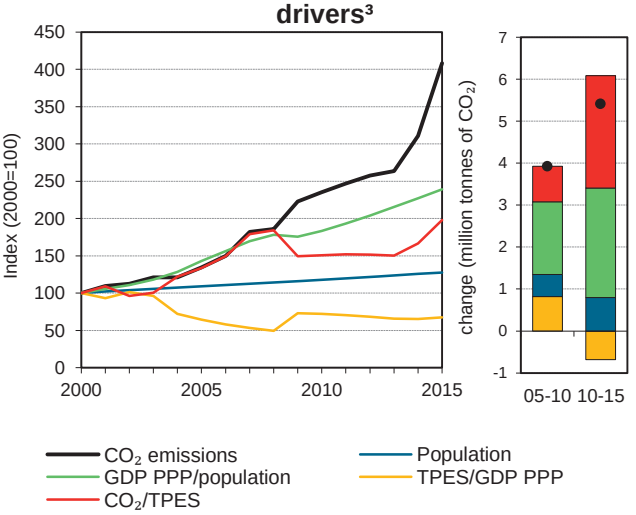


Figure 6. Total CO_2 emissions and drivers[3]



1. Prior to 1995, data for Cambodia were included in Other Asia.
2. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
3. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Cambodia [1]

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 95-15
CO_2 fuel combustion ($MtCO_2$)	..	1.5	2.0	2.6	4.6	6.1	8.0	445%
Share of World CO_2 from fuel combustion	..	0%	0%	0%	0%	0%	0%	
TPES (PJ)	..	119	143	144	223	266	295	148%
GDP (billion 2010 USD)	..	3.7	5.2	8.1	11.2	14.9	15.9	335%
GDP PPP (billion 2010 USD)	..	11.5	16.4	25.6	35.4	46.7	50.0	335%
Population (millions)	..	10.7	12.2	13.3	14.4	15.3	15.6	46%
CO_2 / TPES (tCO_2 per TJ)	..	12.4	13.7	18.4	20.7	22.9	27.2	120%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	..	0.4	0.4	0.3	0.4	0.4	0.5	25%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	..	0.1	0.1	0.1	0.1	0.1	0.2	25%
CO_2 / population (tCO_2 per capita)	..	0.1	0.2	0.2	0.3	0.4	0.5	274%
Share of electricity output from fossil fuels	..	100%	100%	94%	95%	39%	54%	
CO_2 / kWh of electricity (gCO_2/kWh)	..	813	843	801	807	396	569	-30%
CO_2 emissions and drivers - Kaya decomposition (1995=100) [2]								
CO_2 emissions index	..	100	133	179	314	415	545	445%
Population index	..	100	114	125	134	143	146	46%
GDP PPP per population index	..	100	125	179	229	283	298	198%
Energy intensity index - TPES / GDP PPP	..	100	85	54	61	55	57	-43%
Carbon intensity index - CO_2 / TPES	..	100	111	148	167	185	220	120%

1. Prior to 1995, data for Cambodia were included in Other Asia. 2. Please see Part I for methodological notes.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [3]	Total	%change 95-15
CO_2 fuel combustion	**2.4**	**5.7**	**-**	**-**	**8.0**	**445%**
Electricity and heat generation	2.3	0.2	-	-	2.5	+
Other energy industry own use	-	-	-	-	-	-
Manufacturing industries and construction	0.0	0.2	-	-	0.2	681%
Transport	-	4.2	-	-	4.2	265%
of which: road	-	*3.6*	-	-	*3.6*	231%
Other	-	1.1	-	-	1.1	762%
of which: residential	-	*0.5*	-	-	*0.5*	311%
of which: services	-	-	-	-	-	-
Memo: international marine bunkers	-	..	-	-	..	..
Memo: international aviation bunkers	-	*0.3*	-	-	*0.3*	*810%*

3. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 95-15	Level assessment[4] (%)	Cumulative total (%)
Road - oil	3.6	231.2	7.9	7.9
Main activity prod. elec. and heat - coal	2.3	x	5.1	13.1
Other transport - oil	0.7	701.5	1.5	14.6
Non-specified other - oil	0.6	x	1.2	15.8
Residential - oil	0.5	311.4	1.1	16.9
Main activity prod. elec. and heat - oil	0.2	20.4	0.4	17.4
Manufacturing industries - oil	0.2	511.4	0.4	17.7
Manufacturing industries - coal	0.0	x	0.1	17.9
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*8.0*	*444.7*	*17.9*	*17.9*

4. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Cameroon

Figure 1. CO_2 emissions by fuel

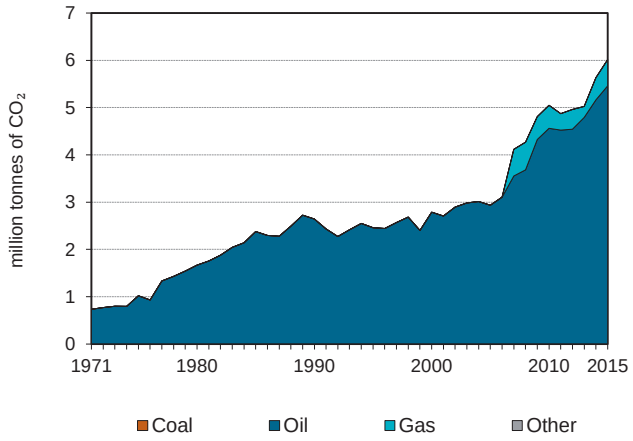


Figure 2. CO_2 emissions by sector

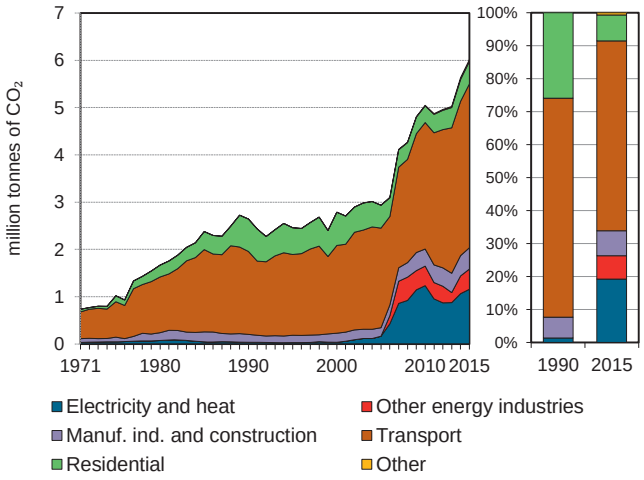


Figure 3. Electricity generation by fuel

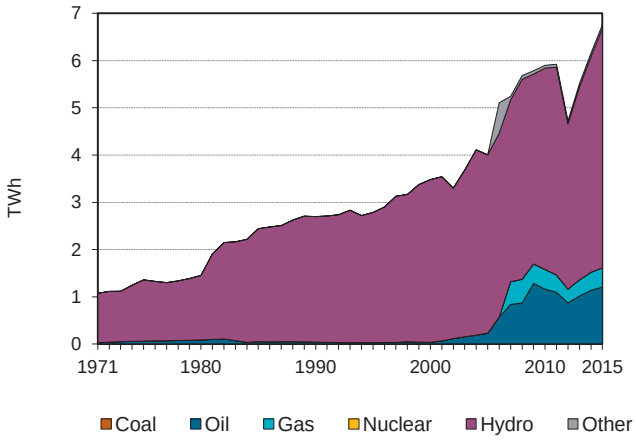


Figure 4. CO_2 from electricity generation: driving factors[1]

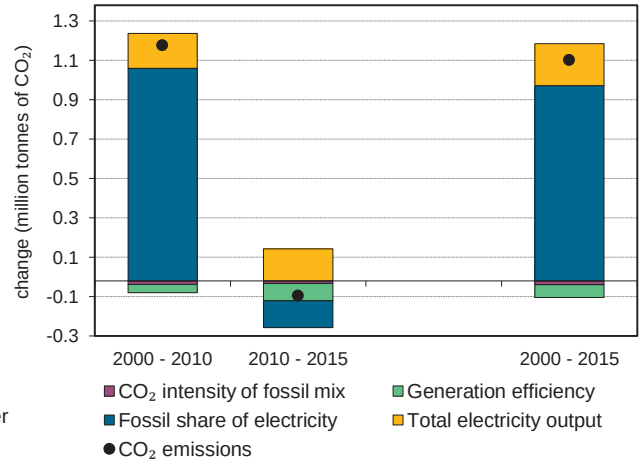


Figure 5. Changes in selected indicators

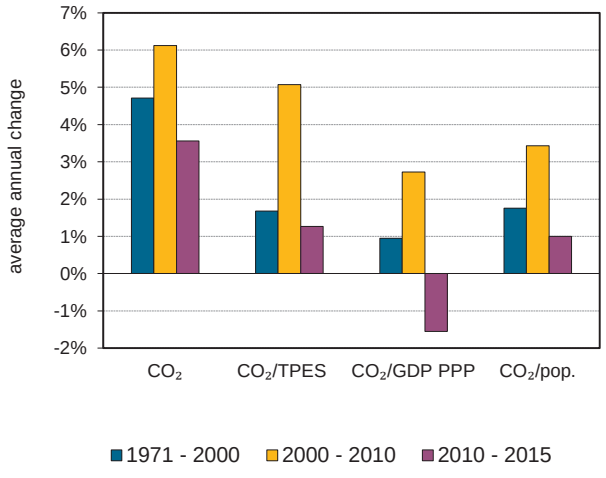
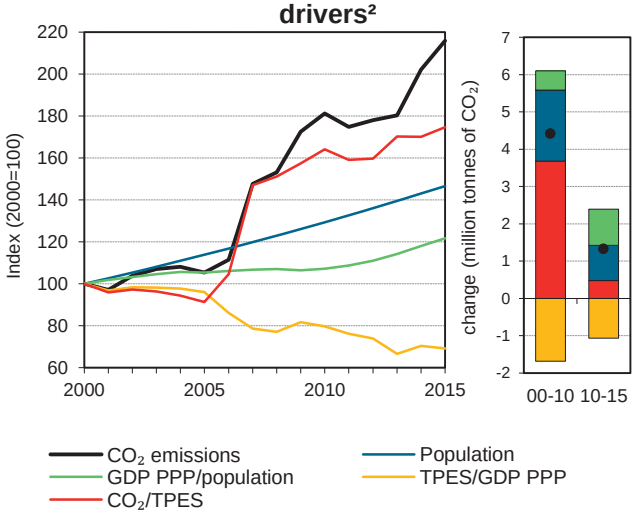


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Cameroon

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	2.6	2.5	2.8	2.9	5.0	5.6	6.0	128%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	209	232	264	305	292	314	326	56%
GDP (billion 2010 USD)	14.9	13.6	17.1	20.5	23.6	28.8	30.4	104%
GDP PPP (billion 2010 USD)	32.7	29.9	37.5	45.0	51.9	63.3	66.9	104%
Population (millions)	12.1	13.9	15.9	18.1	20.6	22.8	23.3	93%
CO_2 / TPES (tCO_2 per TJ)	12.7	10.6	10.6	9.6	17.3	17.9	18.4	45%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.18	0.2	0.2	0.1	0.2	0.2	0.2	11%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.08	0.1	0.1	0.1	0.1	0.1	0.1	11%
CO_2 / population (tCO_2 per capita)	0.2	0.2	0.2	0.2	0.2	0.2	0.3	18%
Share of electricity output from fossil fuels	2%	1%	1%	6%	27%	25%	24%	
CO_2 / kWh of electricity (gCO_2/kWh)	13	10	10	41	209	173	171	1209%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	93	105	111	191	213	228	128%
Population index	100	115	132	150	171	189	193	93%
GDP PPP per population index	100	79	87	92	93	102	106	6%
Energy intensity index - TPES / GDP PPP	100	122	111	106	88	78	77	-23%
Carbon intensity index - CO_2 / TPES	100	84	83	76	137	142	145	45%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**5.5**	**0.6**	**-**	**6.0**	**128%**
Electricity and heat generation	-	0.9	0.3	-	1.2	+
Other energy industry own use	-	0.1	0.3	-	0.4	x
Manufacturing industries and construction	-	0.5	-	-	0.5	169%
Transport	-	3.5	-	-	3.5	98%
of which: road	-	*3.3*	-	-	*3.3*	89%
Other	-	0.5	-	-	0.5	-25%
of which: residential	-	*0.5*	-	-	*0.5*	-31%
of which: services	-	*0.0*	-	-	*0.0*	x
Memo: international marine bunkers	-	*0.2*	-	-	*0.2*	*322%*
Memo: international aviation bunkers	-	*0.3*	-	-	*0.3*	*75%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	3.3	88.8	3.5	3.5
Unallocated autoproducers - oil	0.6	x	0.7	4.2
Residential - oil	0.5	-30.7	0.5	4.7
Manufacturing industries - oil	0.5	169.0	0.5	5.2
Other energy industry own use - gas	0.3	x	0.3	5.5
Main activity prod. elec. and heat - oil	0.3	689.1	0.3	5.8
Unallocated autoproducers - gas	0.3	x	0.3	6.1
Other transport - oil	0.2	x	0.2	6.2
Other energy industry own use - oil	0.1	x	0.1	6.4
Memo: total CO_2 from fuel combustion	*6.0*	*127.6*	*6.4*	*6.4*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Canada

Figure 1. CO_2 emissions by fuel

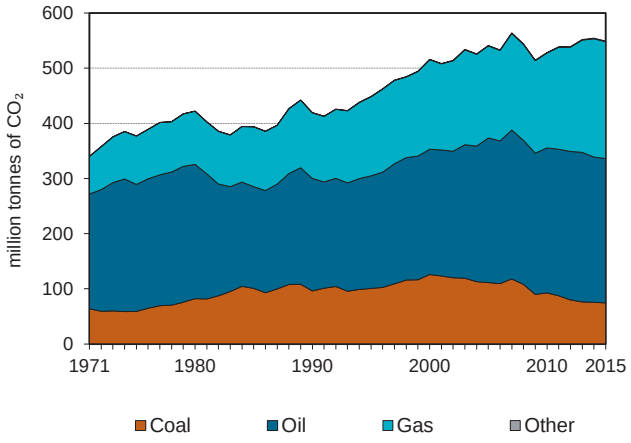


Figure 2. CO_2 emissions by sector

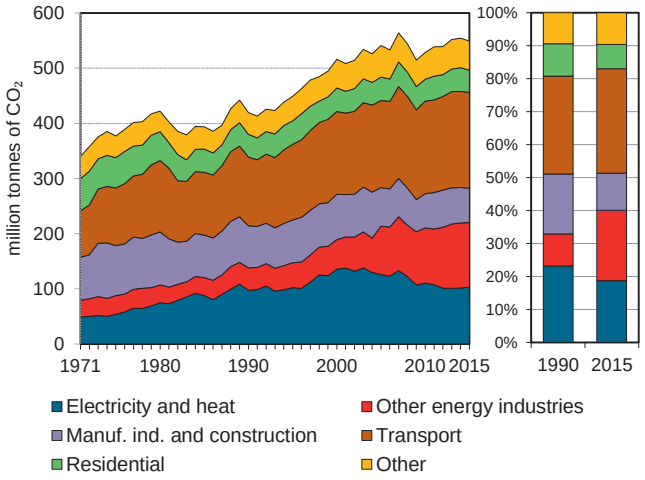


Figure 3. Electricity generation by fuel

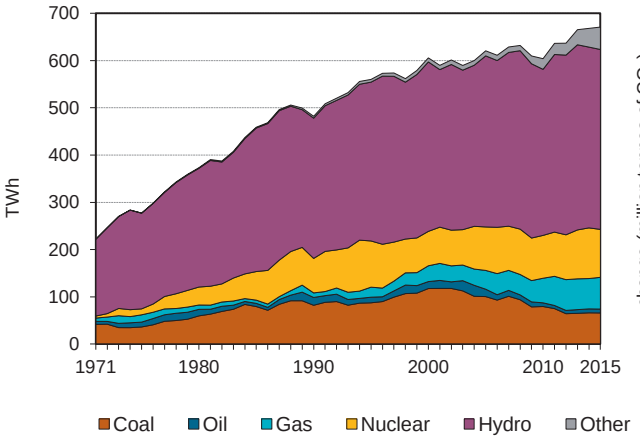


Figure 4. CO_2 from electricity generation: driving factors[1]

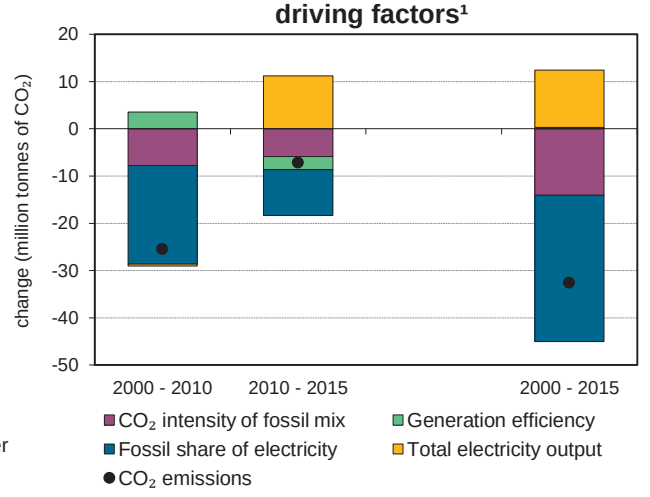


Figure 5. Changes in selected indicators

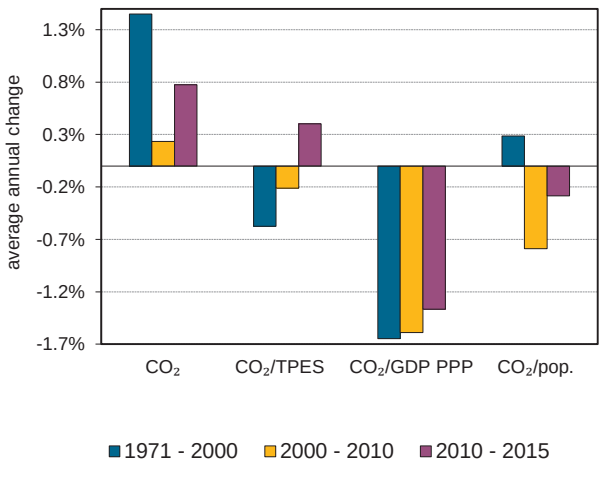
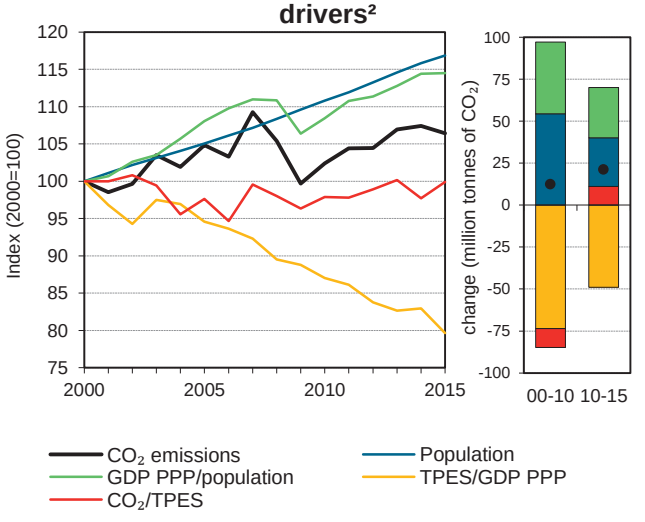


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Canada

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	419.5	448.9	516.2	541.2	528.4	554.4	549.2	31%
Share of World CO_2 from fuel combustion	2%	2%	2%	2%	2%	2%	2%	
TPES (PJ)	8846	9 790	10 619	11 405	11 105	11 674	11 312	28%
GDP (billion 2010 USD)	1014.1	1 102.8	1 342.7	1 524.5	1 613.5	1 779.6	1 796.4	77%
GDP PPP (billion 2010 USD)	855.5	930.3	1 132.7	1 286.1	1 361.1	1 501.3	1 515.4	77%
Population (millions)	27.7	29.3	30.7	32.2	34.0	35.5	35.9	29%
CO_2 / TPES (tCO_2 per TJ)	47.4	45.9	48.6	47.5	47.6	47.5	48.6	2%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.41	0.4	0.4	0.4	0.3	0.3	0.3	-26%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.49	0.5	0.5	0.4	0.4	0.4	0.4	-26%
CO_2 / population (tCO_2 per capita)	15.2	15.3	16.8	16.8	15.5	15.6	15.3	1%
Share of electricity output from fossil fuels	22%	22%	27%	25%	24%	21%	22%	
CO_2 / kWh of electricity (gCO_2/kWh)	200	179	220	199	181	149	151	-24%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	107	123	129	126	132	131	31%
Population index	100	106	111	116	123	128	129	29%
GDP PPP per population index	100	103	119	129	130	137	137	37%
Energy intensity index - TPES / GDP PPP	100	102	91	86	79	75	72	-28%
Carbon intensity index - CO_2 / TPES	100	97	103	100	100	100	102	2%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**74.5**	**261.6**	**212.0**	**1.1**	**549.2**	**31%**
Electricity and heat generation	62.1	6.3	34.2	0.2	102.9	6%
Other energy industry own use	0.0	43.7	73.6	-	117.3	187%
Manufacturing industries and construction	12.4	15.5	33.4	0.8	62.1	-19%
Transport	-	165.4	8.4	-	173.8	39%
of which: road	-	*139.9*	*0.1*	-	*140.0*	45%
Other	0.0	30.7	62.4	-	93.1	16%
of which: residential	*0.0*	*5.7*	*34.7*	-	*40.4*	-2%
of which: services	-	*10.7*	*25.8*	-	*36.5*	14%
Memo: international marine bunkers	-	*0.6*	-	-	*0.6*	*-81%*
Memo: international aviation bunkers	-	*2.6*	-	-	*2.6*	*-5%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	139.9	44.9	18.5	18.5
Other energy industry own use - gas	73.6	251.6	9.7	28.2
Main activity prod. elec. and heat - coal	62.1	-22.8	8.2	36.5
Other energy industry own use - oil	43.7	123.3	5.8	42.2
Residential - gas	34.7	30.0	4.6	46.8
Manufacturing industries - gas	33.4	-15.6	4.4	51.2
Non-specified other - gas	27.7	34.0	3.7	54.9
Other transport - oil	25.5	19.6	3.4	58.3
Non-specified other - oil	25.0	33.9	3.3	61.6
Memo: total CO_2 from fuel combustion	*549.2*	*30.9*	*72.7*	*72.7*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Chile

Figure 1. CO_2 emissions by fuel

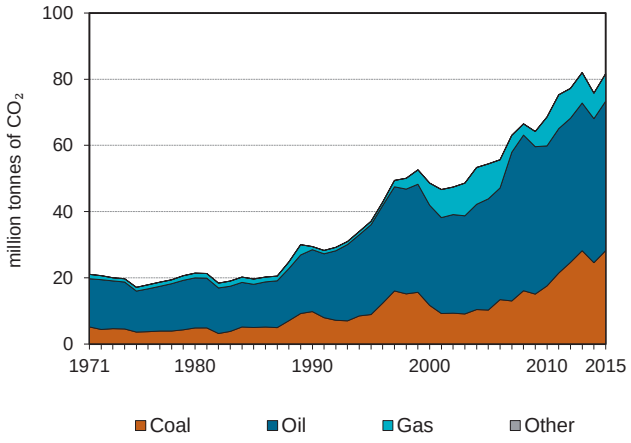


Figure 2. CO_2 emissions by sector

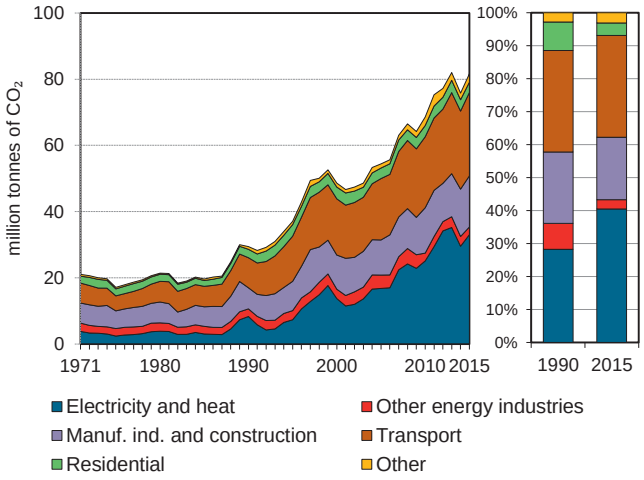


Figure 3. Electricity generation by fuel

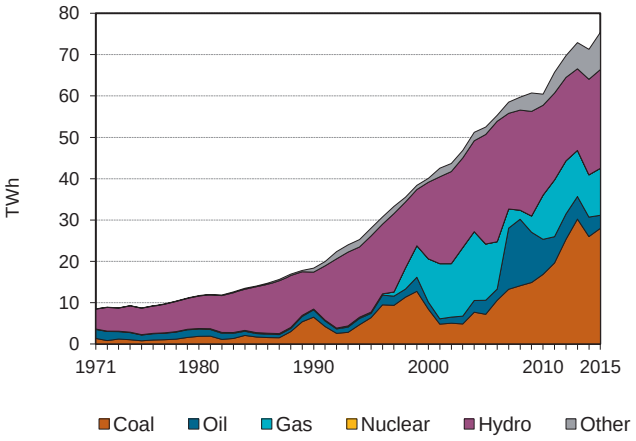


Figure 4. CO_2 from electricity generation: driving factors[1]

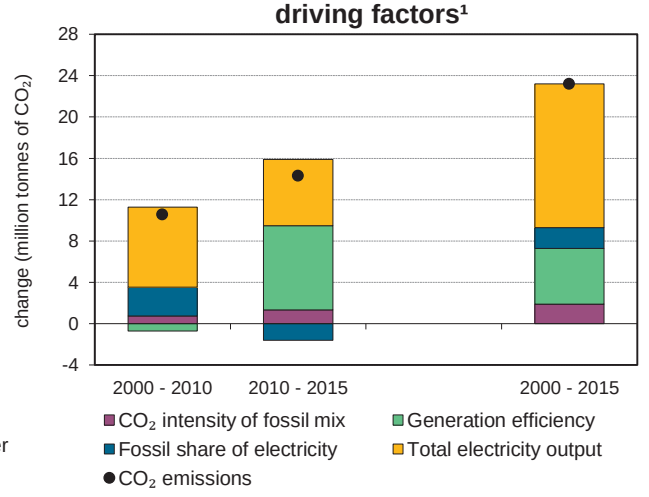


Figure 5. Changes in selected indicators

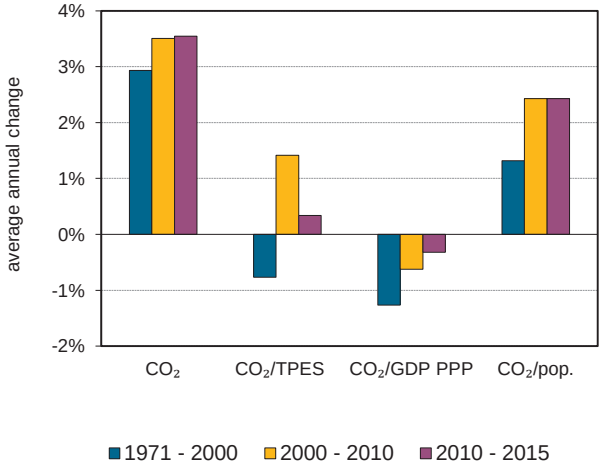
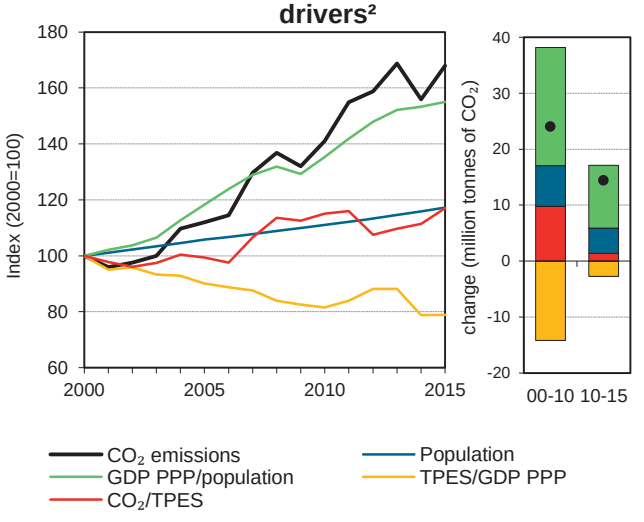


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Chile

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	29.4	37.1	48.6	54.4	68.6	75.8	81.6	177%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	587	768	1 054	1 188	1 292	1 475	1 512	158%
GDP (billion 2010 USD)	76.2	115.6	144.8	181.0	217.5	257.2	263.1	245%
GDP PPP (billion 2010 USD)	108.8	165.0	206.7	258.4	310.5	367.1	375.6	245%
Population (millions)	13.2	14.4	15.4	16.3	17.1	17.8	18.0	37%
CO_2 / TPES (tCO_2 per TJ)	50.2	48.3	46.1	45.8	53.1	51.4	54.0	8%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.39	0.3	0.3	0.3	0.3	0.3	0.3	-20%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.27	0.2	0.2	0.2	0.2	0.2	0.2	-20%
CO_2 / population (tCO_2 per capita)	2.2	2.6	3.2	3.3	4.0	4.2	4.5	103%
Share of electricity output from fossil fuels	46%	28%	51%	46%	60%	58%	56%	
CO_2 / kWh of electricity (gCO_2/kWh)	452	261	342	320	415	413	438	-3%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	126	165	185	233	258	277	177%
Population index	100	109	117	124	130	135	137	37%
GDP PPP per population index	100	139	163	192	220	249	252	152%
Energy intensity index - TPES / GDP PPP	100	86	95	85	77	75	75	-25%
Carbon intensity index - CO_2 / TPES	100	96	92	91	106	102	108	8%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**28.2**	**45.2**	**8.3**	**-**	**81.6**	**177%**
Electricity and heat generation	26.0	2.5	4.6	-	33.0	298%
Other energy industry own use	0.9	0.9	0.5	-	2.3	0%
Manufacturing industries and construction	1.3	12.3	1.8	-	15.4	142%
Transport	-	25.2	0.1	-	25.2	178%
of which: road	-	*22.5*	*0.1*	-	*22.6*	189%
Other	0.0	4.2	1.4	-	5.6	68%
of which: residential	*0.0*	*2.1*	*1.0*	-	*3.1*	22%
of which: services	*0.0*	*1.5*	*0.3*	-	*1.9*	349%
Memo: international marine bunkers	-	*0.4*	-	-	*0.4*	*-28%*
Memo: international aviation bunkers	-	*1.7*	-	-	*1.7*	*197%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	26.0	482.7	22.6	22.6
Road - oil	22.5	188.2	19.6	42.3
Manufacturing industries - oil	12.3	192.8	10.8	53.0
Main activity prod. elec. and heat - gas	4.5	+	3.9	56.9
Other transport - oil	2.6	109.7	2.3	59.2
Non-specified other - oil	2.2	272.2	1.9	61.1
Main activity prod. elec. and heat - oil	2.1	158.5	1.9	62.9
Residential - oil	2.1	-1.6	1.8	64.7
Manufacturing industries - gas	1.8	+	1.6	66.3
Memo: total CO_2 from fuel combustion	*81.6*	*177.5*	*71.1*	*71.1*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

People's Republic of China

Figure 1. CO_2 emissions by fuel

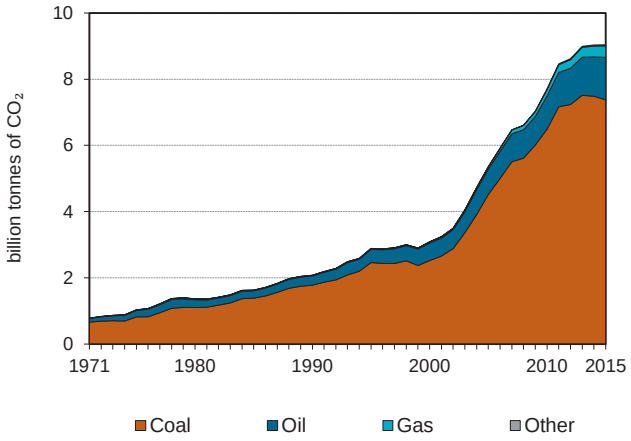


Figure 2. CO_2 emissions by sector

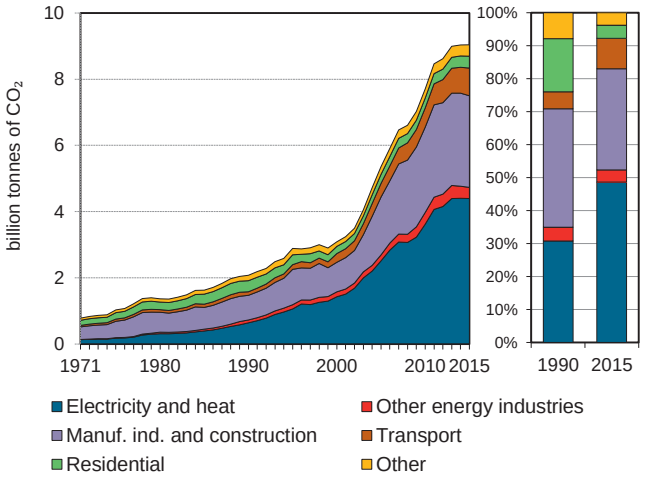


Figure 3. Electricity generation by fuel

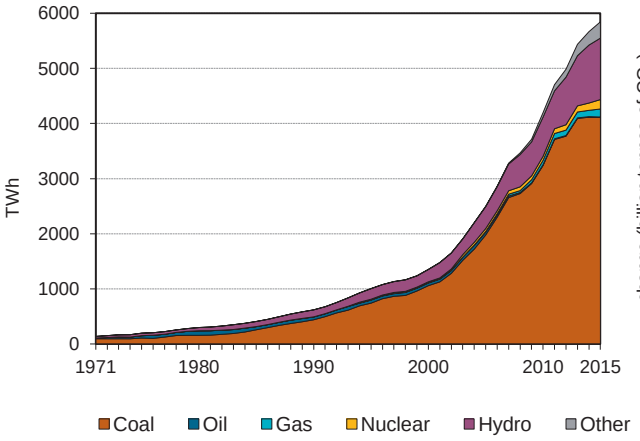


Figure 4. CO_2 from electricity generation: driving factors[1]

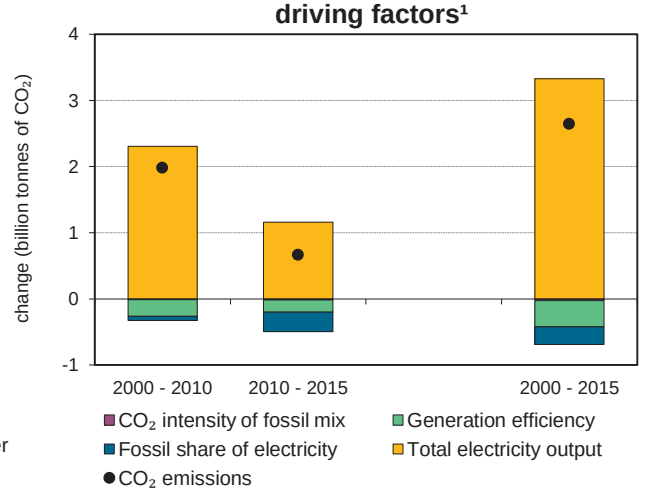


Figure 5. Changes in selected indicators

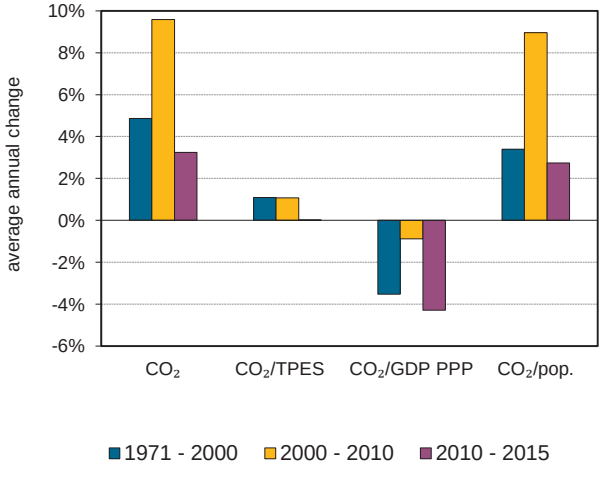
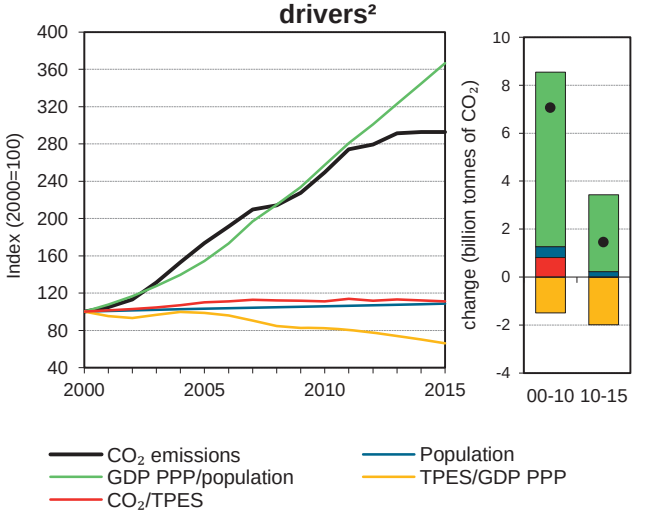


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

People's Republic of China

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	2075.9	2 887.1	3 086.7	5 357.7	7 706.7	9 036.5	9 040.7	336%
Share of World CO_2 from fuel combustion	10%	14%	13%	20%	25%	28%	28%	
TPES (PJ)	36454	43 727	47 304	74 583	106 189	123 658	124 484	241%
GDP (billion 2010 USD)	829.6	1 479.0	2 237.1	3 569.9	6 100.6	8 333.3	8 909.8	974%
GDP PPP (billion 2010 USD)	1680.5	2 996.2	4 531.9	7 231.9	12 358.7	16 881.7	18 049.6	974%
Population (millions)	1135.2	1 204.9	1 262.6	1 303.7	1 337.7	1 364.3	1 371.2	21%
CO_2 / TPES (tCO_2 per TJ)	57	66.0	65.3	71.8	72.6	73.1	72.6	28%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	2.5	2.0	1.4	1.5	1.3	1.1	1.0	-59%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	1.24	1.0	0.7	0.7	0.6	0.5	0.5	-59%
CO_2 / population (tCO_2 per capita)	1.8	2.4	2.4	4.1	5.8	6.6	6.6	261%
Share of electricity output from fossil fuels	80%	80%	82%	82%	80%	75%	73%	
CO_2 / kWh of electricity (gCO_2/kWh)	912	916	893	877	758	683	657	-28%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	139	149	258	371	435	436	336%
Population index	100	106	111	115	118	120	121	21%
GDP PPP per population index	100	168	242	375	624	836	889	789%
Energy intensity index - TPES / GDP PPP	100	67	48	48	40	34	32	-68%
Carbon intensity index - CO_2 / TPES	100	116	115	126	127	128	128	28%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**7 377.7**	**1 285.5**	**348.8**	**28.8**	**9 040.7**	**336%**
Electricity and heat generation	4 268.6	24.2	73.8	28.8	4 395.4	588%
Other energy industry own use	191.0	95.3	50.8	-	337.1	291%
Manufacturing industries and construction	2 500.0	178.4	90.4	-	2 768.9	272%
Transport	9.7	787.9	39.0	-	836.6	682%
of which: road	-	*652.7*	*38.3*	-	*691.0*	+
Other	408.4	199.7	94.7	-	702.8	41%
of which: residential	*191.0*	*97.3*	*70.7*	-	*359.0*	7%
of which: services	*79.7*	*47.9*	*23.8*	-	*151.4*	306%
Memo: international marine bunkers	-	*29.8*	-	-	*29.8*	*588%*
Memo: international aviation bunkers	-	*23.3*	-	-	*23.3*	+

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	4023.5	589.5	30.5	30.5
Manufacturing industries - coal	2500.0	269.8	18.9	49.4
Road - oil	652.7	+	4.9	54.4
Unallocated autoproducers - coal	245.1	+	1.9	56.2
Non-specified other sectors - coal	217.4	109.2	1.6	57.9
Other energy industry - coal	191.0	268.8	1.4	59.3
Residential - coal	191.0	-40.8	1.4	60.8
Manufacturing industries - oil	178.4	181.8	1.4	62.1
Other transport - oil	135.3	+	1.0	63.2
Memo: total CO_2 from fuel combustion	*9040.7*	*335.5*	*68.5*	*68.5*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Colombia

Figure 1. CO_2 emissions by fuel

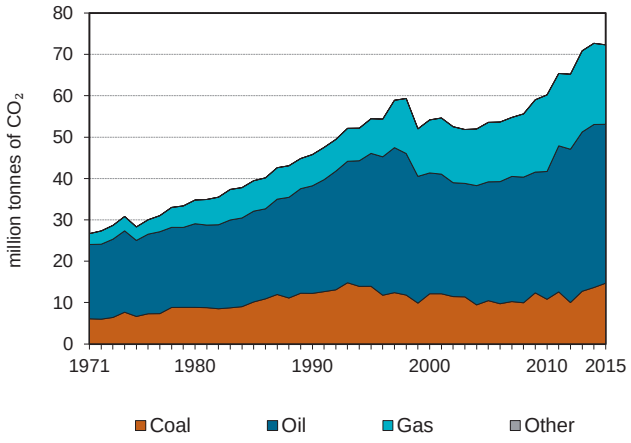


Figure 2. CO_2 emissions by sector

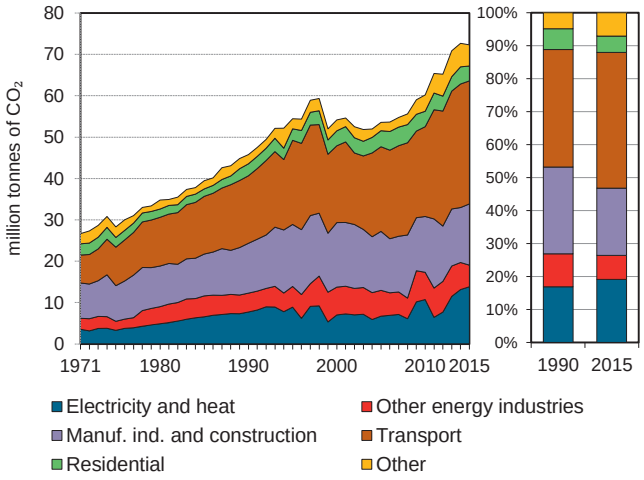


Figure 3. Electricity generation by fuel

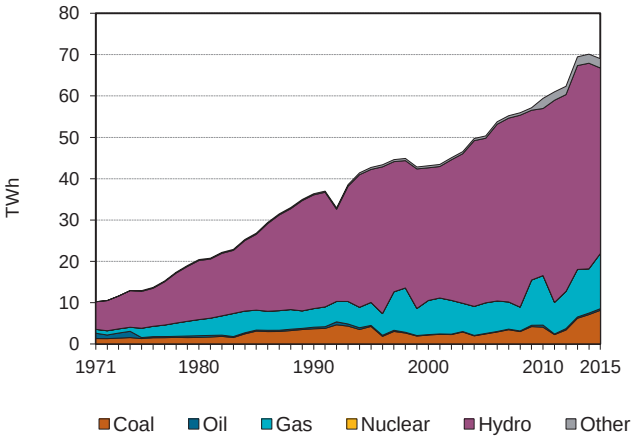


Figure 4. CO_2 from electricity generation: driving factors[1]

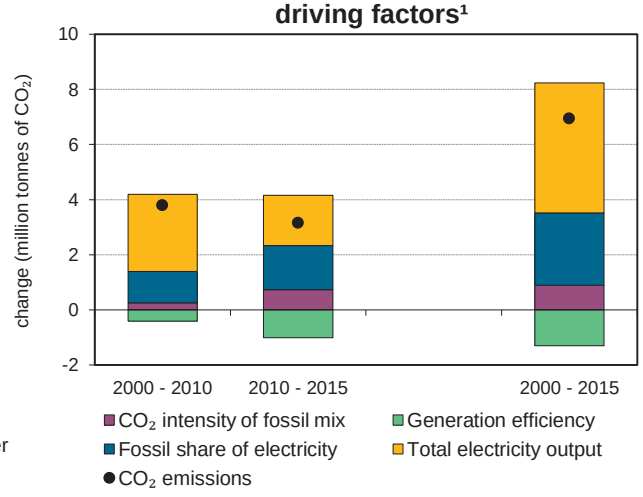


Figure 5. Changes in selected indicators

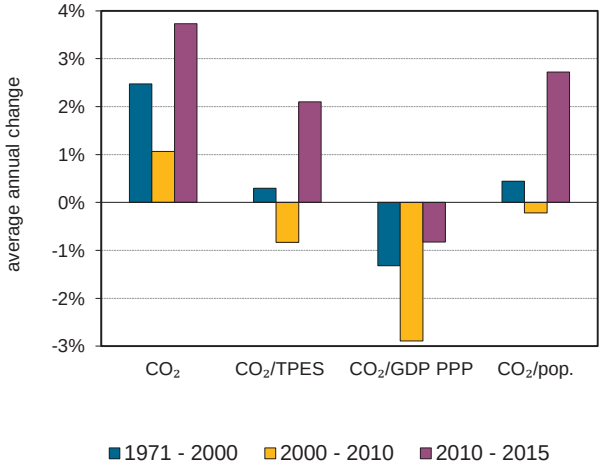
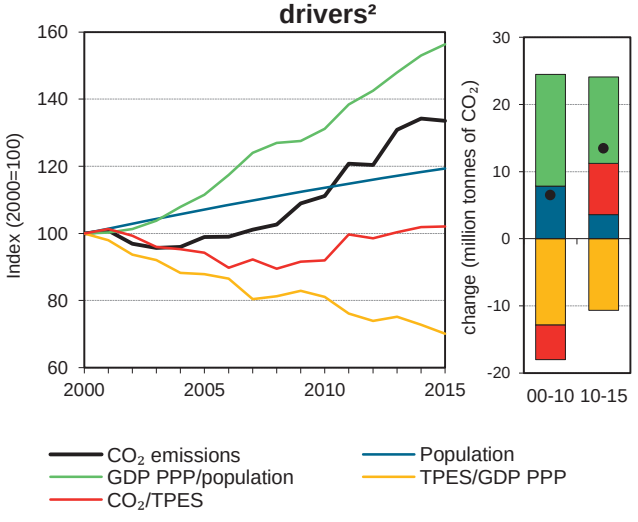


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Colombia

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	45.8	54.5	54.2	53.6	60.2	72.7	72.3	58%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	1014	1 156	1 081	1 134	1 306	1 423	1 414	39%
GDP (billion 2010 USD)	148.1	181.3	192.5	229.9	287.0	348.5	359.2	143%
GDP PPP (billion 2010 USD)	253	309.7	328.9	392.9	490.4	595.4	613.7	143%
Population (millions)	34.3	37.4	40.4	43.3	45.9	47.8	48.2	41%
CO_2 / TPES (tCO_2 per TJ)	45.1	47.1	50.1	47.2	46.1	51.1	51.1	13%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.31	0.3	0.3	0.2	0.2	0.2	0.2	-35%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.18	0.2	0.2	0.1	0.1	0.1	0.1	-35%
CO_2 / population (tCO_2 per capita)	1.3	1.5	1.3	1.2	1.3	1.5	1.5	12%
Share of electricity output from fossil fuels	24%	24%	24%	20%	28%	26%	32%	
CO_2 / kWh of electricity (gCO_2/kWh)	213	208	163	133	181	188	200	-6%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	119	118	117	132	159	158	58%
Population index	100	109	118	126	134	139	141	41%
GDP PPP per population index	100	112	110	123	145	169	172	72%
Energy intensity index - TPES / GDP PPP	100	93	82	72	66	60	57	-43%
Carbon intensity index - CO_2 / TPES	100	104	111	105	102	113	113	13%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**14.7**	**38.4**	**19.2**	**-**	**72.3**	**58%**
Electricity and heat generation	7.8	0.4	5.7	-	13.8	79%
Other energy industry own use	0.0	1.7	3.5	-	5.2	15%
Manufacturing industries and construction	6.5	2.5	5.7	-	14.8	23%
Transport	0.0	28.3	1.4	-	29.7	82%
of which: road	-	*27.1*	*1.4*	-	*28.6*	81%
Other	0.3	5.5	2.9	-	8.7	70%
of which: residential	*0.3*	*1.1*	*2.2*	-	*3.6*	24%
of which: services	-	*0.6*	*0.8*	-	*1.4*	78%
Memo: international marine bunkers	-	*2.6*	-	-	*2.6*	*678%*
Memo: international aviation bunkers	-	*2.2*	-	-	*2.2*	*40%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	27.1	71.5	15.4	15.4
Main activity prod. elec. and heat - coal	7.1	167.3	4.0	19.4
Manufacturing industries - coal	6.5	10.1	3.7	23.1
Manufacturing industries - gas	5.7	207.2	3.2	26.4
Main activity prod. elec. and heat - gas	5.6	92.2	3.2	29.5
Non-specified other - oil	4.4	99.2	2.5	32.0
Other energy industry own use - gas	3.5	39.0	2.0	34.0
Manufacturing industries - oil	2.5	-40.4	1.4	35.4
Residential - gas	2.2	910.2	1.2	36.6
Memo: total CO_2 from fuel combustion	*72.3*	*58.0*	*41.0*	*41.0*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Republic of the Congo

Figure 1. CO_2 emissions by fuel

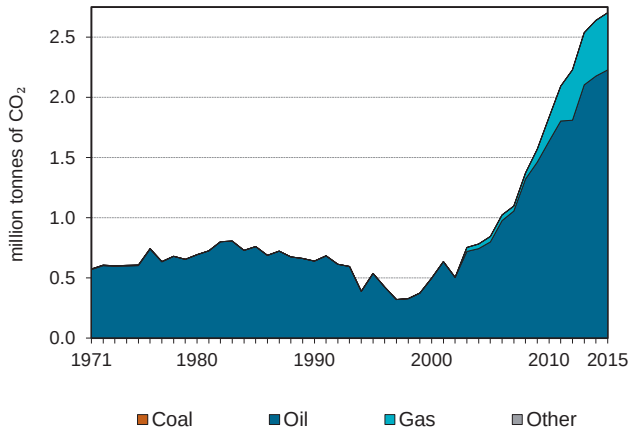


Figure 2. CO_2 emissions by sector

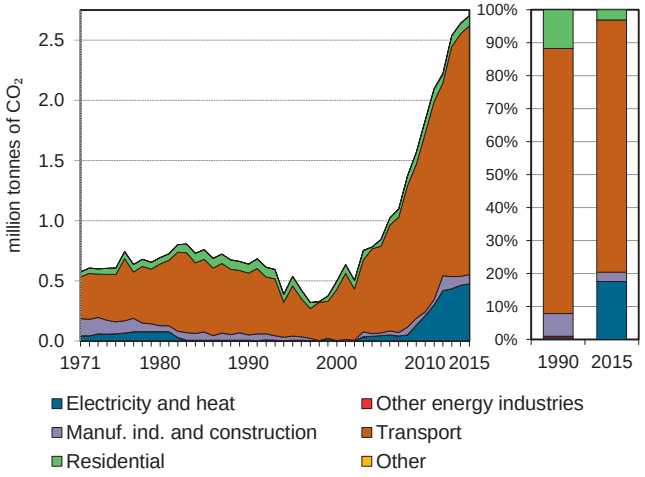


Figure 3. Electricity generation by fuel

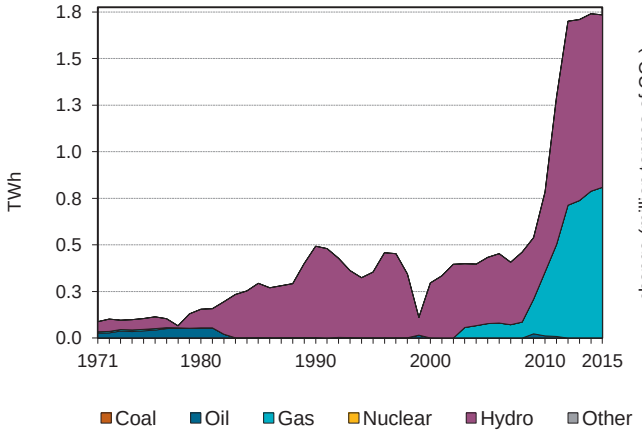


Figure 4. CO_2 from electricity generation: driving factors[1]

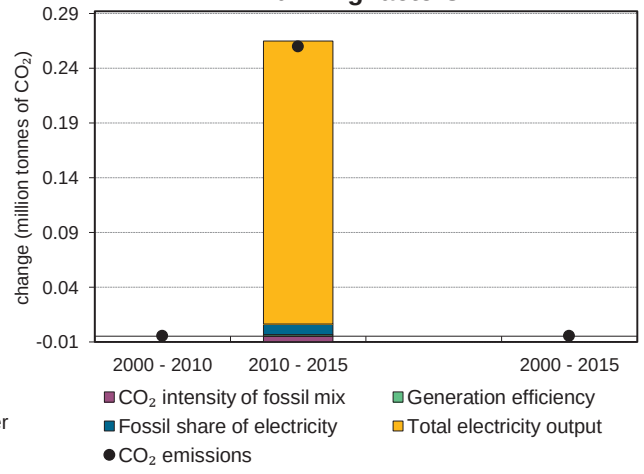


Figure 5. Changes in selected indicators

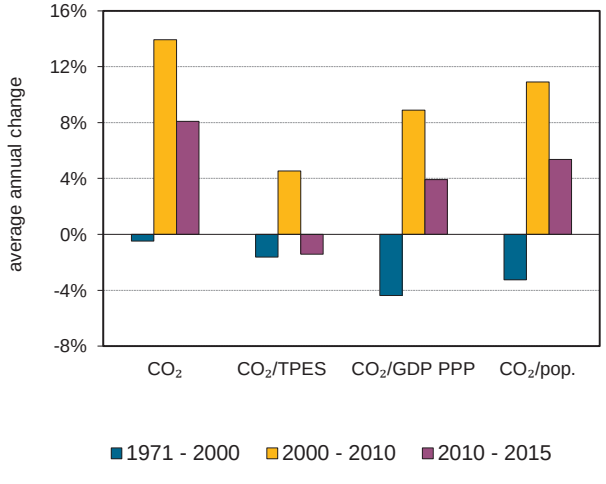
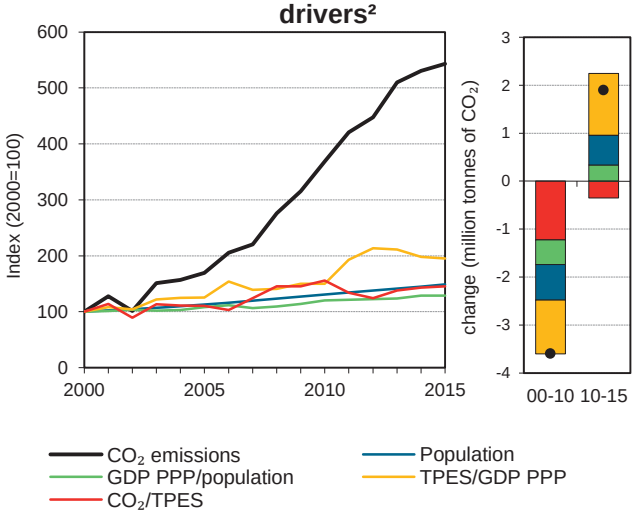


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Republic of the Congo

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	0.6	0.5	0.5	0.8	1.8	2.6	2.7	323%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	33	34	30	46	70	110	111	237%
GDP (billion 2010 USD)	6.6	6.8	7.6	9.3	12.0	14.2	14.6	121%
GDP PPP (billion 2010 USD)	12.3	12.6	14.2	17.3	22.3	26.4	27.1	121%
Population (millions)	2.4	2.7	3.1	3.5	4.1	4.5	4.6	94%
CO_2 / TPES (tCO_2 per TJ)	19.4	15.9	16.7	18.5	26.1	24.0	24.3	25%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.1	0.1	0.1	0.1	0.2	0.2	0.2	92%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.05	0.0	0.0	0.0	0.1	0.1	0.1	92%
CO_2 / population (tCO_2 per capita)	0.3	0.2	0.2	0.2	0.5	0.6	0.6	119%
Share of electricity output from fossil fuels	1%	1%	0%	18%	45%	45%	47%	
CO_2 / kWh of electricity (gCO_2/kWh)	7	9	-	104	269	266	274	4112%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	84	78	132	287	413	423	323%
Population index	100	114	130	147	170	189	194	94%
GDP PPP per population index	100	90	88	96	106	114	114	14%
Energy intensity index - TPES / GDP PPP	100	100	78	98	117	155	153	53%
Carbon intensity index - CO_2 / TPES	100	82	86	96	135	124	125	25%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**2.2**	**0.5**	**-**	**2.7**	**323%**
Electricity and heat generation	-	-	0.5	-	0.5	+
Other energy industry own use	-	-	-	-	-	-100%
Manufacturing industries and construction	-	0.1	-	-	0.1	77%
Transport	-	2.1	-	-	2.1	302%
of which: road	-	*1.7*	-	-	*1.7*	240%
Other	-	0.1	-	-	0.1	12%
of which: residential	-	*0.1*	-	-	*0.1*	12%
of which: services	-	-	-	-	-	-
Memo: international marine bunkers	-	..	-	-	..	..
Memo: international aviation bunkers	-	*0.1*	-	-	*0.1*	*75%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	1.7	240.3	3.3	3.3
Unallocated autoproducers - gas	0.5	x	0.9	4.2
Other transport - oil	0.4	+	0.8	5.0
Residential - oil	0.1	11.7	0.2	5.1
Manufacturing industries - oil	0.1	76.8	0.2	5.3
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*2.7*	*323.1*	*5.3*	*5.3*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Costa Rica

Figure 1. CO_2 emissions by fuel

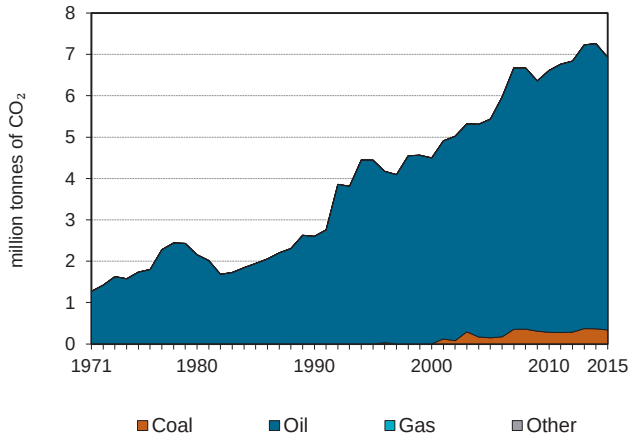


Figure 2. CO_2 emissions by sector

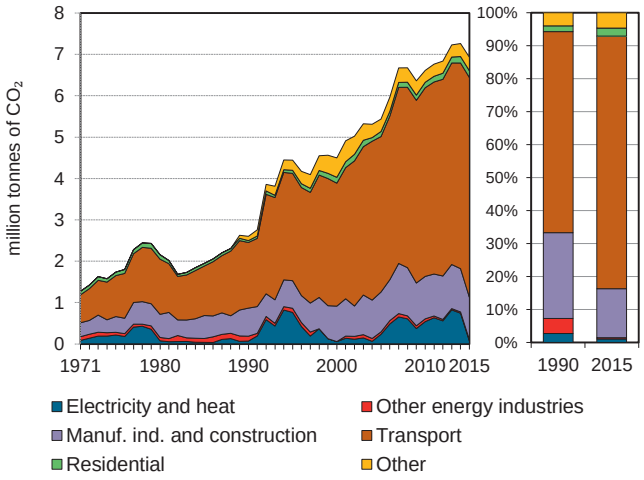


Figure 3. Electricity generation by fuel

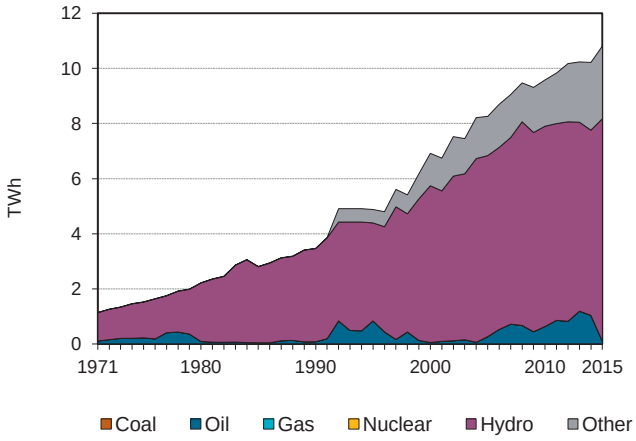


Figure 4. CO_2 from electricity generation: driving factors[1]

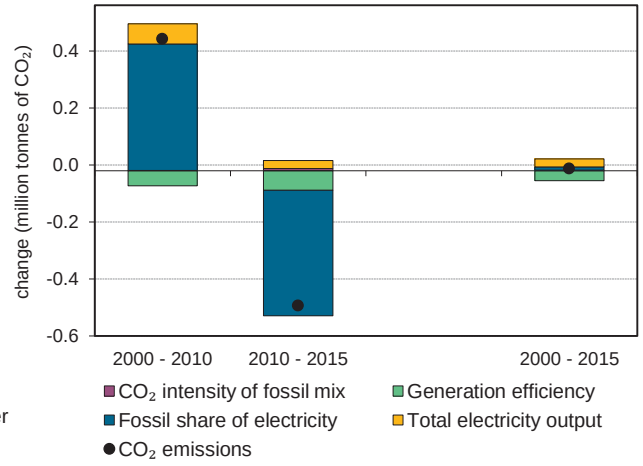


Figure 5. Changes in selected indicators

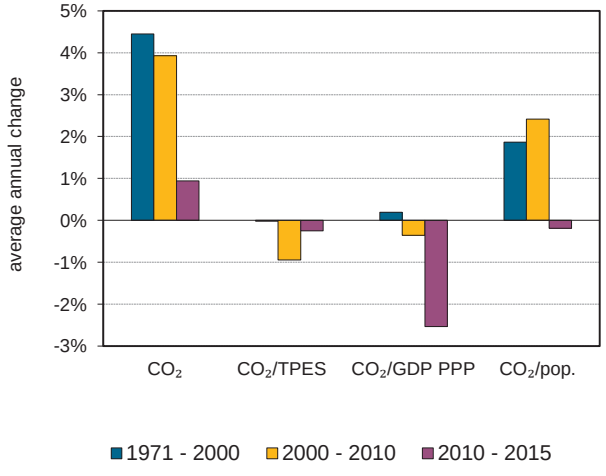
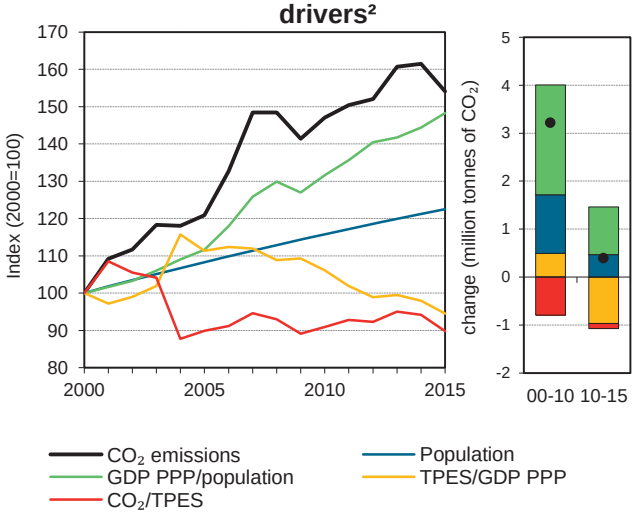


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Costa Rica

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	2.6	4.4	4.5	5.4	6.6	7.3	6.9	166%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	70	99	120	162	195	206	206	194%
GDP (billion 2010 USD)	15.2	19.8	24.5	29.5	37.3	42.8	44.4	192%
GDP PPP (billion 2010 USD)	23	30.0	37.0	44.7	56.4	64.8	67.2	192%
Population (millions)	3.1	3.5	3.9	4.2	4.5	4.8	4.8	55%
CO_2 / TPES (tCO_2 per TJ)	37.1	45.0	37.4	33.6	34.0	35.2	33.6	-9%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.17	0.2	0.2	0.2	0.2	0.2	0.2	-9%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.11	0.1	0.1	0.1	0.1	0.1	0.1	-9%
CO_2 / population (tCO_2 per capita)	0.8	1.3	1.1	1.3	1.5	1.5	1.4	71%
Share of electricity output from fossil fuels	2%	17%	1%	3%	7%	10%	1%	
CO_2 / kWh of electricity (gCO_2/kWh)	20	156	8	28	56	73	7	-67%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	171	173	209	254	279	266	166%
Population index	100	113	127	137	147	154	155	55%
GDP PPP per population index	100	115	127	142	167	183	188	88%
Energy intensity index - TPES / GDP PPP	100	108	107	119	113	104	101	1%
Carbon intensity index - CO_2 / TPES	100	121	101	91	92	95	91	-9%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**0.3**	**6.6**	**-**	**-**	**6.9**	**166%**
Electricity and heat generation	-	0.1	-	-	0.1	2%
Other energy industry own use	-	0.0	-	-	0.0	-74%
Manufacturing industries and construction	0.3	0.7	-	-	1.0	51%
Transport	-	5.3	-	-	5.3	235%
of which: road	-	*5.3*	-	-	*5.3*	783%
Other	-	0.5	-	-	0.5	228%
of which: residential	-	*0.2*	-	-	*0.2*	264%
of which: services	-	*0.1*	-	-	*0.1*	30%
Memo: international marine bunkers	-	*0.0*	-	-	*0.0*	*-99%*
Memo: international aviation bunkers	-	*0.5*	-	-	*0.5*	+

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	5.3	783.3	37.6	37.6
Manufacturing industries - oil	0.7	1.5	4.9	42.5
Manufacturing industries - coal	0.3	x	2.4	44.9
Non-specified other - oil	0.3	212.8	2.3	47.2
Residential - oil	0.2	264.4	1.2	48.4
Main activity prod. elec. and heat - oil	0.1	73.8	0.5	48.9
Other energy industry own use - oil	0.0	-73.7	0.2	49.1
Other transport - oil	0.0	-98.1	0.1	49.2
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*6.9*	*166.3*	*49.2*	*49.2*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Côte d'Ivoire

Figure 1. CO_2 emissions by fuel

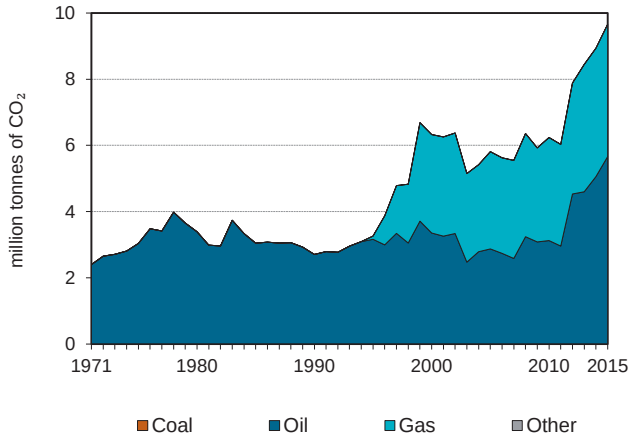


Figure 2. CO_2 emissions by sector

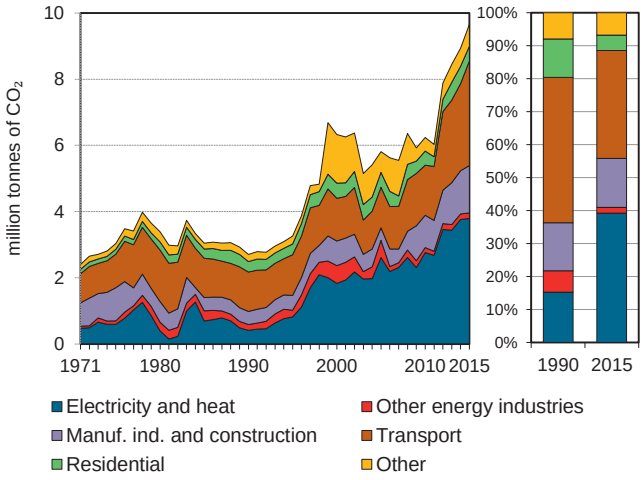


Figure 3. Electricity generation by fuel

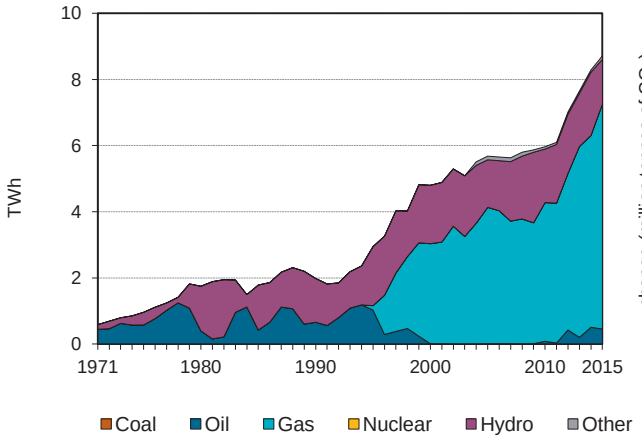


Figure 4. CO_2 from electricity generation: driving factors[1]

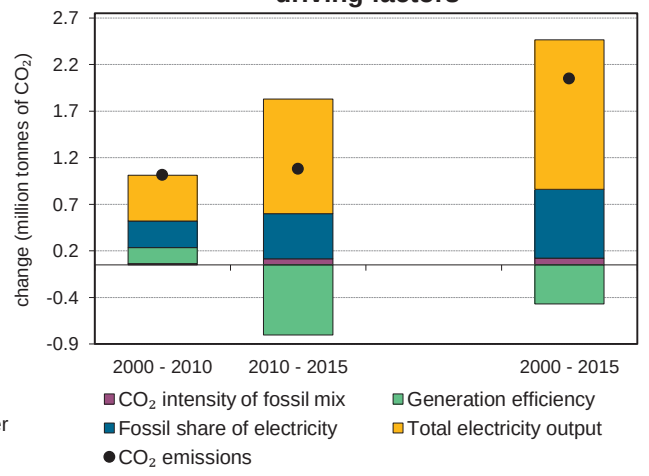


Figure 5. Changes in selected indicators

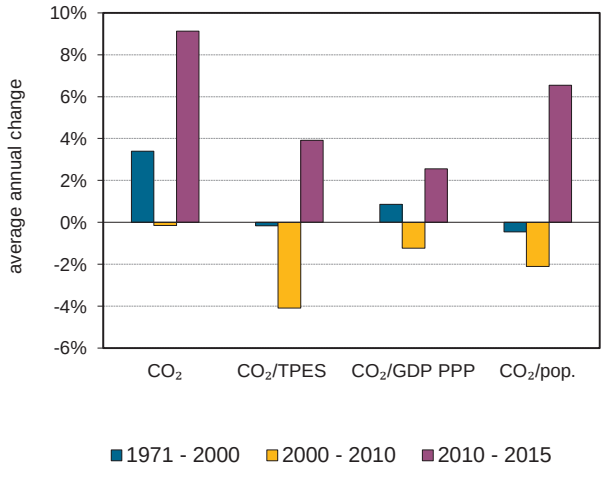
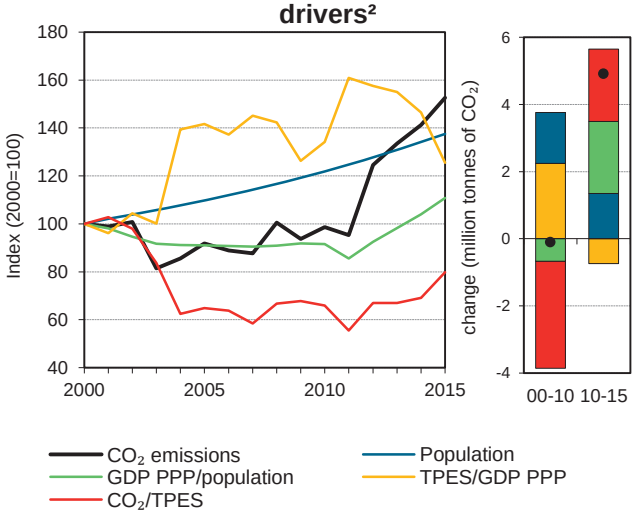


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Côte d'Ivoire

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	2.7	3.3	6.3	5.8	6.2	8.9	9.7	257%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	182	216	284	403	425	581	544	199%
GDP (billion 2010 USD)	17.8	19.1	22.3	22.3	24.9	31.1	34.0	91%
GDP PPP (billion 2010 USD)	38.4	41.3	48.2	48.2	53.8	67.2	73.4	91%
Population (millions)	12.2	14.4	16.5	18.1	20.1	22.2	22.7	87%
CO_2 / TPES (tCO_2 per TJ)	14.9	15.1	22.3	14.4	14.7	15.4	17.8	20%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.15	0.2	0.3	0.3	0.3	0.3	0.3	87%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.07	0.1	0.1	0.1	0.1	0.1	0.1	87%
CO_2 / population (tCO_2 per capita)	0.2	0.2	0.4	0.3	0.3	0.4	0.4	91%
Share of electricity output from fossil fuels	33%	39%	63%	73%	72%	76%	83%	
CO_2 / kWh of electricity (gCO_2/kWh)	208	278	381	460	463	454	435	110%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	121	234	215	231	330	357	257%
Population index	100	118	136	149	165	182	187	87%
GDP PPP per population index	100	91	92	84	85	96	102	2%
Energy intensity index - TPES / GDP PPP	100	110	124	176	167	182	156	56%
Carbon intensity index - CO_2 / TPES	100	102	150	97	99	103	120	20%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**5.7**	**4.0**	**-**	**9.7**	**257%**
Electricity and heat generation	-	0.4	3.4	-	3.8	821%
Other energy industry own use	-	0.2	-	-	0.2	-4%
Manufacturing industries and construction	-	0.8	0.6	-	1.4	262%
Transport	-	3.2	-	-	3.2	165%
of which: road	-	*2.8*	-	-	*2.8*	171%
Other	-	1.1	-	-	1.1	109%
of which: residential	-	*0.4*	-	-	*0.4*	42%
of which: services	-	*0.3*	-	-	*0.3*	312%
Memo: international marine bunkers	-	*0.2*	-	-	*0.2*	*89%*
Memo: international aviation bunkers	-	*0.4*	-	-	*0.4*	*49%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - gas	3.4	x	5.4	5.4
Road - oil	2.8	171.5	4.5	9.9
Manufacturing industries - oil	0.8	113.4	1.3	11.3
Non-specified other - oil	0.7	207.2	1.1	12.3
Manufacturing industries - gas	0.6	x	0.9	13.2
Residential - oil	0.4	41.5	0.7	14.0
Main activity prod. elec. and heat - oil	0.4	-5.5	0.6	14.6
Other transport - oil	0.4	124.9	0.6	15.1
Other energy industry own use - oil	0.2	-4.2	0.3	15.4
Memo: total CO_2 from fuel combustion	*9.7*	*257.1*	*15.4*	*15.4*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Croatia

Figure 1. CO_2 emissions by fuel

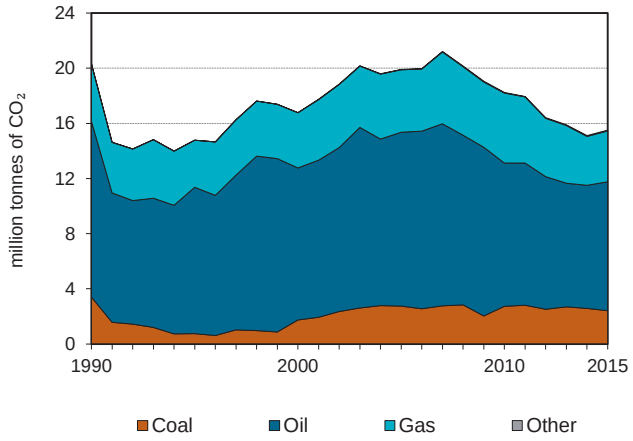


Figure 2. CO_2 emissions by sector

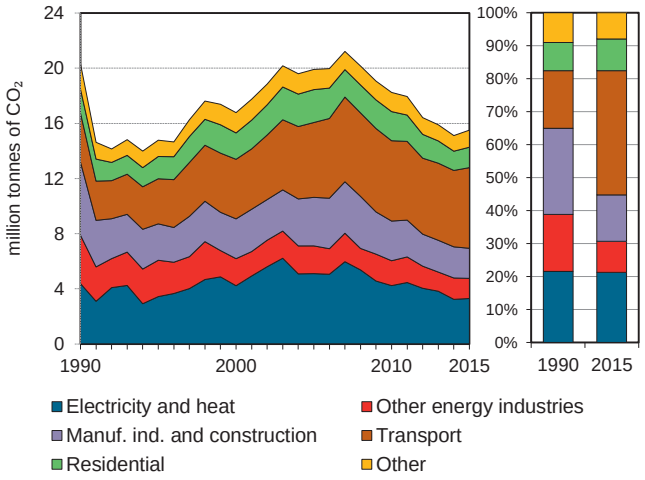


Figure 3. Electricity generation by fuel

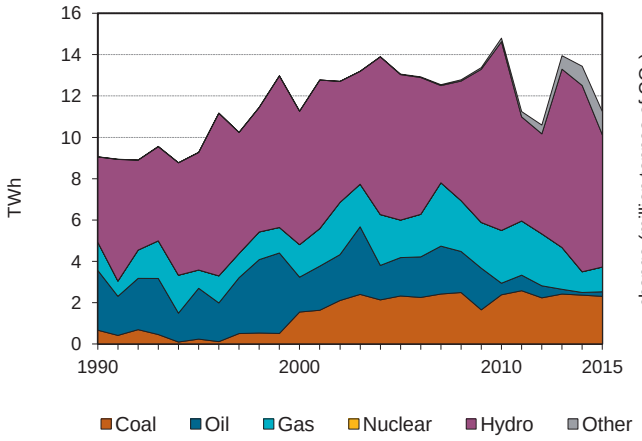


Figure 4. CO_2 from electricity generation: driving factors[1]

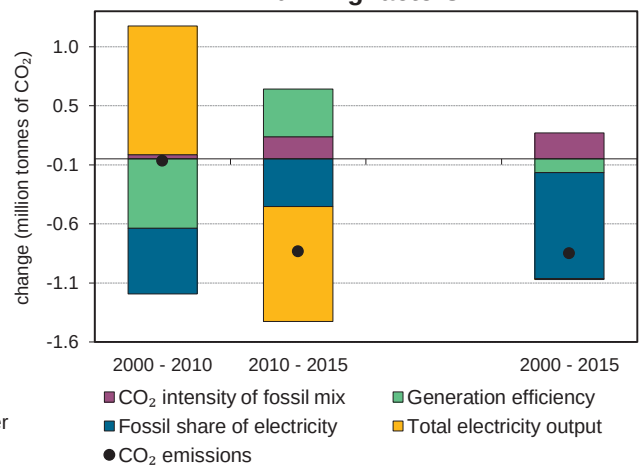


Figure 5. Changes in selected indicators

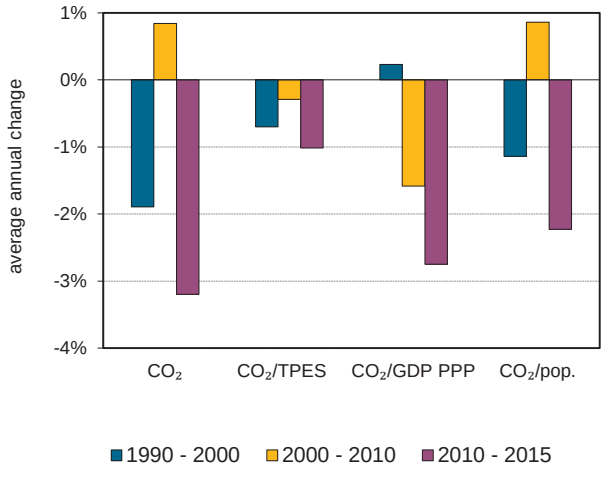
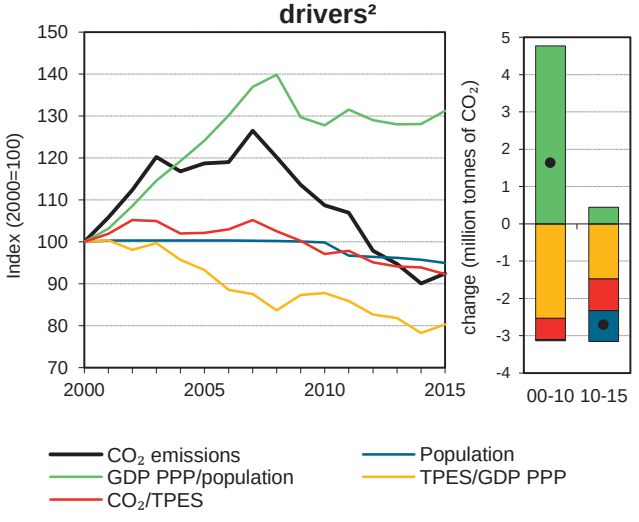


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Croatia

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	20.3	14.8	16.8	19.9	18.2	15.1	15.5	-24%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	396	327	351	408	393	337	352	-11%
GDP (billion 2010 USD)	58	39.6	46.8	58.3	59.7	57.4	58.3	1%
GDP PPP (billion 2010 USD)	81.5	55.6	65.8	81.9	83.9	80.6	82.0	1%
Population (millions)	4.8	4.7	4.4	4.4	4.4	4.2	4.2	-12%
CO_2 / TPES (tCO_2 per TJ)	51.3	45.2	47.8	48.8	46.4	44.9	44.1	-14%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.35	0.4	0.4	0.3	0.3	0.3	0.3	-24%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.25	0.3	0.3	0.2	0.2	0.2	0.2	-24%
CO_2 / population (tCO_2 per capita)	4.3	3.2	3.8	4.5	4.1	3.6	3.7	-13%
Share of electricity output from fossil fuels	54%	39%	43%	46%	37%	26%	33%	
CO_2 / kWh of electricity (gCO_2/kWh)	369	254	301	317	227	193	233	-37%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	73	83	98	90	74	76	-24%
Population index	100	98	93	93	92	89	88	-12%
GDP PPP per population index	100	70	87	108	111	112	114	14%
Energy intensity index - TPES / GDP PPP	100	121	110	102	96	86	88	-12%
Carbon intensity index - CO_2 / TPES	100	88	93	95	91	88	86	-14%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**2.4**	**9.3**	**3.7**	**0.1**	**15.5**	**-24%**
Electricity and heat generation	2.1	0.2	1.0	-	3.3	-25%
Other energy industry own use	-	1.1	0.4	-	1.5	-58%
Manufacturing industries and construction	0.3	1.0	0.8	0.1	2.2	-59%
Transport	-	5.8	0.0	-	5.8	64%
of which: road	-	*5.6*	*0.0*	-	*5.6*	77%
Other	0.0	1.2	1.5	-	2.7	-24%
of which: residential	*0.0*	*0.4*	*1.0*	-	*1.5*	-15%
of which: services	*0.0*	*0.2*	*0.4*	-	*0.6*	8%
Memo: international marine bunkers	-	..	-	-	..	..
Memo: international aviation bunkers	-	*0.3*	-	-	*0.3*	*-30%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	5.6	76.9	24.0	24.0
Main activity prod. elec. and heat - coal	2.1	231.9	8.8	32.8
Other energy industry own use - oil	1.1	-54.1	4.5	37.4
Residential - gas	1.0	173.2	4.5	41.9
Manufacturing industries - oil	1.0	-49.1	4.3	46.2
Main activity prod. elec. and heat - gas	0.9	-15.5	3.9	50.0
Manufacturing industries - gas	0.8	-45.3	3.4	53.5
Non-specified other - oil	0.8	-48.1	3.4	56.9
Non-specified other - gas	0.4	133.5	1.9	58.7
Memo: total CO_2 from fuel combustion	*15.5*	*-23.7*	*66.2*	*66.2*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Cuba

Figure 1. CO_2 emissions by fuel

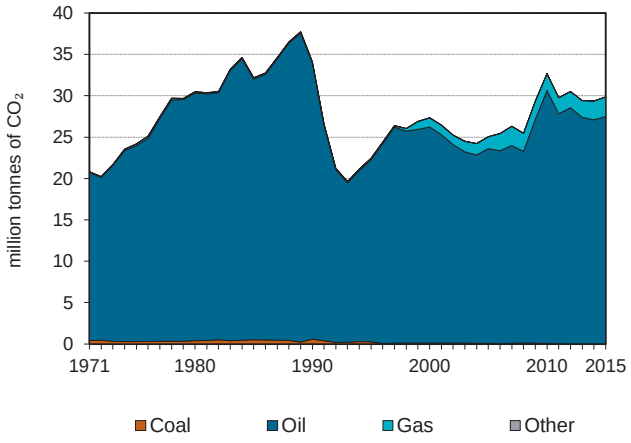


Figure 2. CO_2 emissions by sector

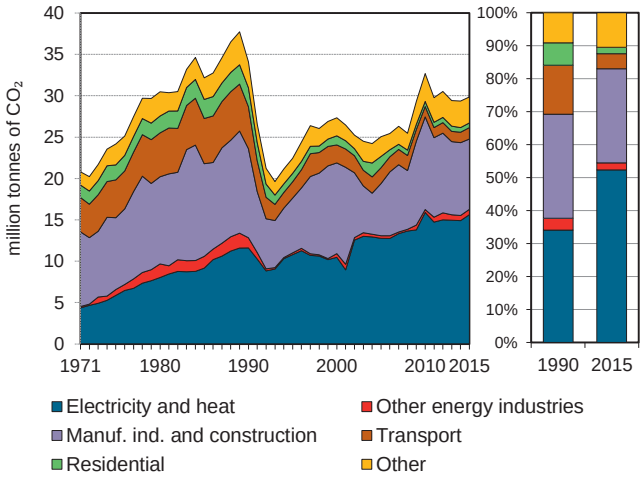


Figure 3. Electricity generation by fuel

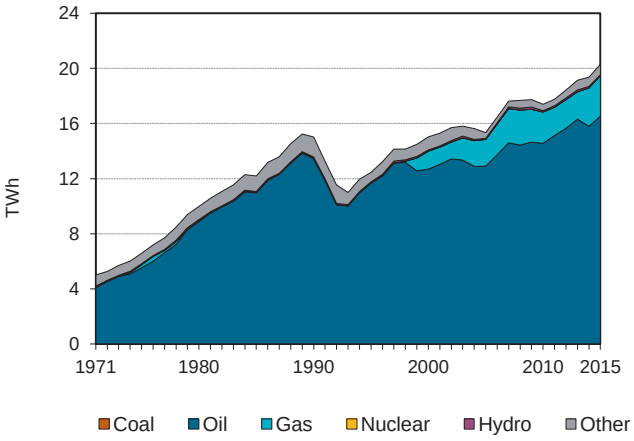


Figure 4. CO_2 from electricity generation: driving factors[1]

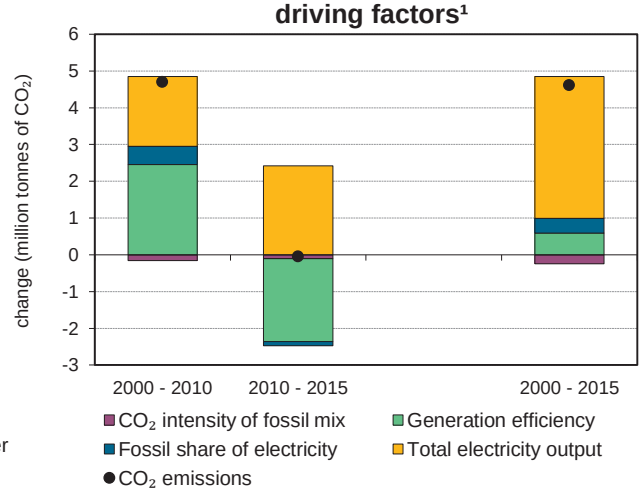


Figure 5. Changes in selected indicators

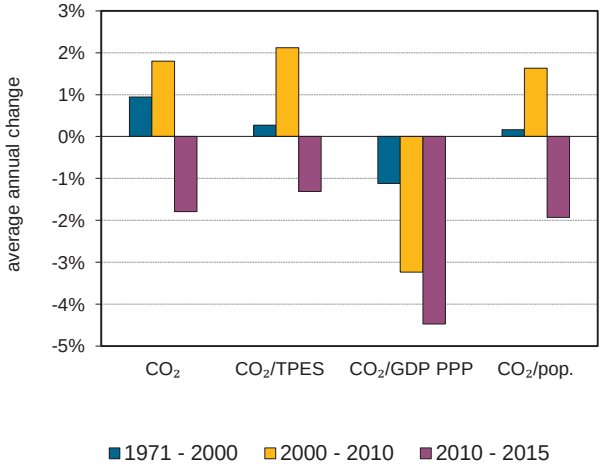
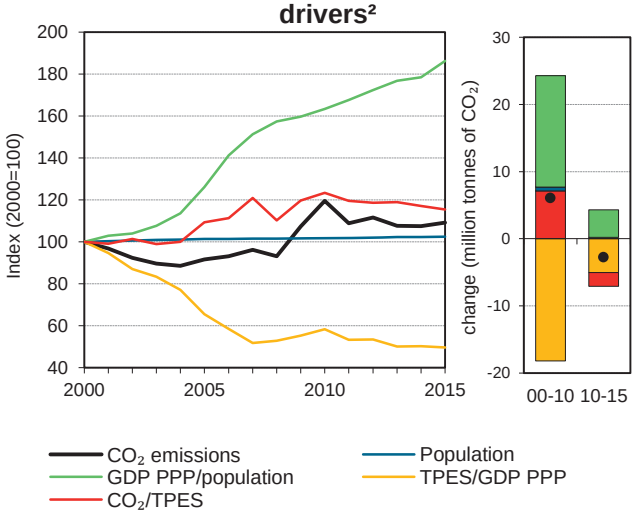


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Cuba

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	34.1	22.4	27.3	25.0	32.7	29.4	29.9	-12%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	729	455	533	447	517	489	504	-31%
GDP (billion 2010 USD)	44.7	31.0	38.7	49.5	64.3	70.7	73.9	65%
GDP PPP (billion 2010 USD)	142	98.5	123.0	157.1	204.2	224.6	234.5	65%
Population (millions)	10.6	10.9	11.1	11.3	11.3	11.4	11.4	8%
CO_2 / TPES (tCO_2 per TJ)	46.8	49.4	51.3	56.1	63.2	60.0	59.2	27%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.76	0.7	0.7	0.5	0.5	0.4	0.4	-47%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.24	0.2	0.2	0.2	0.2	0.1	0.1	-47%
CO_2 / population (tCO_2 per capita)	3.2	2.1	2.5	2.2	2.9	2.6	2.6	-19%
Share of electricity output from fossil fuels	90%	94%	93%	97%	97%	96%	96%	
CO_2 / kWh of electricity (gCO_2/kWh)	773	867	697	832	914	770	770	0%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	66	80	73	96	86	88	-12%
Population index	100	103	105	106	107	108	108	8%
GDP PPP per population index	100	67	82	104	135	147	153	53%
Energy intensity index - TPES / GDP PPP	100	90	84	55	49	42	42	-58%
Carbon intensity index - CO_2 / TPES	100	105	110	120	135	128	127	27%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**0.0**	**27.5**	**2.4**	**-**	**29.9**	**-12%**
Electricity and heat generation	-	14.1	1.5	-	15.6	35%
Other energy industry own use	-	0.6	-	-	0.6	-48%
Manufacturing industries and construction	0.0	7.7	0.7	-	8.5	-21%
Transport	-	1.4	-	-	1.4	-73%
of which: road	-	*1.3*	-	-	*1.3*	-70%
Other	-	3.6	0.1	-	3.7	-32%
of which: residential	-	*0.5*	*0.1*	-	*0.6*	-75%
of which: services	-	*0.0*	-	-	*0.0*	x
Memo: international marine bunkers	-	*2.3*	-	-	*2.3*	+
Memo: international aviation bunkers	-	*0.4*	-	-	*0.4*	*-65%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - oil	13.9	30.2	25.1	25.1
Manufacturing industries - oil	7.7	-23.9	14.0	39.1
Non-specified other - oil	3.1	1.3	5.7	44.8
Main activity prod. elec. and heat - gas	1.5	+	2.7	47.5
Road - oil	1.3	-69.8	2.4	49.9
Manufacturing industries - gas	0.7	+	1.3	51.2
Other energy industry own use - oil	0.6	-47.5	1.2	52.4
Residential - oil	0.5	-79.3	0.8	53.2
Unallocated autoproducers - oil	0.3	-72.3	0.5	53.7
Memo: total CO_2 from fuel combustion	*29.9*	*-12.4*	*54.0*	*54.0*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Curaçao [1]

Figure 1. CO_2 emissions by fuel

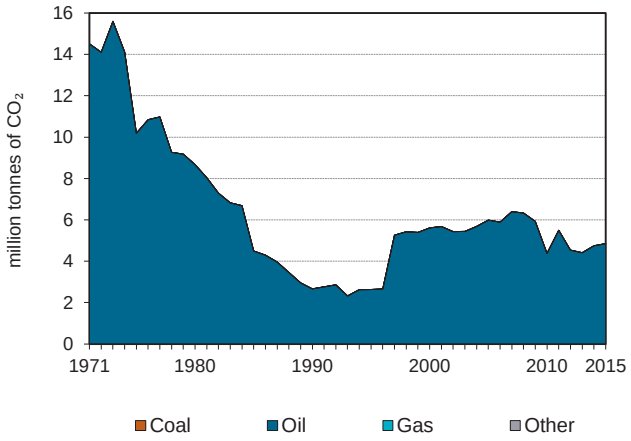


Figure 2. CO_2 emissions by sector

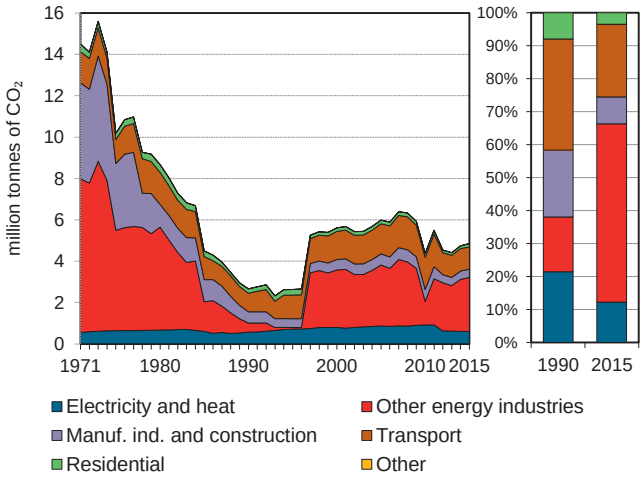


Figure 3. Electricity generation by fuel

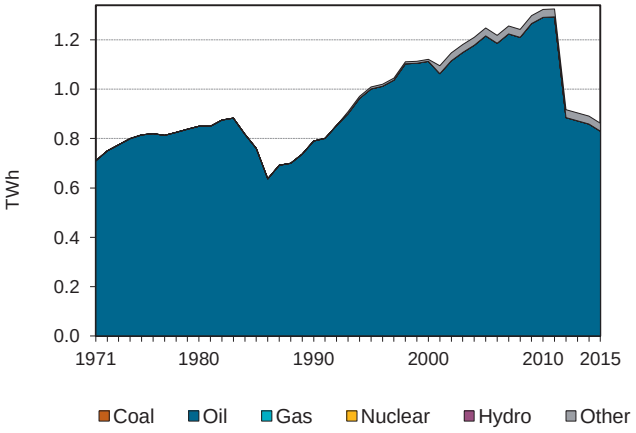


Figure 4. CO_2 from electricity generation: driving factors[2]

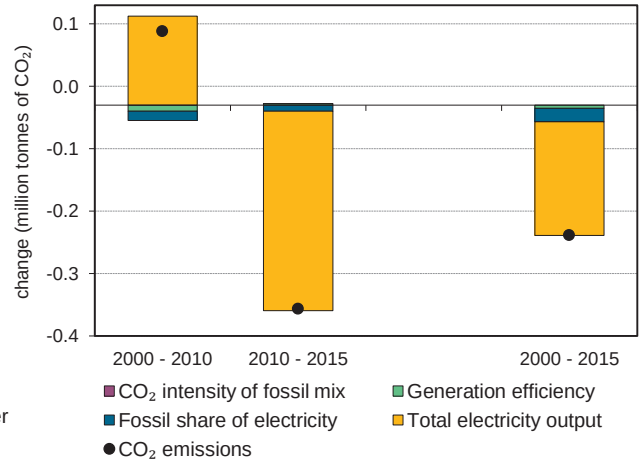


Figure 5. Changes in selected indicators

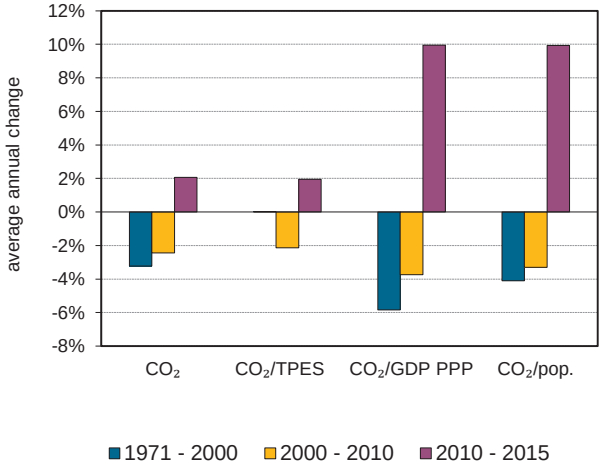
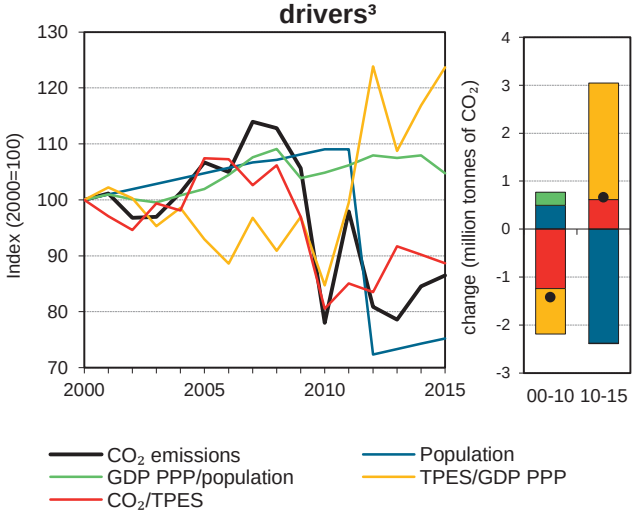


Figure 6. Total CO_2 emissions and drivers[3]



1. Please refer to the chapter Geographical Coverage in Part I.
2. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
3. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Curaçao [1]

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	2.7	2.6	5.6	6.0	4.4	4.7	4.9	82%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	61	55	88	87	85	83	86	41%
GDP (billion 2010 USD)	1.7	1.9	2.3	2.5	2.7	1.9	1.8	8%
GDP PPP (billion 2010 USD)	1.5	1.7	2.1	2.2	2.4	1.7	1.7	8%
Population (millions)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-16%
CO_2 / TPES (tCO_2 per TJ)	43.6	47.8	63.7	68.5	51.3	57.5	56.5	30%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	1.55	1.4	2.4	2.4	1.6	2.5	2.6	69%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	1.73	1.5	2.7	2.7	1.8	2.8	2.9	69%
CO_2 / population (tCO_2 per capita)	14.1	13.2	26.7	27.2	19.1	30.4	30.7	118%
Share of electricity output from fossil fuels	100%	99%	99%	97%	98%	96%	96%	
CO_2 / kWh of electricity (gCO_2/kWh)	724	715	716	698	696	688	689	-5%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [2]								
CO_2 emissions index	100	99	211	225	164	178	182	82%
Population index	100	105	111	116	121	83	84	-16%
GDP PPP per population index	100	106	123	125	129	133	129	29%
Energy intensity index - TPES / GDP PPP	100	80	106	98	90	124	131	31%
Carbon intensity index - CO_2 / TPES	100	110	146	157	118	132	130	30%

1. Please refer to the chapter Geographical Coverage in Part I. 2. Please see Part I for methodological notes.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [3]	Total	%change 90-15
CO_2 fuel combustion	**-**	**4.9**	**-**	**-**	**4.9**	**82%**
Electricity and heat generation	-	0.6	-	-	0.6	4%
Other energy industry own use	-	2.6	-	-	2.6	495%
Manufacturing industries and construction	-	0.4	-	-	0.4	-27%
Transport	-	1.1	-	-	1.1	20%
of which: road	-	*1.1*	-	-	*1.1*	20%
Other	-	0.2	-	-	0.2	-22%
of which: residential	-	*0.2*	-	-	*0.2*	-22%
of which: services	-	-	-	-	-	-
Memo: international marine bunkers	-	*5.0*	-	-	*5.0*	*-4%*
Memo: international aviation bunkers	-	*0.2*	-	-	*0.2*	*62%*

3. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[4] (%)	Cumulative total (%)
Other energy industry own use - oil	2.6	494.6	..	..
Road - oil	1.1	19.6	..	..
Manufacturing industries - oil	0.4	-27.0	..	..
Unallocated autoproducers - oil	0.3	6.4	..	..
Main activity prod. elec. and heat - oil	0.3	1.1	..	..
Residential - oil	0.2	-21.5	..	..
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*4.9*	*82.2*	..	..

4. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Cyprus [1]

Figure 1. CO_2 emissions by fuel

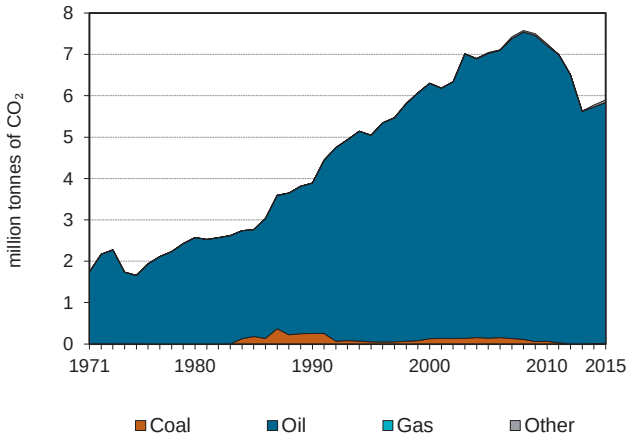


Figure 2. CO_2 emissions by sector

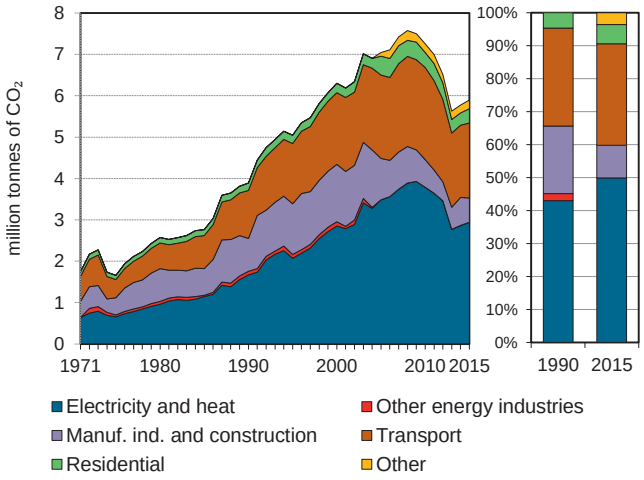


Figure 3. Electricity generation by fuel

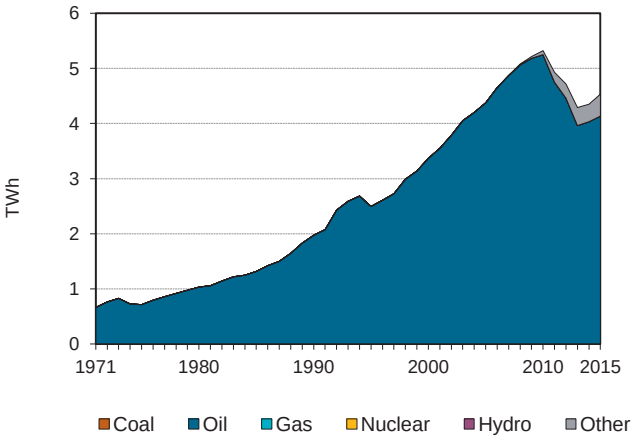


Figure 4. CO_2 from electricity generation: driving factors[2]

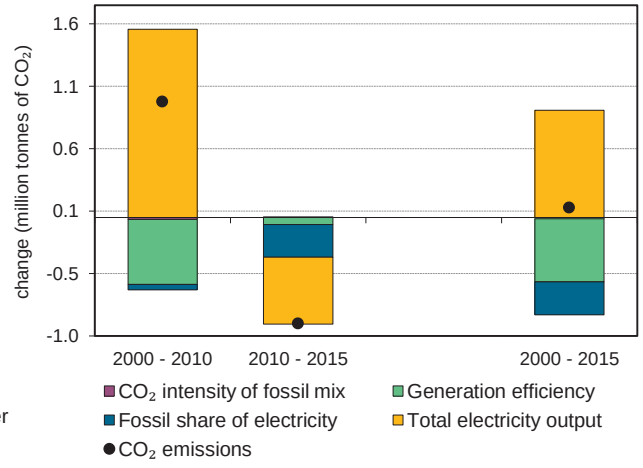


Figure 5. Changes in selected indicators

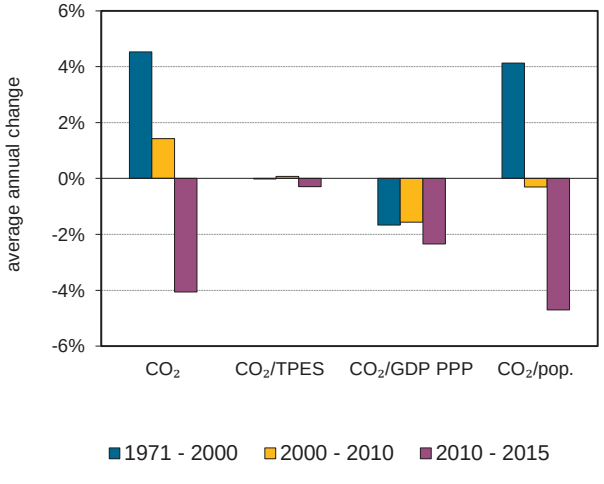
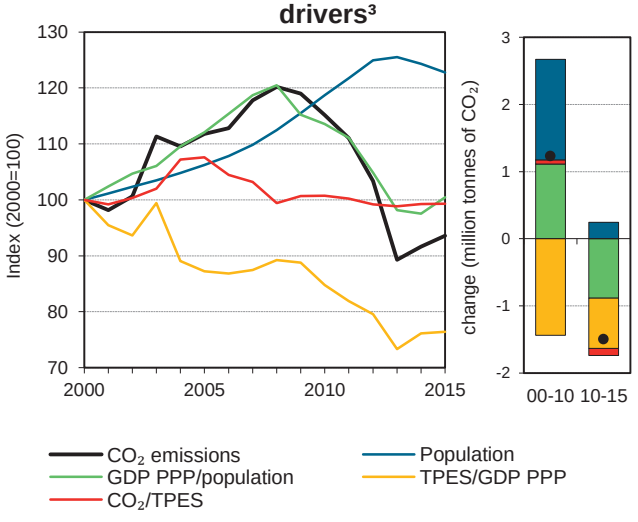


Figure 6. Total CO_2 emissions and drivers[3]



1. Please refer to the chapter Geographical Coverage in Part I.
2. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
3. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Cyprus [1]

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	3.9	5.0	6.3	7.0	7.3	5.8	5.9	52%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	57	71	89	93	102	83	84	48%
GDP (billion 2010 USD)	12.3	15.6	19.0	22.6	25.6	23.0	23.4	91%
GDP PPP (billion 2010 USD)	13.5	17.2	20.9	24.9	28.2	25.3	25.8	91%
Population (millions)	0.6	0.6	0.7	0.7	0.8	0.9	0.8	48%
CO_2 / TPES (tCO_2 per TJ)	68.1	71.1	70.4	75.8	71.0	69.9	69.9	3%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.32	0.3	0.3	0.3	0.3	0.3	0.3	-20%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.29	0.3	0.3	0.3	0.3	0.2	0.2	-20%
CO_2 / population (tCO_2 per capita)	6.8	7.8	9.1	9.6	8.9	6.7	7.0	3%
Share of electricity output from fossil fuels	100%	100%	100%	100%	99%	93%	91%	
CO_2 / kWh of electricity (gCO_2/kWh)	847	831	846	796	712	658	649	-23%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [2]								
CO_2 emissions index	100	130	162	181	187	148	152	52%
Population index	100	113	120	128	143	150	148	48%
GDP PPP per population index	100	113	128	144	146	125	129	29%
Energy intensity index - TPES / GDP PPP	100	97	101	88	86	77	77	-23%
Carbon intensity index - CO_2 / TPES	100	104	104	111	104	103	103	3%

1. Please refer to the chapter Geographical Coverage in Part I. 2. Please see Part I for methodological notes.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [3]	Total	%change 90-15
CO_2 fuel combustion	**0.0**	**5.8**	**-**	**0.1**	**5.9**	**52%**
Electricity and heat generation	-	2.9	-	-	2.9	76%
Other energy industry own use	-	-	-	-	-	-100%
Manufacturing industries and construction	0.0	0.5	-	0.1	0.6	-26%
Transport	-	1.8	-	-	1.8	56%
of which: road	-	*1.8*	-	-	*1.8*	56%
Other	-	0.6	-	-	0.6	211%
of which: residential	-	*0.3*	-	-	*0.3*	94%
of which: services	-	*0.1*	-	-	*0.1*	x
Memo: international marine bunkers	-	*0.8*	-	-	*0.8*	*320%*
Memo: international aviation bunkers	-	*0.7*	-	-	*0.7*	*-1%*

3. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[4] (%)	Cumulative total (%)
Main activity prod. elec. and heat - oil	2.9	75.7	35.1	35.1
Road - oil	1.8	56.3	21.7	56.7
Manufacturing industries - oil	0.5	-5.1	6.1	62.9
Residential - oil	0.3	93.6	4.1	67.0
Non-specified other - oil	0.2	x	2.5	69.5
Manufacturing industries -other	0.1	x	0.7	70.2
Manufacturing industries - coal	0.0	-94.3	0.2	70.4
Unallocated autoproducers - oil	0.0	x	0.1	70.5
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*5.9*	*51.6*	*70.5*	*70.5*

4. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Czech Republic

Figure 1. CO_2 emissions by fuel

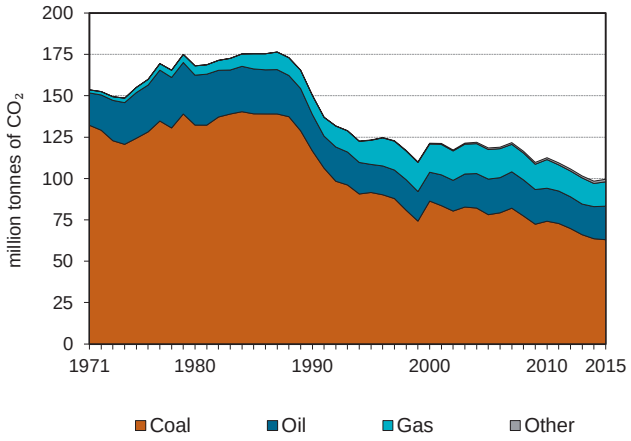


Figure 2. CO_2 emissions by sector

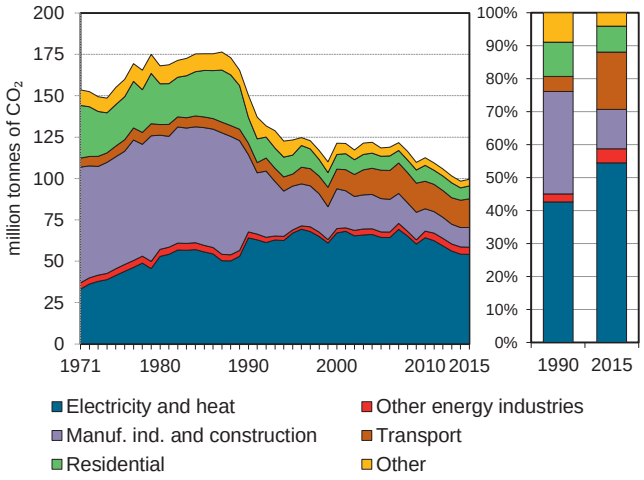


Figure 3. Electricity generation by fuel

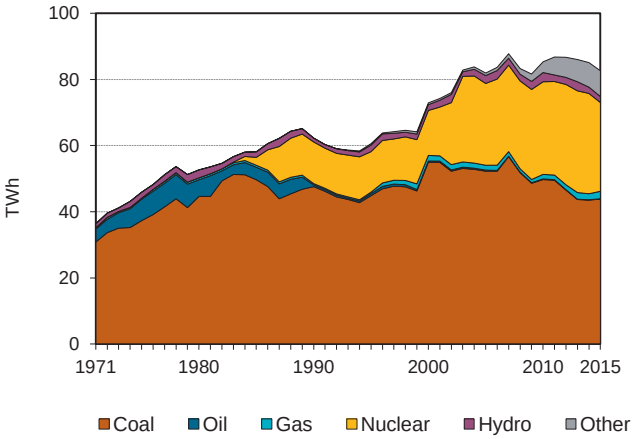


Figure 4. CO_2 from electricity generation: driving factors[1]

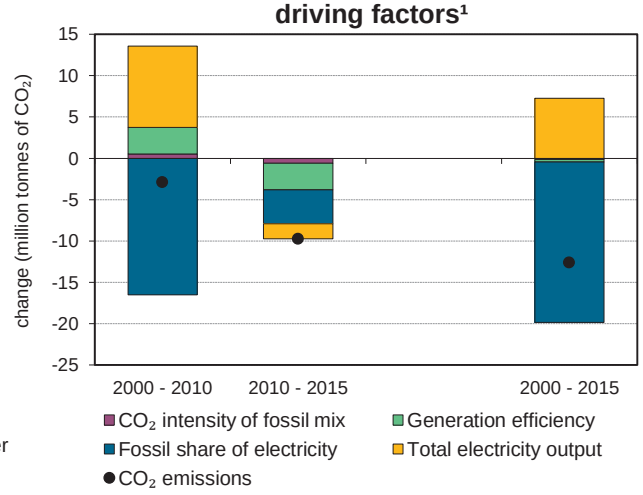


Figure 5. Changes in selected indicators

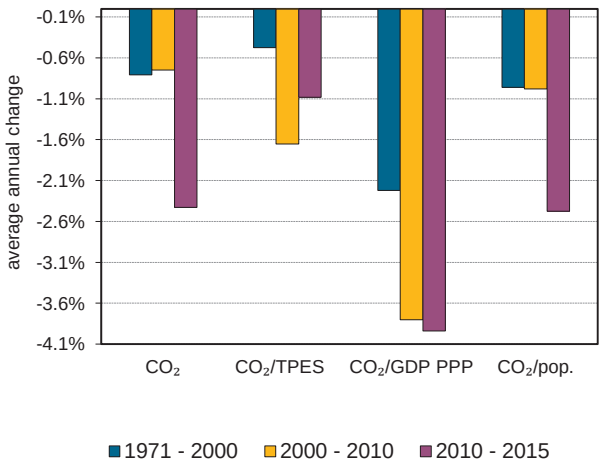
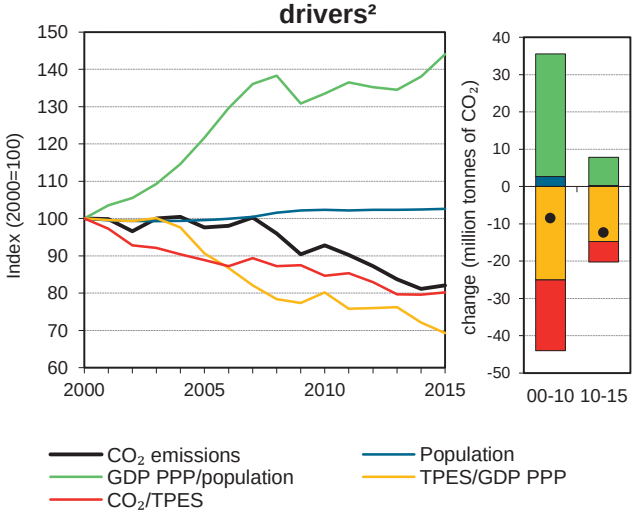


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Czech Republic

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	150.3	123.3	121.3	118.5	112.6	98.4	99.6	-34%
Share of World CO_2 from fuel combustion	1%	1%	1%	0%	0%	0%	0%	
TPES (PJ)	2085	1 748	1 724	1 894	1 889	1 757	1 765	-15%
GDP (billion 2010 USD)	144.1	138.6	151.4	183.6	207.0	214.1	223.8	55%
GDP PPP (billion 2010 USD)	201.7	194.0	211.9	256.9	289.7	299.7	313.3	55%
Population (millions)	10.4	10.3	10.3	10.2	10.5	10.5	10.5	2%
CO_2 / TPES (tCO_2 per TJ)	72.1	70.5	70.4	62.5	59.6	56.0	56.4	-22%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	1.04	0.9	0.8	0.6	0.5	0.5	0.4	-57%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.75	0.6	0.6	0.5	0.4	0.3	0.3	-57%
CO_2 / population (tCO_2 per capita)	14.5	11.9	11.8	11.6	10.7	9.3	9.4	-35%
Share of electricity output from fossil fuels	78%	76%	78%	66%	60%	54%	56%	
CO_2 / kWh of electricity (gCO_2/kWh)	760	811	731	625	585	509	521	-31%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	82	81	79	75	65	66	-34%
Population index	100	100	99	99	101	102	102	2%
GDP PPP per population index	100	96	106	129	142	146	153	53%
Energy intensity index - TPES / GDP PPP	100	87	79	71	63	57	55	-45%
Carbon intensity index - CO_2 / TPES	100	98	98	87	83	78	78	-22%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**63.0**	**20.3**	**14.7**	**1.5**	**99.6**	**-34%**
Electricity and heat generation	51.1	0.1	2.7	0.3	54.2	-16%
Other energy industry own use	3.4	0.7	0.2	-	4.3	21%
Manufacturing industries and construction	4.9	0.9	4.9	1.1	11.9	-75%
Transport	0.0	17.2	0.2	-	17.3	149%
of which: road	-	*16.8*	*0.1*	-	*16.8*	142%
Other	3.6	1.3	6.8	0.2	11.8	-59%
of which: residential	*3.5*	*0.1*	*4.2*	-	*7.8*	-50%
of which: services	*0.1*	*0.1*	*2.3*	*0.2*	*2.7*	-65%
Memo: international marine bunkers	-	-	-	-	-	-
Memo: international aviation bunkers	-	*0.9*	-	-	*0.9*	*33%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	47.1	-8.7	35.0	35.0
Road - oil	16.8	141.3	12.4	47.4
Manufacturing industries - coal	4.9	-84.5	3.7	51.1
Manufacturing industries - gas	4.9	-14.0	3.6	54.7
Residential - gas	4.2	94.9	3.1	57.8
Unallocated autoproducers - coal	3.9	-57.4	2.9	60.7
Residential - coal	3.5	-73.6	2.6	63.3
Other energy industry - coal	3.4	4.2	2.5	65.8
Non-specified other - gas	2.6	20.0	1.9	67.7
Memo: total CO_2 from fuel combustion	*99.6*	*-33.8*	*73.8*	*73.8*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Democratic People's Republic of Korea

Figure 1. CO_2 emissions by fuel

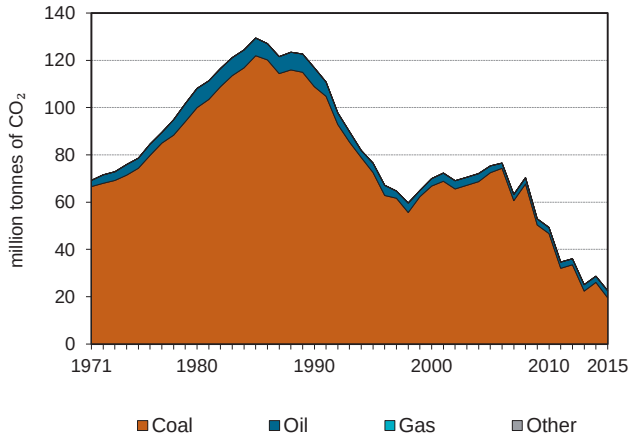


Figure 2. CO_2 emissions by sector

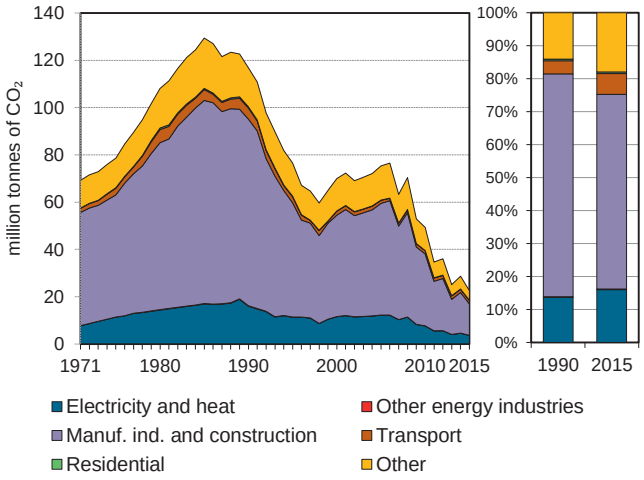


Figure 3. Electricity generation by fuel

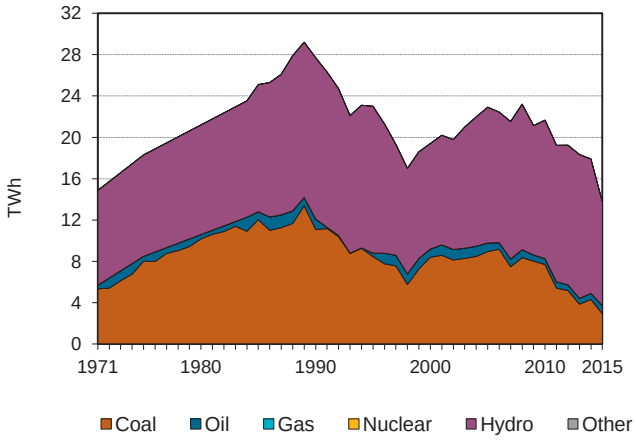


Figure 4. CO_2 from electricity generation: driving factors[1]

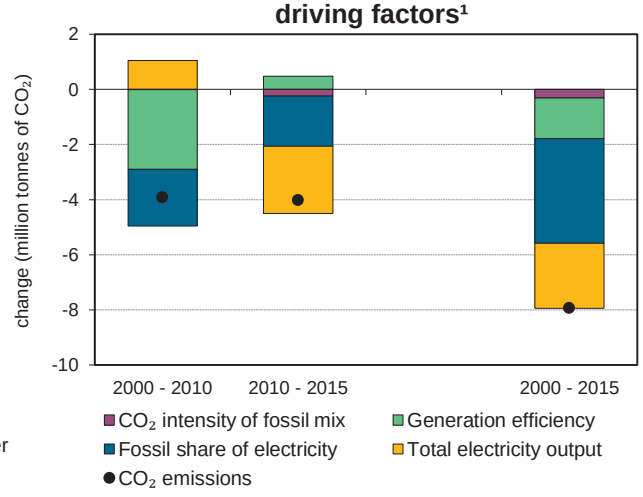


Figure 5. Changes in selected indicators

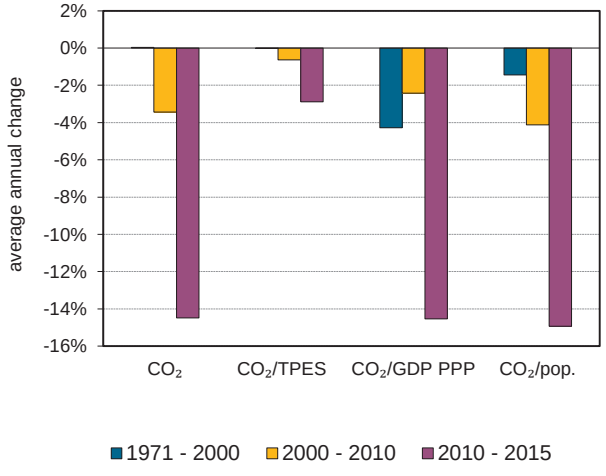
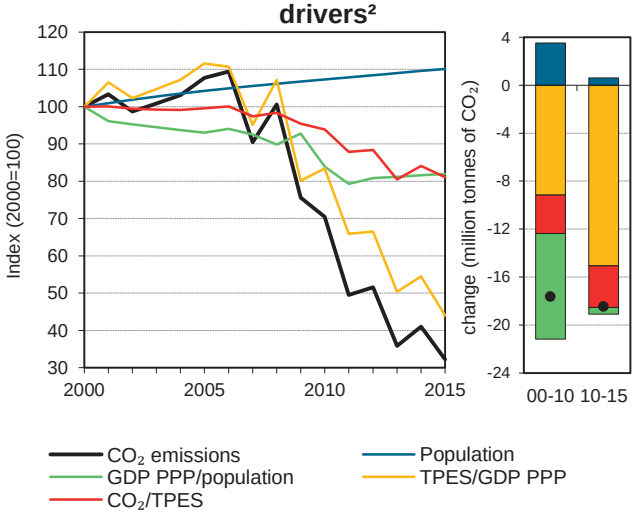


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Democratic People's Republic of Korea

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	116.8	76.5	70.0	75.3	49.3	28.7	22.5	-81%
Share of World CO_2 from fuel combustion	1%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	1391	920	826	893	620	402	328	-76%
GDP (billion 2010 USD)	42.7	33.5	29.8	28.9	26.8	26.6	26.9	-37%
GDP PPP (billion 2010 USD)	160.2	125.8	111.7	108.4	100.6	99.9	100.8	-37%
Population (millions)	20.2	21.8	22.8	23.8	24.5	25.0	25.2	25%
CO_2 / TPES (tCO_2 per TJ)	84	83.1	84.8	84.3	79.5	71.3	68.7	-18%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	2.74	2.3	2.4	2.6	1.8	1.1	0.8	-69%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.73	0.6	0.6	0.7	0.5	0.3	0.2	-69%
CO_2 / population (tCO_2 per capita)	5.8	3.5	3.1	3.2	2.0	1.1	0.9	-85%
Share of electricity output from fossil fuels	44%	38%	47%	43%	38%	27%	27%	
CO_2 / kWh of electricity (gCO_2/kWh)	577	491	595	532	352	254	263	-54%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	66	60	64	42	25	19	-81%
Population index	100	108	113	118	121	124	125	25%
GDP PPP per population index	100	73	62	57	52	50	51	-49%
Energy intensity index - TPES / GDP PPP	100	84	85	95	71	46	37	-63%
Carbon intensity index - CO_2 / TPES	100	99	101	100	95	85	82	-18%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**19.5**	**3.0**	**-**	**-**	**22.5**	**-81%**
Electricity and heat generation	2.5	1.1	-	-	3.6	-77%
Other energy industry own use	-	0.0	-	-	0.0	-75%
Manufacturing industries and construction	13.0	0.3	-	-	13.3	-83%
Transport	-	1.4	-	-	1.4	-70%
of which: road	-	*1.4*	-	-	*1.4*	-70%
Other	4.0	0.1	-	-	4.2	-76%
of which: residential	-	*0.1*	-	-	*0.1*	-78%
of which: services	-	-	-	-	-	-
Memo: international marine bunkers	-	..	-	-	..	..
Memo: international aviation bunkers	-	-	-	-	-	-

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Manufacturing industries - coal	13.0	-83.2	1.0	1.0
Non-specified other sectors - coal	4.0	-75.5	0.3	1.3
Main activity prod. elec. and heat - coal	2.5	-83.1	0.2	1.5
Road - oil	1.4	-70.0	0.1	1.6
Main activity prod. elec. and heat - oil	1.1	-14.6	0.1	1.7
Manufacturing industries - oil	0.3	-76.0	0.0	1.7
Residential - oil	0.1	-77.6	0.0	1.7
Other energy industry own use - oil	0.0	-75.4	0.0	1.7
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*22.5*	*-80.7*	*1.7*	*1.7*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Democratic Republic of the Congo

Figure 1. CO_2 emissions by fuel

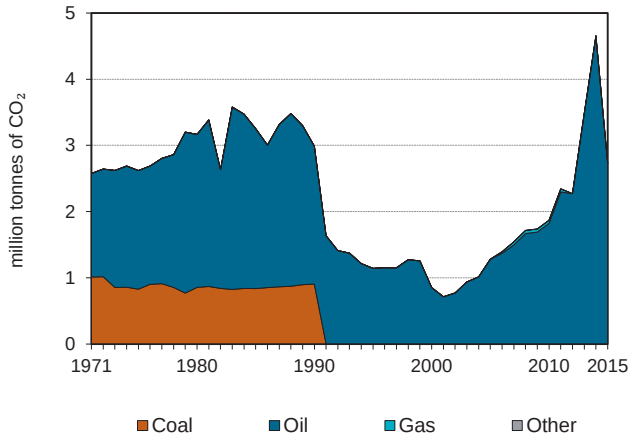


Figure 2. CO_2 emissions by sector

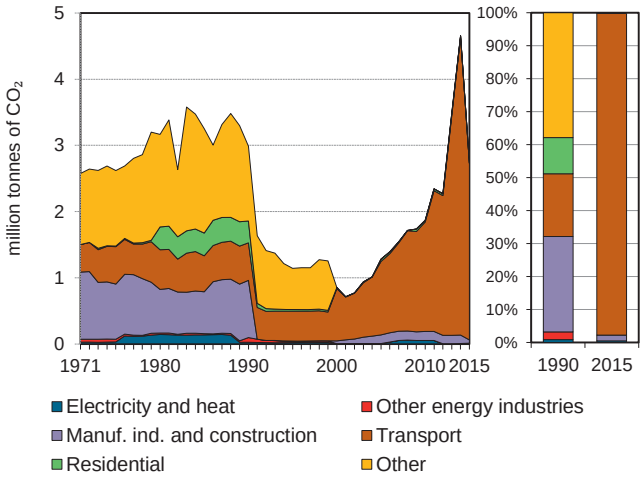


Figure 3. Electricity generation by fuel

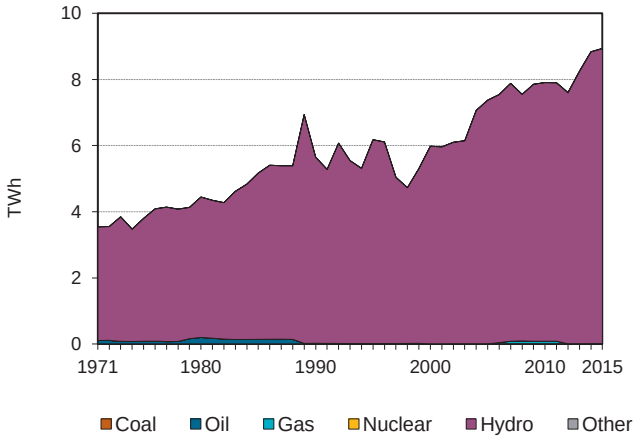


Figure 4. CO_2 from electricity generation: driving factors[1]

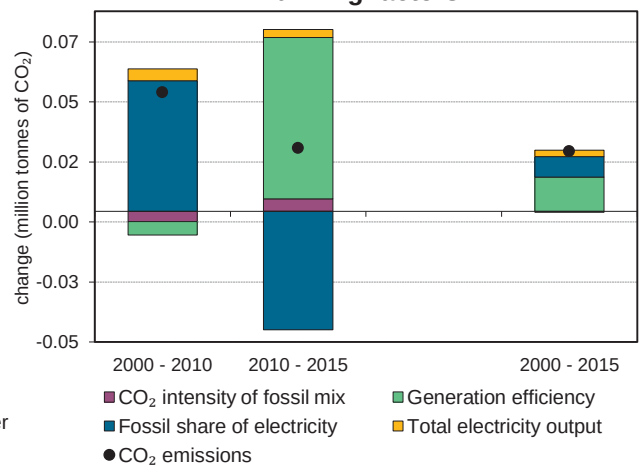


Figure 5. Changes in selected indicators

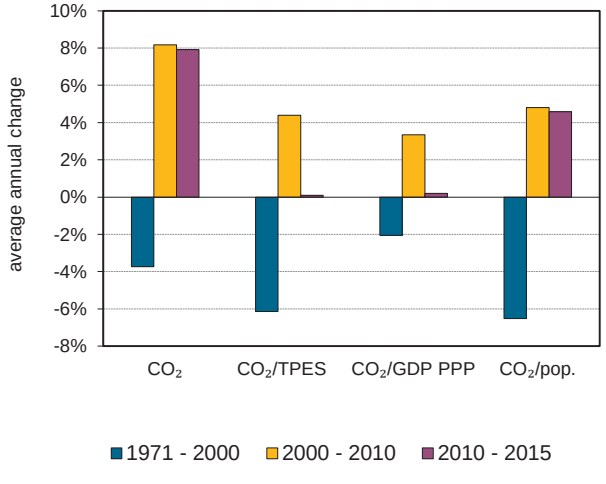
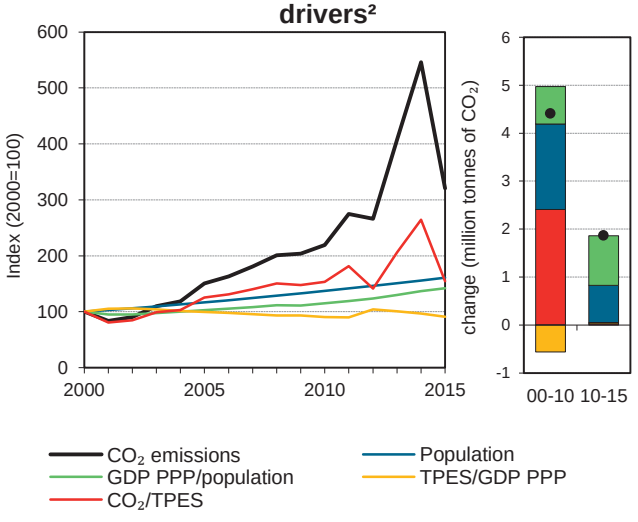


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Democratic Republic of the Congo

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	3	1.1	0.9	1.3	1.9	4.7	2.7	-9%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	494	537	582	698	831	1 202	1 209	145%
GDP (billion 2010 USD)	23.1	15.9	13.0	15.7	20.5	27.8	29.7	28%
GDP PPP (billion 2010 USD)	43.4	29.8	24.4	29.4	38.5	52.2	55.8	28%
Population (millions)	35	42.2	48.0	56.1	65.9	74.9	77.3	121%
CO_2 / TPES (tCO_2 per TJ)	6.1	2.1	1.5	1.8	2.2	3.9	2.3	-63%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.13	0.1	0.1	0.1	0.1	0.2	0.1	-29%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.07	0.0	0.0	0.0	0.0	0.1	0.0	-29%
CO_2 / population (tCO_2 per capita)	0.1	0.0	0.0	0.0	0.0	0.1	0.0	-59%
Share of electricity output from fossil fuels	0%	0%	0%	0%	1%	0%	0%	
CO_2 / kWh of electricity (gCO_2/kWh)	5	4	1	1	7	1	1	-70%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	38	29	43	63	156	91	-9%
Population index	100	121	137	160	189	214	221	121%
GDP PPP per population index	100	57	41	42	47	56	58	-42%
Energy intensity index - TPES / GDP PPP	100	159	210	208	190	203	191	91%
Carbon intensity index - CO_2 / TPES	100	35	24	30	37	64	37	-63%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**2.7**	**0.0**	**-**	**2.7**	**-9%**
Electricity and heat generation	-	0.0	0.0	-	0.0	-53%
Other energy industry own use	-	-	-	-	-	-100%
Manufacturing industries and construction	-	0.0	-	-	0.0	-94%
Transport	-	2.7	-	-	2.7	370%
of which: road	-	*2.2*	-	-	*2.2*	294%
Other	-	0.0	-	-	0.0	-100%
of which: residential	-	*0.0*	-	-	*0.0*	-98%
of which: services	-	-	-	-	-	-
Memo: international marine bunkers	-	..	-	-	..	..
Memo: international aviation bunkers	-	*0.4*	-	-	*0.4*	*20%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	2.2	293.7	0.2	0.2
Other transport - oil	0.4	x	0.0	0.3
Manufacturing industries - oil	0.0	-72.4	0.0	0.3
Main activity prod. elec. and heat - oil	0.0	-62.4	0.0	0.3
Residential - oil	0.0	-94.2	0.0	0.3
Unallocated autoproducers - gas	0.0	x	0.0	0.3
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*2.7*	*-8.5*	*0.3*	*0.3*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Denmark

Figure 1. CO_2 emissions by fuel

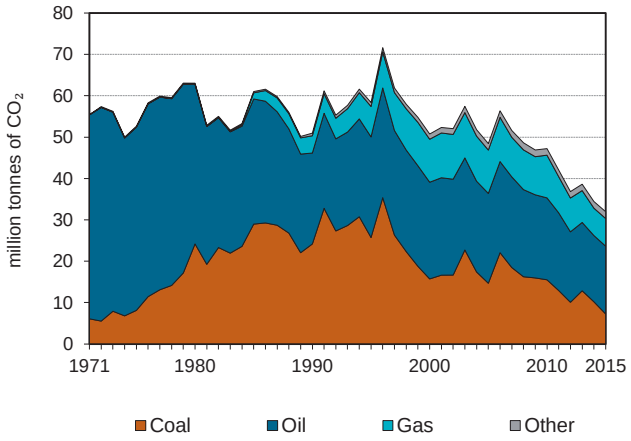


Figure 2. CO_2 emissions by sector

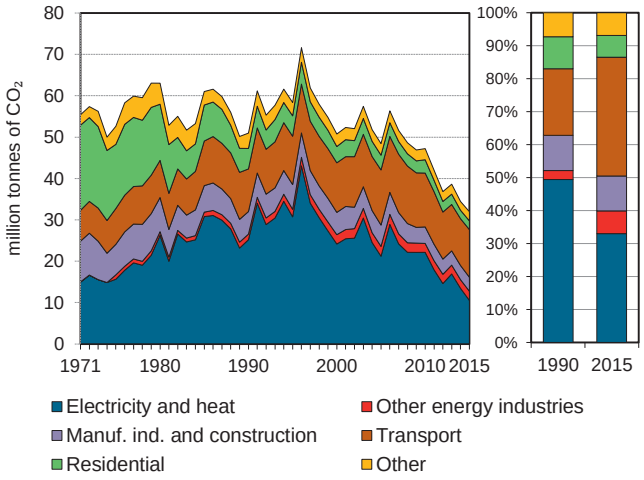


Figure 3. Electricity generation by fuel

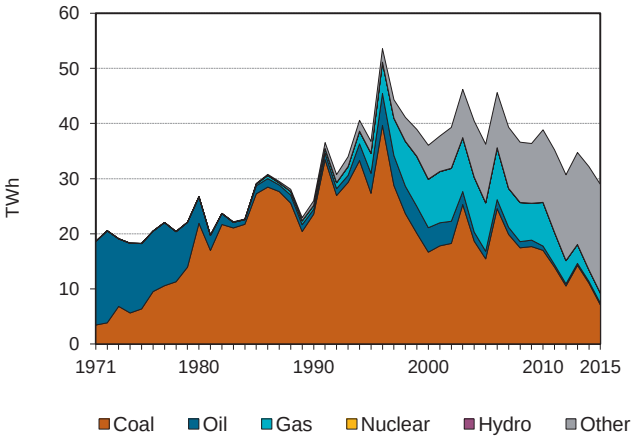


Figure 4. CO_2 from electricity generation: driving factors[1]

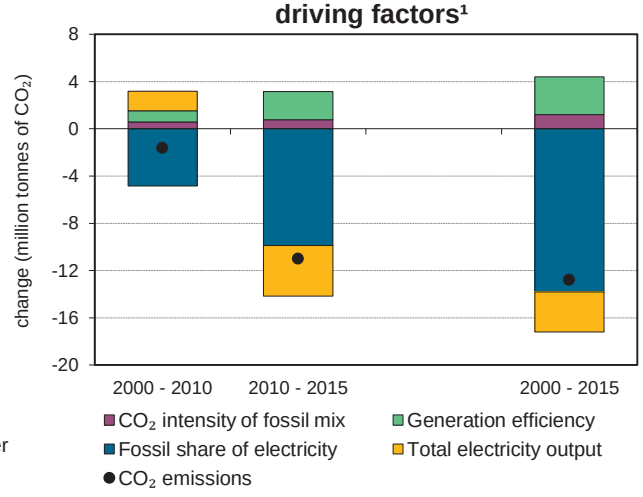


Figure 5. Changes in selected indicators

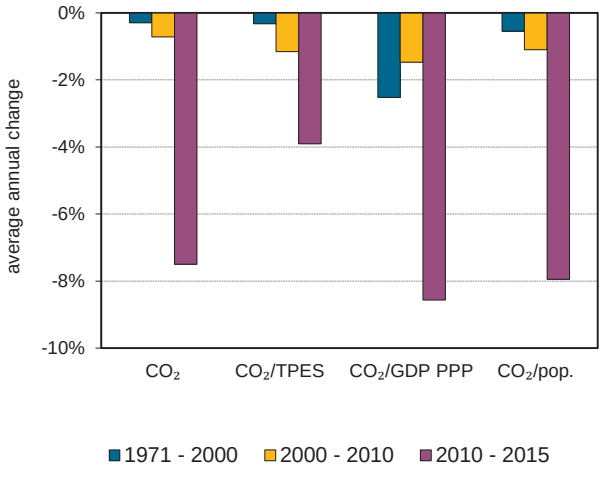
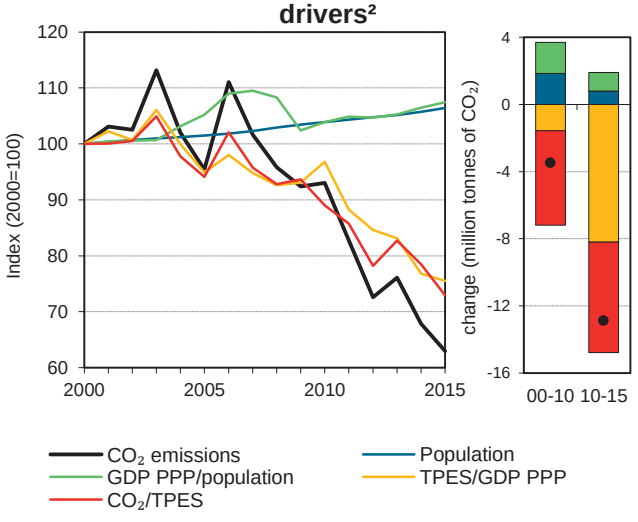


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Denmark

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	51	58.4	50.8	48.4	47.2	34.4	32.0	-37%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	727	812	780	791	815	674	674	-7%
GDP (billion 2010 USD)	229.1	257.1	298.2	318.6	322.0	335.6	341.0	49%
GDP PPP (billion 2010 USD)	170.1	190.8	221.4	236.5	239.0	249.1	253.1	49%
Population (millions)	5.1	5.2	5.3	5.4	5.5	5.6	5.7	11%
CO_2 / TPES (tCO_2 per TJ)	70.1	71.9	65.1	61.2	57.9	51.1	47.4	-32%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.22	0.2	0.2	0.2	0.1	0.1	0.1	-58%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.3	0.3	0.2	0.2	0.2	0.1	0.1	-58%
CO_2 / population (tCO_2 per capita)	9.9	11.2	9.5	8.9	8.5	6.1	5.6	-43%
Share of electricity output from fossil fuels	97%	95%	85%	73%	68%	44%	34%	
CO_2 / kWh of electricity (gCO_2/kWh)	682	596	452	374	362	255	174	-74%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	115	100	95	93	68	63	-37%
Population index	100	102	104	105	108	110	111	11%
GDP PPP per population index	100	110	125	132	130	133	135	35%
Energy intensity index - TPES / GDP PPP	100	100	82	78	80	63	62	-38%
Carbon intensity index - CO_2 / TPES	100	102	93	87	83	73	68	-32%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**7.3**	**16.4**	**6.7**	**1.6**	**32.0**	**-37%**
Electricity and heat generation	6.8	0.3	1.9	1.6	10.5	-58%
Other energy industry own use	-	0.9	1.4	-	2.2	64%
Manufacturing industries and construction	0.4	1.4	1.5	0.1	3.4	-38%
Transport	-	11.5	0.0	-	11.5	12%
of which: road	-	*10.7*	*0.0*	-	*10.7*	16%
Other	0.1	2.3	1.9	0.0	4.3	-50%
of which: residential	*0.0*	*0.7*	*1.4*	-	*2.1*	-57%
of which: services	*0.0*	*0.2*	*0.4*	*0.0*	*0.6*	-56%
Memo: international marine bunkers	-	*2.4*	-	-	*2.4*	*-21%*
Memo: international aviation bunkers	-	*2.6*	-	-	*2.6*	*52%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	10.7	15.8	22.9	22.9
Main activity prod. elec. and heat - coal	6.8	-69.8	14.5	37.4
Main activity prod. elec. and heat - gas	1.7	75.5	3.7	41.2
Non-specified other - oil	1.6	-45.4	3.5	44.6
Manufacturing industries - gas	1.5	21.8	3.3	47.9
Manufacturing industries - oil	1.4	-52.5	3.0	50.9
Residential - gas	1.4	52.0	2.9	53.8
Other energy industry own use - gas	1.4	163.7	2.9	56.7
Unallocated autoproducers - other	1.2	124.7	2.5	59.3
Memo: total CO_2 from fuel combustion	*32.0*	*-37.3*	*68.7*	*68.7*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Dominican Republic

Figure 1. CO_2 emissions by fuel

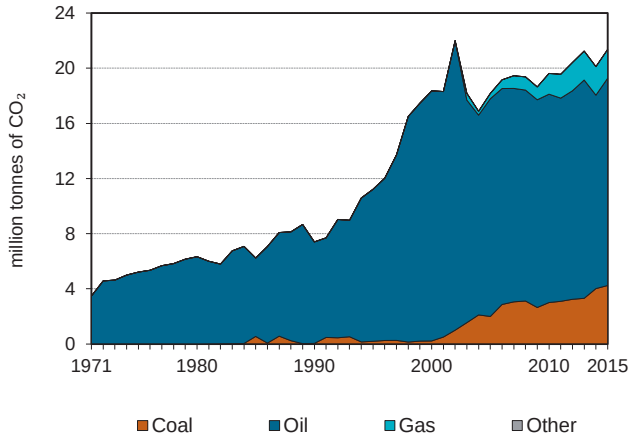


Figure 2. CO_2 emissions by sector

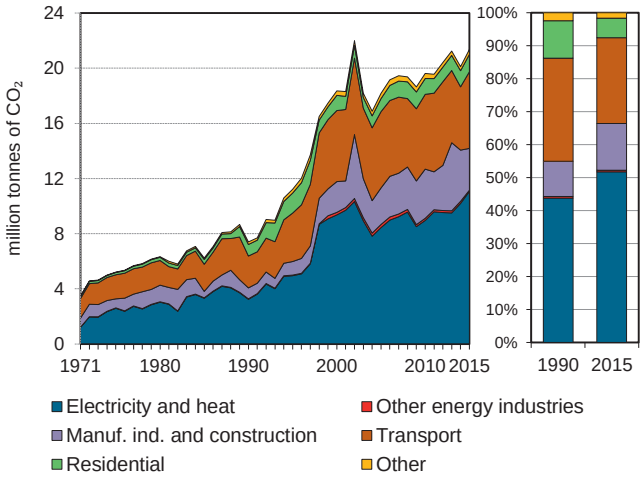


Figure 3. Electricity generation by fuel

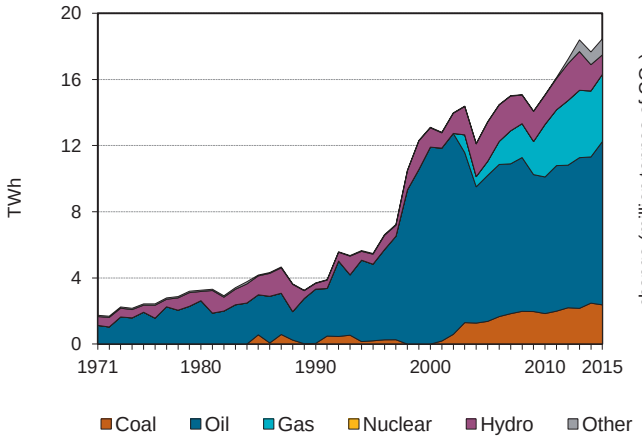


Figure 4. CO_2 from electricity generation: driving factors[1]

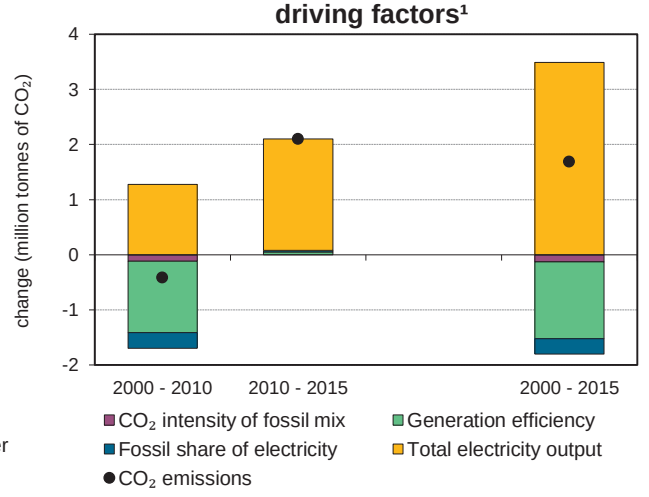


Figure 5. Changes in selected indicators

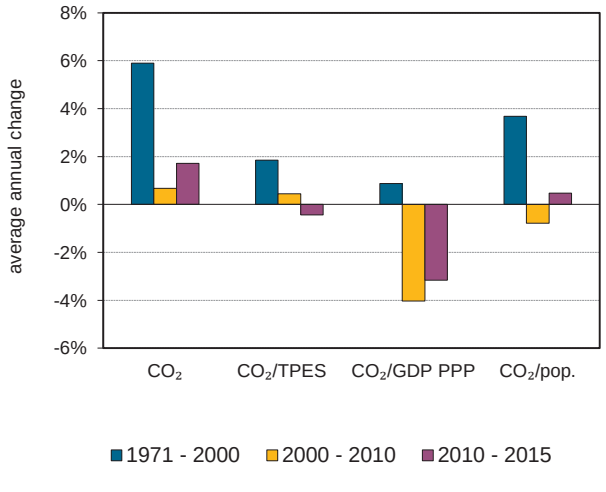
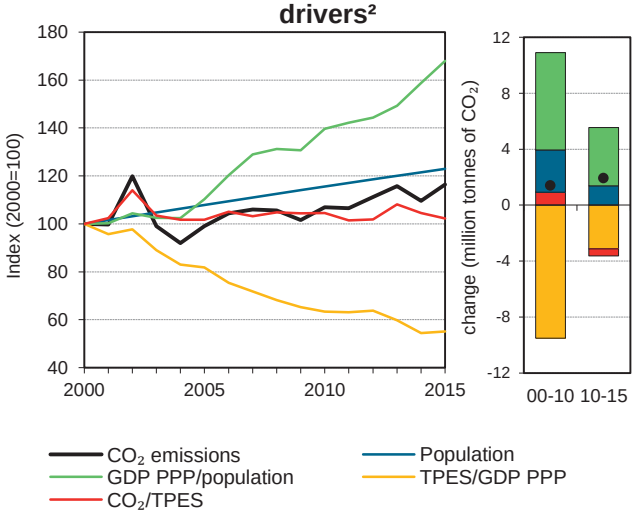


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Dominican Republic

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	7.4	11.2	18.4	18.2	19.6	20.1	21.4	189%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	168	220	303	295	310	318	345	105%
GDP (billion 2010 USD)	18.5	23.9	33.4	39.7	54.0	64.5	69.0	272%
GDP PPP (billion 2010 USD)	37.4	48.2	67.3	80.1	108.7	129.8	139.0	272%
Population (millions)	7.2	7.9	8.6	9.2	9.9	10.4	10.5	47%
CO_2 / TPES (tCO_2 per TJ)	44.1	51.1	60.5	61.6	63.2	63.2	61.9	40%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.4	0.5	0.5	0.5	0.4	0.3	0.3	-22%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.2	0.2	0.3	0.2	0.2	0.2	0.2	-22%
CO_2 / population (tCO_2 per capita)	1	1.4	2.1	2.0	2.0	1.9	2.0	97%
Share of electricity output from fossil fuels	90%	88%	91%	82%	88%	87%	88%	
CO_2 / kWh of electricity (gCO_2/kWh)	877	904	714	628	594	577	599	-32%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	152	248	246	265	272	289	189%
Population index	100	110	119	129	138	145	147	47%
GDP PPP per population index	100	118	151	167	211	240	254	154%
Energy intensity index - TPES / GDP PPP	100	101	100	82	63	54	55	-45%
Carbon intensity index - CO_2 / TPES	100	116	137	140	144	143	140	40%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**4.2**	**15.0**	**2.1**	**-**	**21.4**	**189%**
Electricity and heat generation	2.3	6.9	1.8	-	11.1	241%
Other energy industry own use	-	0.1	-	-	0.1	198%
Manufacturing industries and construction	1.9	0.9	0.2	-	3.0	281%
Transport	-	5.5	0.0	-	5.6	141%
of which: road	-	*4.3*	-	-	*4.3*	95%
Other	-	1.6	-	-	1.6	58%
of which: residential	-	*1.3*	-	-	*1.3*	50%
of which: services	-	*0.2*	-	-	*0.2*	114%
Memo: international marine bunkers	-	..	-	-	..	..
Memo: international aviation bunkers	-	*1.5*	-	-	*1.5*	+

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	4.3	94.8	10.5	10.5
Main activity prod. elec. and heat - oil	4.3	146.5	10.5	21.0
Unallocated autoproducers - oil	2.6	78.4	6.3	27.3
Main activity prod. elec. and heat - coal	2.3	+	5.6	32.9
Manufacturing industries - coal	1.9	x	4.7	37.5
Main activity prod. elec. and heat - gas	1.8	x	4.4	42.0
Residential - oil	1.3	50.4	3.1	45.0
Other transport - oil	1.2	+	2.8	47.9
Manufacturing industries - oil	0.9	13.9	2.2	50.1
Memo: total CO_2 from fuel combustion	*21.4*	*188.6*	*51.8*	*51.8*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Ecuador

Figure 1. CO_2 emissions by fuel

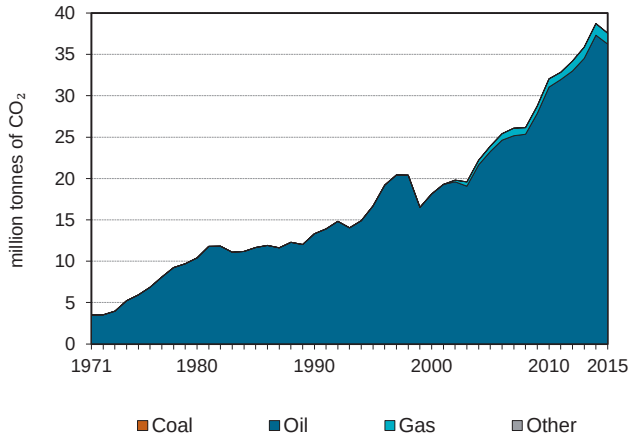


Figure 2. CO_2 emissions by sector

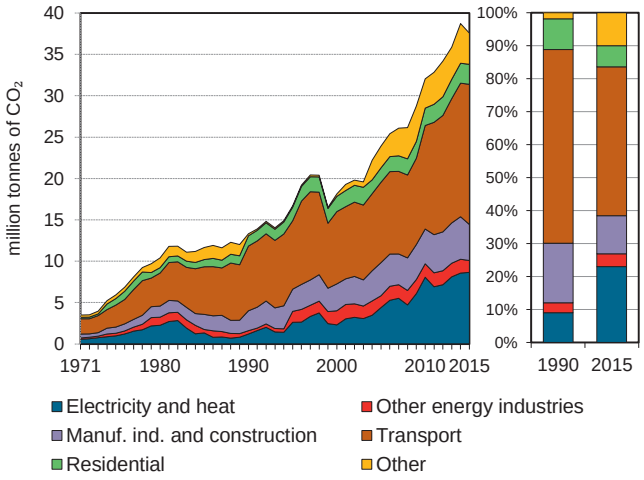


Figure 3. Electricity generation by fuel

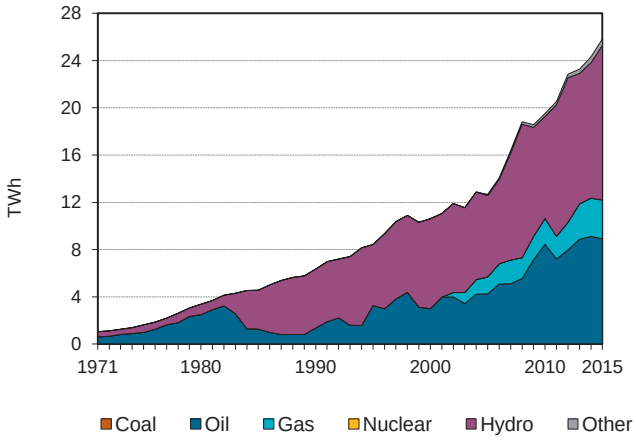


Figure 4. CO_2 from electricity generation: driving factors[1]

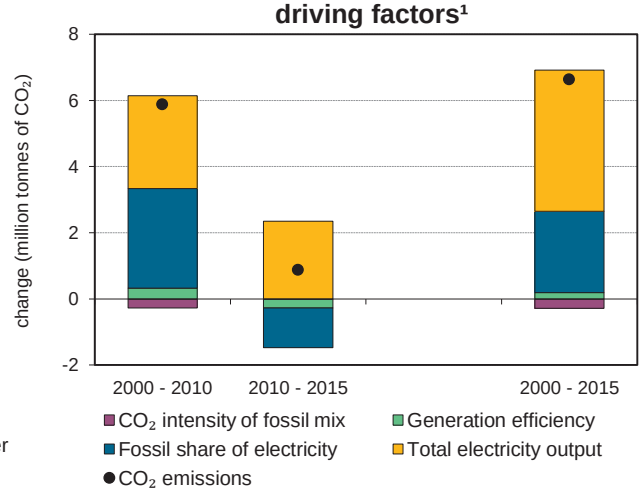


Figure 5. Changes in selected indicators

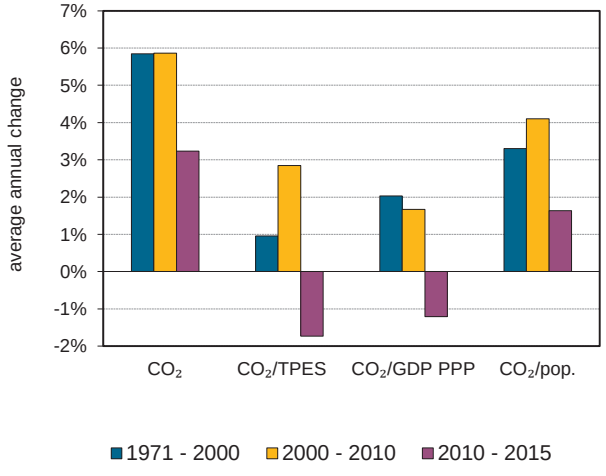
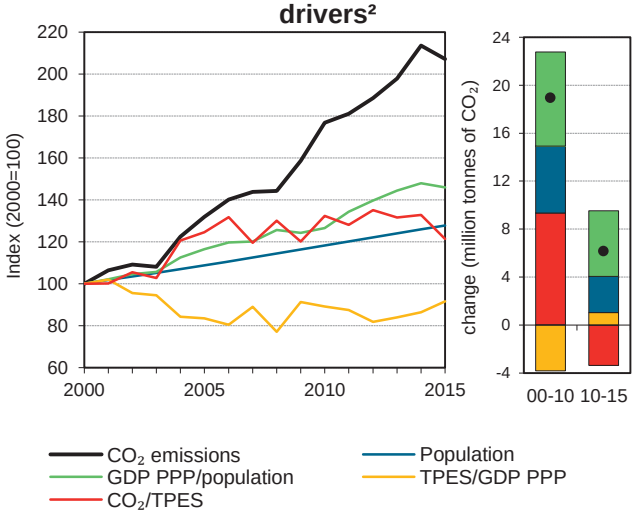


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Ecuador

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	13.3	16.7	18.1	23.9	32.0	38.7	37.6	182%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	265	330	369	391	493	594	630	138%
GDP (billion 2010 USD)	38	44.0	46.5	58.9	69.6	86.5	86.6	128%
GDP PPP (billion 2010 USD)	74.8	86.6	91.4	115.8	136.8	170.2	170.5	128%
Population (millions)	10.2	11.4	12.6	13.7	14.9	15.9	16.1	58%
CO_2 / TPES (tCO_2 per TJ)	50.3	50.6	49.1	61.2	65.0	65.2	59.6	19%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.35	0.4	0.4	0.4	0.5	0.4	0.4	24%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.18	0.2	0.2	0.2	0.2	0.2	0.2	24%
CO_2 / population (tCO_2 per capita)	1.3	1.5	1.4	1.7	2.1	2.4	2.3	79%
Share of electricity output from fossil fuels	21%	39%	28%	45%	55%	51%	47%	
CO_2 / kWh of electricity (gCO_2/kWh)	189	311	217	347	414	353	335	77%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	125	136	180	241	291	282	182%
Population index	100	112	124	134	146	156	158	58%
GDP PPP per population index	100	103	99	115	125	146	144	44%
Energy intensity index - TPES / GDP PPP	100	107	114	95	102	98	104	4%
Carbon intensity index - CO_2 / TPES	100	101	98	122	129	130	119	19%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**36.3**	**1.3**	**-**	**37.6**	**182%**
Electricity and heat generation	-	7.4	1.3	-	8.7	621%
Other energy industry own use	-	1.4	0.0	-	1.4	255%
Manufacturing industries and construction	-	4.3	0.0	-	4.4	81%
Transport	-	16.9	-	-	16.9	117%
of which: road	-	*16.1*	-	-	*16.1*	151%
Other	-	6.2	0.0	-	6.2	317%
of which: residential	-	*2.4*	*0.0*	-	*2.4*	96%
of which: services	-	*1.1*	-	-	*1.1*	+
Memo: international marine bunkers	-	*1.1*	-	-	*1.1*	*118%*
Memo: international aviation bunkers	-	*1.2*	-	-	*1.2*	*196%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	16.1	151.2	22.3	22.3
Main activity prod. elec. and heat - oil	5.6	368.4	7.8	30.1
Manufacturing industries - oil	4.3	79.9	6.0	36.1
Non-specified other - oil	3.8	+	5.2	41.3
Residential - oil	2.4	95.5	3.3	44.6
Unallocated autoproducers - oil	1.8	x	2.4	47.1
Other energy industry own use - oil	1.4	254.6	2.0	49.0
Other transport - oil	0.8	-41.2	1.1	50.2
Main activity prod. elec. and heat - gas	0.8	x	1.1	51.3
Memo: total CO_2 from fuel combustion	*37.6*	*182.1*	*52.0*	*52.0*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Egypt

Figure 1. CO_2 emissions by fuel

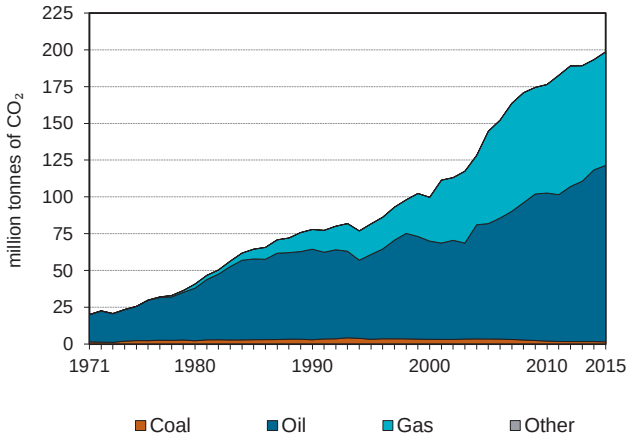


Figure 2. CO_2 emissions by sector

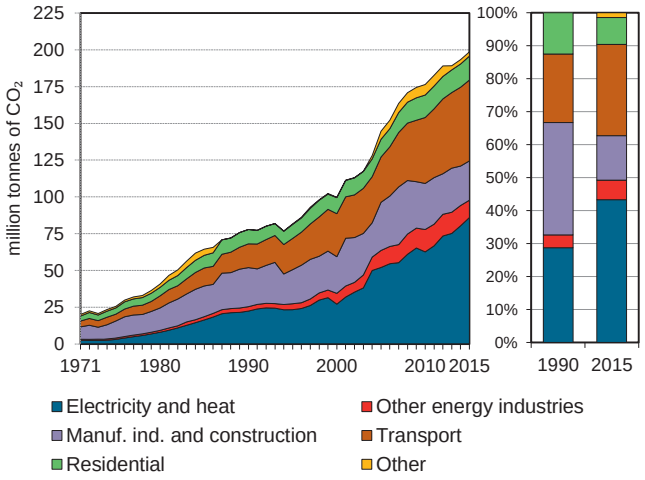


Figure 3. Electricity generation by fuel

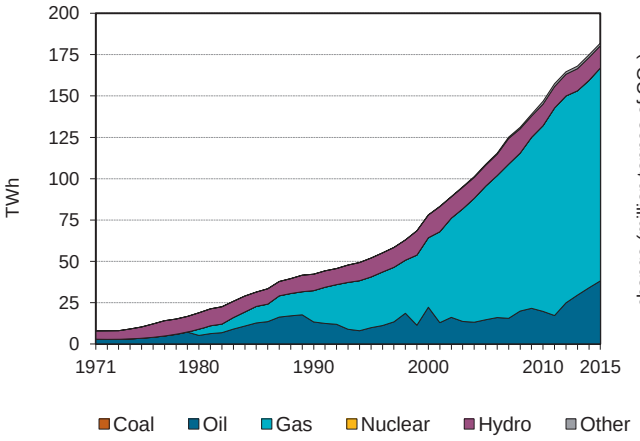


Figure 4. CO_2 from electricity generation: driving factors[1]

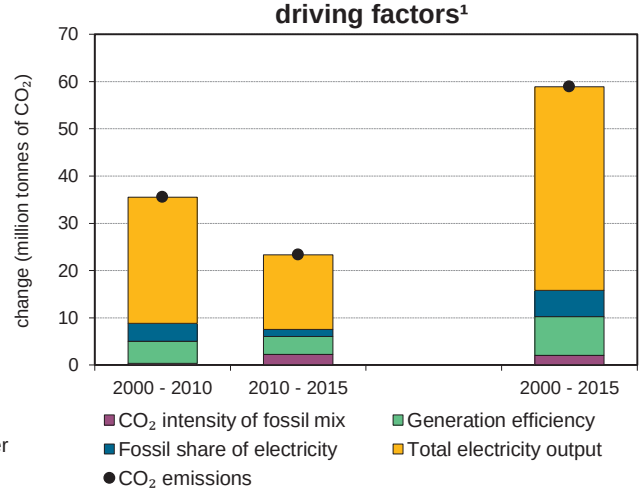


Figure 5. Changes in selected indicators

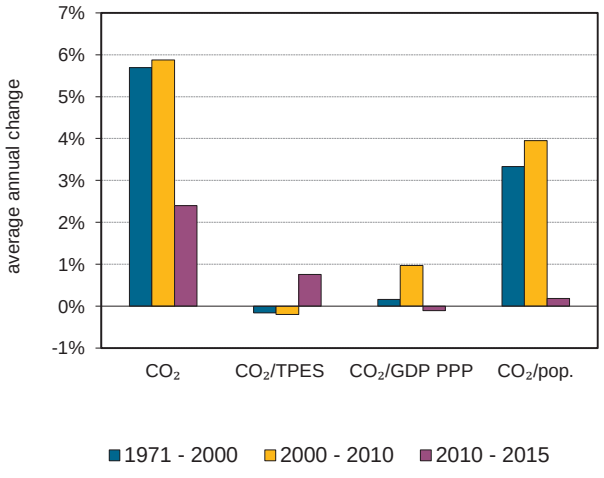
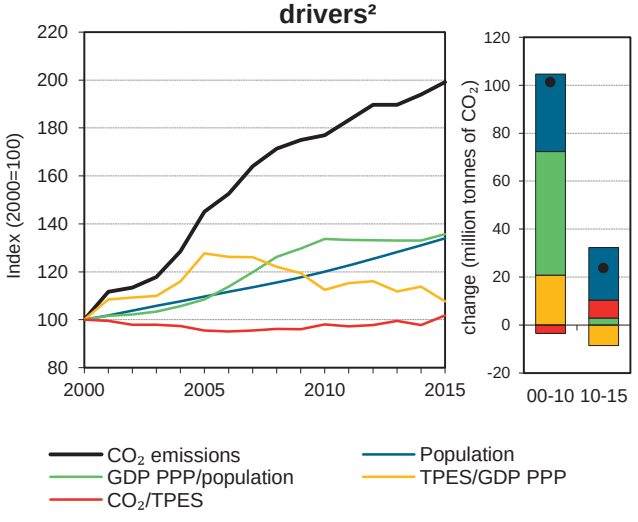


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Egypt

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	77.8	81.6	99.7	144.6	176.4	193.3	198.6	155%
Share of World CO_2 from fuel combustion	0%	0%	0%	1%	1%	1%	1%	
TPES (PJ)	1350	1 471	1 699	2 582	3 066	3 369	3 324	146%
GDP (billion 2010 USD)	89.6	105.9	136.4	162.2	218.9	237.7	247.7	177%
GDP PPP (billion 2010 USD)	332.3	392.7	505.9	601.8	812.0	881.9	919.0	177%
Population (millions)	56.4	62.4	68.3	74.9	82.0	89.6	91.5	62%
CO_2 / TPES (tCO_2 per TJ)	57.6	55.5	58.7	56.0	57.5	57.4	59.7	4%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.87	0.8	0.7	0.9	0.8	0.8	0.8	-8%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.23	0.2	0.2	0.2	0.2	0.2	0.2	-8%
CO_2 / population (tCO_2 per capita)	1.4	1.3	1.5	1.9	2.2	2.2	2.2	57%
Share of electricity output from fossil fuels	76%	78%	82%	88%	90%	91%	92%	
CO_2 / kWh of electricity (gCO_2/kWh)	529	448	346	478	427	459	472	-11%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	105	128	186	227	248	255	155%
Population index	100	111	121	133	145	159	162	62%
GDP PPP per population index	100	107	126	136	168	167	170	70%
Energy intensity index - TPES / GDP PPP	100	92	83	106	93	94	89	-11%
Carbon intensity index - CO_2 / TPES	100	96	102	97	100	100	104	4%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**1.5**	**119.9**	**77.2**	**-**	**198.6**	**155%**
Electricity and heat generation	-	32.1	53.9	-	86.0	284%
Other energy industry own use	-	2.9	8.9	-	11.8	295%
Manufacturing industries and construction	1.5	15.2	10.0	-	26.7	1%
Transport	-	54.2	0.7	-	55.0	240%
of which: road	-	*51.5*	*0.7*	-	*52.3*	238%
Other	0.0	15.5	3.6	-	19.2	96%
of which: residential	*0.0*	*12.7*	*3.6*	-	*16.3*	67%
of which: services	-	-	-	-	-	-
Memo: international marine bunkers	-	*0.6*	-	-	*0.6*	*-89%*
Memo: international aviation bunkers	-	*1.7*	-	-	*1.7*	*261%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - gas	53.9	477.6	17.2	17.2
Road - oil	51.5	232.7	16.4	33.6
Main activity prod. elec. and heat - oil	32.1	146.1	10.2	43.8
Manufacturing industries - oil	15.2	-26.2	4.9	48.6
Residential - oil	12.7	31.9	4.0	52.7
Manufacturing industries - gas	10.0	223.3	3.2	55.9
Other energy industry own use - gas	8.9	+	2.8	58.7
Residential - gas	3.6	+	1.2	59.9
Non-specified other - oil	2.9	x	0.9	60.8
Memo: total CO_2 from fuel combustion	*198.6*	*155.2*	*63.2*	*63.2*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

El Salvador

Figure 1. CO_2 emissions by fuel

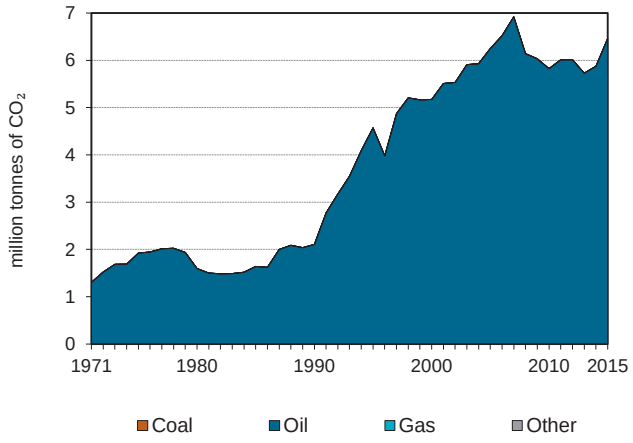


Figure 2. CO_2 emissions by sector

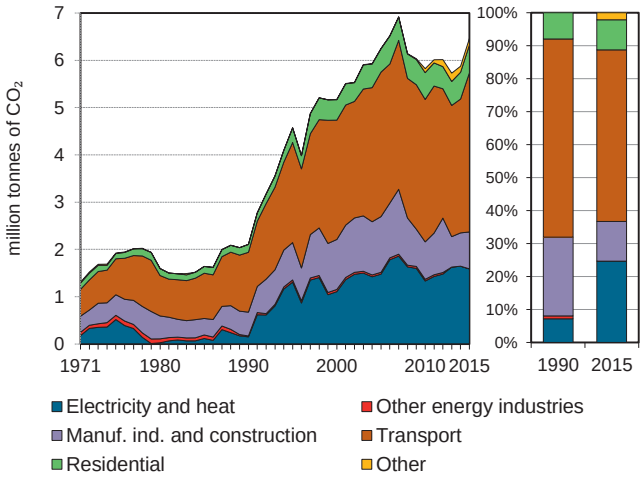


Figure 3. Electricity generation by fuel

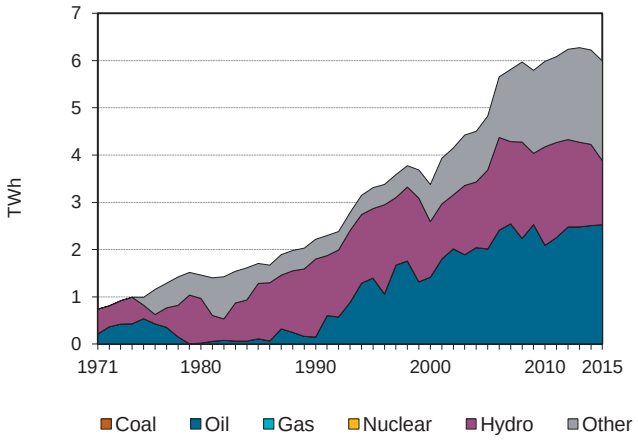


Figure 4. CO_2 from electricity generation: driving factors[1]

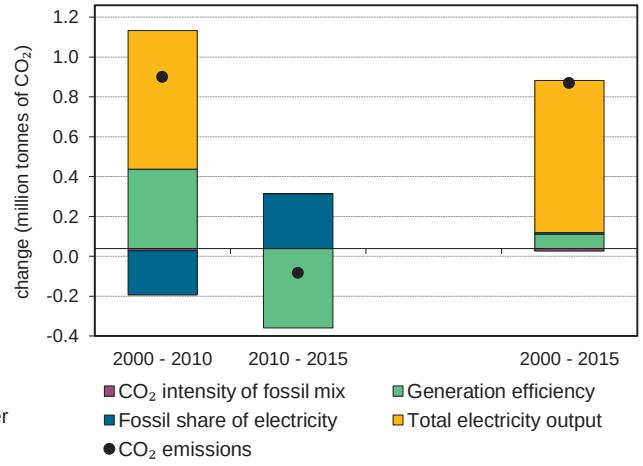


Figure 5. Changes in selected indicators

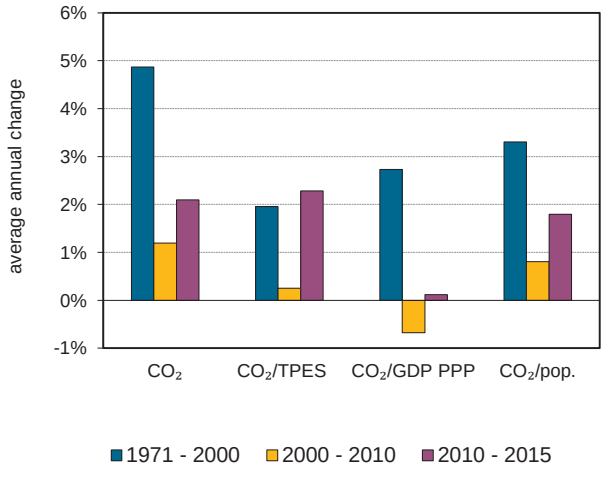
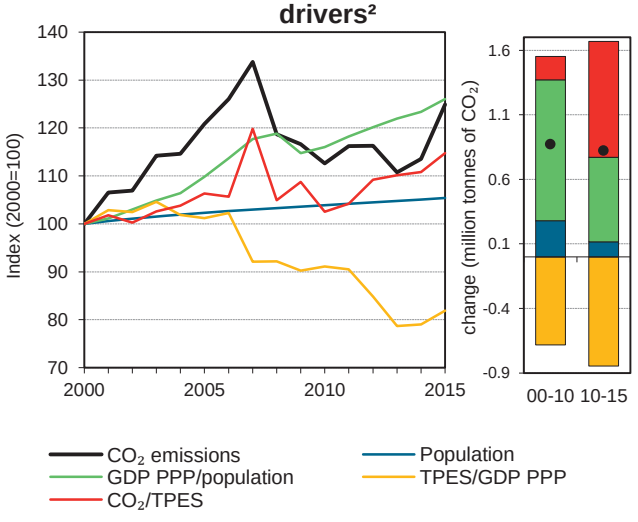


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

El Salvador

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	2.1	4.6	5.2	6.3	5.8	5.9	6.5	207%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	103	141	166	189	182	170	181	75%
GDP (billion 2010 USD)	11.3	15.3	17.8	20.0	21.4	23.0	23.6	108%
GDP PPP (billion 2010 USD)	23.3	31.5	36.6	41.1	44.1	47.4	48.6	108%
Population (millions)	5.3	5.6	5.8	5.9	6.0	6.1	6.1	17%
CO_2 / TPES (tCO_2 per TJ)	20.4	32.5	31.1	33.1	31.9	34.5	35.7	75%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.19	0.3	0.3	0.3	0.3	0.3	0.3	47%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.09	0.1	0.1	0.2	0.1	0.1	0.1	47%
CO_2 / population (tCO_2 per capita)	0.4	0.8	0.9	1.1	1.0	1.0	1.1	163%
Share of electricity output from fossil fuels	7%	42%	42%	42%	35%	40%	42%	
CO_2 / kWh of electricity (gCO_2/kWh)	68	395	328	306	222	264	265	292%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	217	246	297	277	279	307	207%
Population index	100	106	111	113	115	116	117	17%
GDP PPP per population index	100	127	142	156	164	175	179	79%
Energy intensity index - TPES / GDP PPP	100	101	102	104	93	81	84	-16%
Carbon intensity index - CO_2 / TPES	100	160	153	163	157	169	175	75%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**6.5**	**-**	**-**	**6.5**	**207%**
Electricity and heat generation	-	1.6	-	-	1.6	959%
Other energy industry own use	-	-	-	-	-	-100%
Manufacturing industries and construction	-	0.8	-	-	0.8	55%
Transport	-	3.4	-	-	3.4	166%
of which: road	-	*3.4*	-	-	*3.4*	166%
Other	-	0.7	-	-	0.7	336%
of which: residential	-	*0.6*	-	-	*0.6*	253%
of which: services	-	*0.1*	-	-	*0.1*	x
Memo: international marine bunkers	-	..	-	-	..	..
Memo: international aviation bunkers	-	*0.5*	-	-	*0.5*	*319%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	3.4	165.8	28.3	28.3
Main activity prod. elec. and heat - oil	1.4	861.7	12.1	40.4
Manufacturing industries - oil	0.8	54.9	6.6	46.9
Residential - oil	0.6	252.8	4.9	51.9
Unallocated autoproducers - oil	0.1	x	1.2	53.1
Non-specified other - oil	0.1	x	1.2	54.2
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*6.5*	*206.8*	*54.2*	*54.2*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Eritrea [1]

Figure 1. CO_2 emissions by fuel

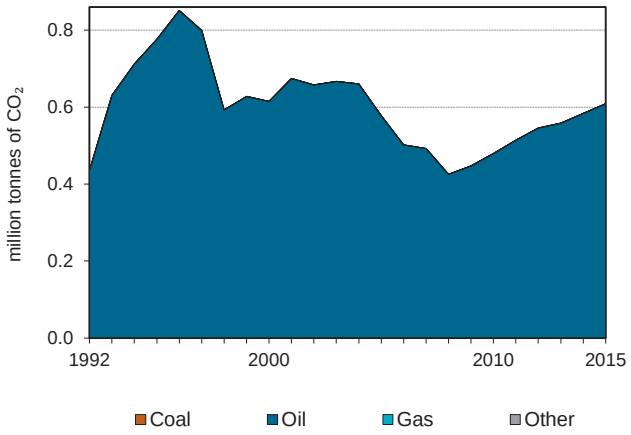


Figure 2. CO_2 emissions by sector

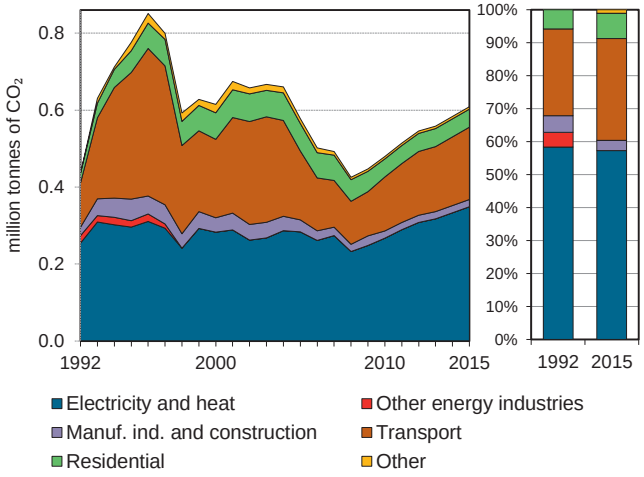


Figure 3. Electricity generation by fuel

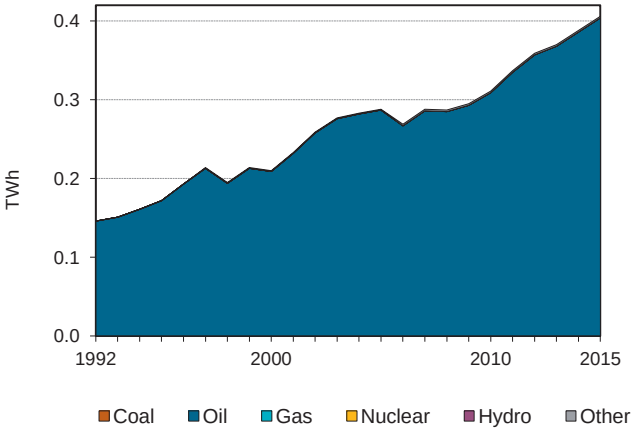


Figure 4. CO_2 from electricity generation: driving factors[2]

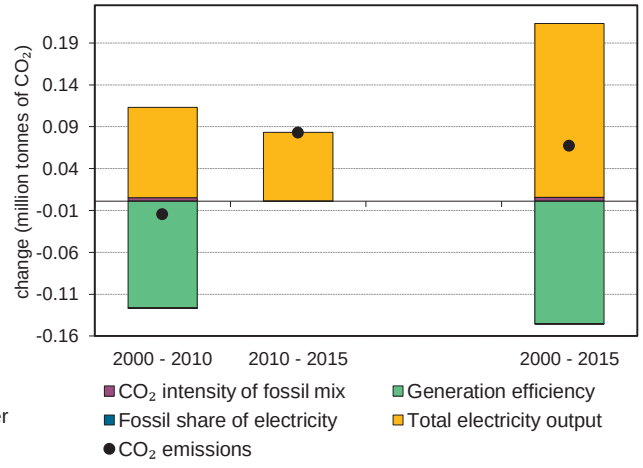


Figure 5. Changes in selected indicators

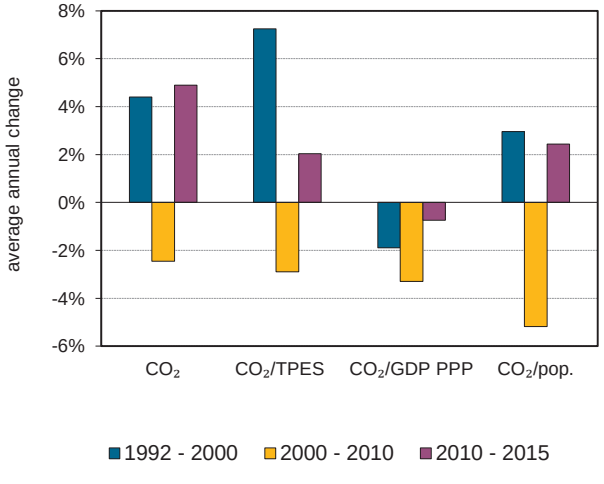
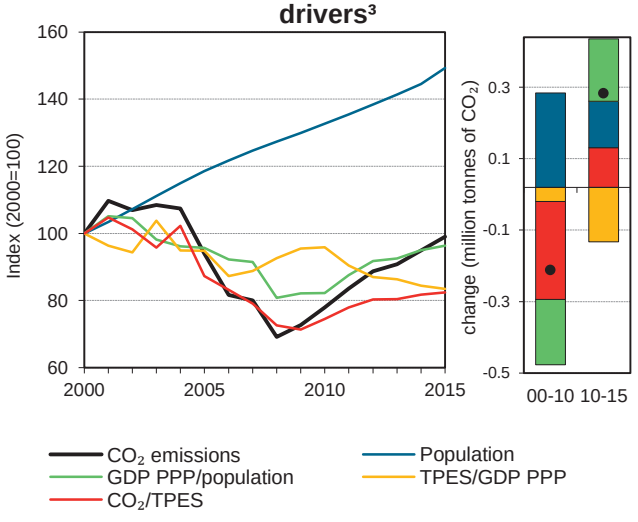


Figure 6. Total CO_2 emissions and drivers[3]



1. Prior to 1992, data for Eritrea were included in Ethiopia.
2. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
3. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Eritrea [1]

Key indicators

	1990	1992	2000	2005	2010	2014	2015	%change 92-15
CO_2 fuel combustion ($MtCO_2$)	..	0.4	0.6	0.6	0.5	0.6	0.6	40%
Share of World CO_2 from fuel combustion	..	0%	0%	0%	0%	0%	0%	
TPES (PJ)	..	37	30	32	31	34	36	-3%
GDP (billion 2010 USD)	..	1.2	1.9	2.2	2.1	2.7	2.8	137%
GDP PPP (billion 2010 USD)	..	3.4	5.6	6.3	6.1	7.7	8.0	137%
Population (millions)	..	3.2	3.5	4.2	4.7	5.1	5.3	67%
CO_2 / TPES (tCO_2 per TJ)	..	11.9	20.7	18.1	15.5	17.0	17.1	44%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	..	0.4	0.3	0.3	0.2	0.2	0.2	-41%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	..	0.1	0.1	0.1	0.1	0.1	0.1	-41%
CO_2 / population (tCO_2 per capita)	..	0.1	0.2	0.1	0.1	0.1	0.1	-16%
Share of electricity output from fossil fuels	..	100%	100%	100%	99%	99%	100%	
CO_2 / kWh of electricity (gCO_2/kWh)	..	1741	1347	985	859	859	859	-51%
CO_2 emissions and drivers - Kaya decomposition (1992=100) [2]								
CO_2 emissions index	..	100	141	133	110	134	140	40%
Population index	..	100	112	133	148	162	167	67%
GDP PPP per population index	..	100	147	141	121	140	142	42%
Energy intensity index - TPES / GDP PPP	..	100	49	47	47	41	41	-59%
Carbon intensity index - CO_2 / TPES	..	100	175	153	130	143	144	44%

1. Prior to 1992, data for Eritrea were included in Ethiopia. 2. Please see the chapter *Indicator sources and methods* in Part I for methodological notes.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [3]	Total	%change 92-15
CO_2 fuel combustion	**-**	**0.6**	**-**	**-**	**0.6**	**40%**
Electricity and heat generation	-	0.3	-	-	0.3	37%
Other energy industry own use	-	-	-	-	-	-100%
Manufacturing industries and construction	-	0.0	-	-	0.0	-14%
Transport	-	0.2	-	-	0.2	64%
of which: road	-	*0.2*	-	-	*0.2*	64%
Other	-	0.1	-	-	0.1	111%
of which: residential	-	*0.0*	-	-	*0.0*	86%
of which: services	-	*0.0*	-	-	*0.0*	x
Memo: international marine bunkers	-	..	-	-	..	..
Memo: international aviation bunkers	-	*0.0*	-	-	*0.0*	*-75%*

3. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 92-15	Level assessment[4] (%)	Cumulative total (%)
Main activity prod. elec. and heat - oil	0.3	252.2	5.5	5.5
Road - oil	0.2	63.7	3.1	8.6
Residential - oil	0.0	86.2	0.8	9.4
Manufacturing industries - oil	0.0	-14.2	0.3	9.7
Unallocated autoproducers - oil	0.0	-91.9	0.2	9.9
Non-specified other - oil	0.0	x	0.1	10.0
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*0.6*	*39.8*	*10.0*	*10.0*

4. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Estonia

Figure 1. CO_2 emissions by fuel

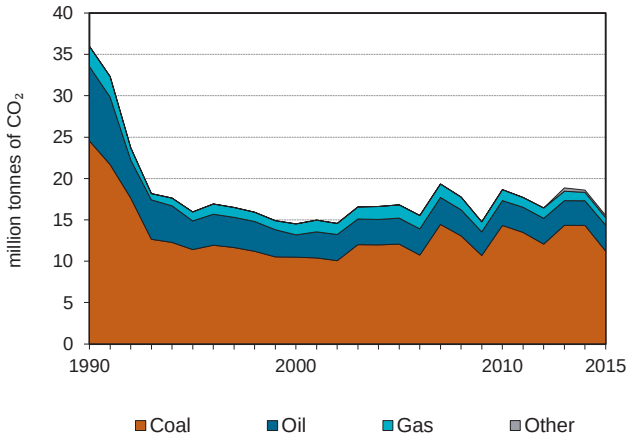


Figure 2. CO_2 emissions by sector

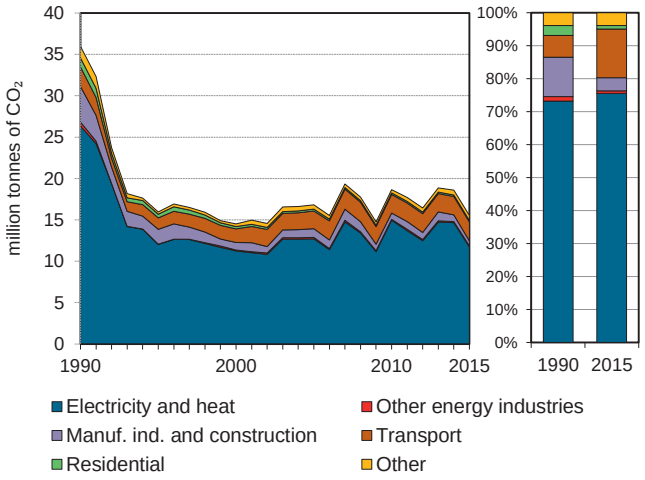


Figure 3. Electricity generation by fuel

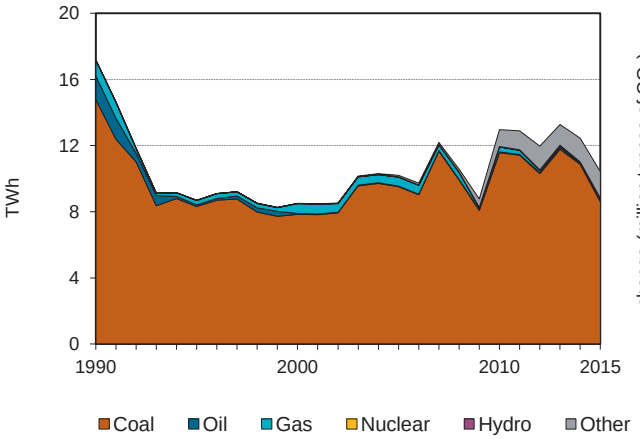


Figure 4. CO_2 from electricity generation: driving factors[1]

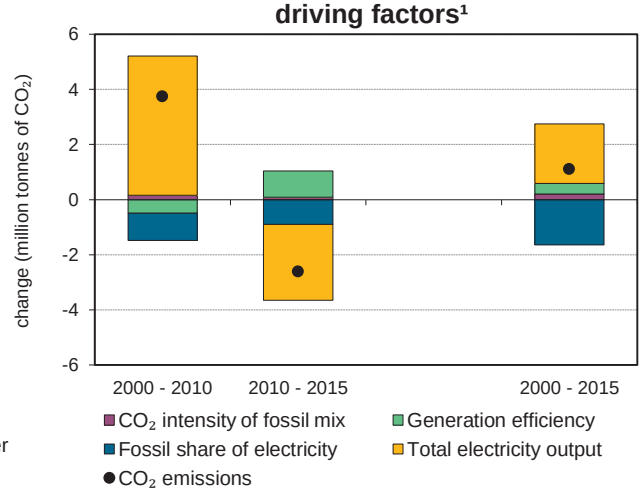


Figure 5. Changes in selected indicators

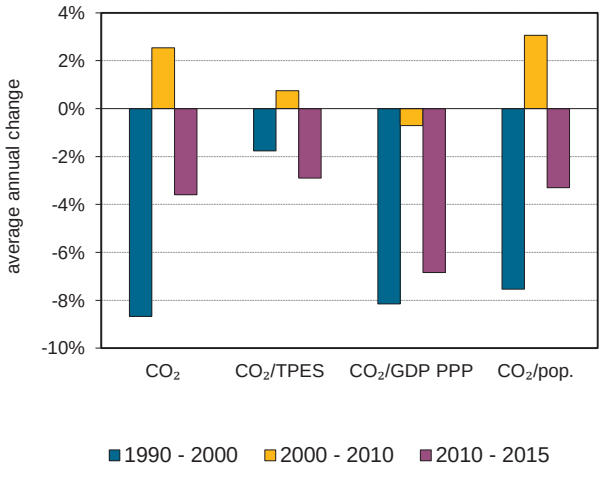
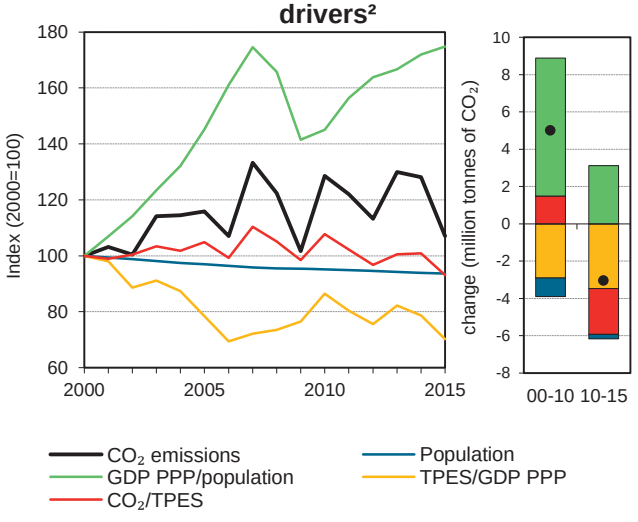


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Estonia

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	36	16.0	14.5	16.8	18.7	18.6	15.5	-57%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	409	218	197	218	235	251	227	-45%
GDP (billion 2010 USD)	15	10.5	14.1	19.9	19.5	22.8	23.2	55%
GDP PPP (billion 2010 USD)	22.1	15.5	20.9	29.4	28.8	33.7	34.2	55%
Population (millions)	1.6	1.4	1.4	1.4	1.3	1.3	1.3	-17%
CO_2 / TPES (tCO_2 per TJ)	87.9	73.2	73.5	77.1	79.2	74.2	68.4	-22%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	2.4	1.5	1.0	0.8	1.0	0.8	0.7	-72%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	1.63	1.0	0.7	0.6	0.6	0.6	0.5	-72%
CO_2 / population (tCO_2 per capita)	22.7	11.0	10.4	12.4	14.0	14.1	11.8	-48%
Share of electricity output from fossil fuels	100%	100%	100%	99%	92%	89%	86%	
CO_2 / kWh of electricity (gCO_2/kWh)	962	1094	1082	1067	1031	1081	1026	7%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	44	40	47	52	52	43	-57%
Population index	100	91	88	86	84	83	83	-17%
GDP PPP per population index	100	77	107	155	155	184	187	87%
Energy intensity index - TPES / GDP PPP	100	76	51	40	44	40	36	-64%
Carbon intensity index - CO_2 / TPES	100	83	84	88	90	84	78	-22%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**11.2**	**3.1**	**0.9**	**0.3**	**15.5**	**-57%**
Electricity and heat generation	11.0	0.1	0.4	0.2	11.7	-55%
Other energy industry own use	0.1	0.1	0.0	-	0.1	-73%
Manufacturing industries and construction	0.1	0.2	0.2	0.0	0.6	-86%
Transport	-	2.3	0.0	-	2.3	-3%
of which: road	-	*2.2*	*0.0*	-	*2.2*	1%
Other	0.0	0.5	0.3	-	0.8	-69%
of which: residential	*0.0*	*0.0*	*0.1*	-	*0.2*	-85%
of which: services	*0.0*	*0.1*	*0.2*	-	*0.3*	-31%
Memo: international marine bunkers	-	*0.9*	-	-	*0.9*	*61%*
Memo: international aviation bunkers	-	*0.1*	-	-	*0.1*	*-29%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	10.9	-47.9	60.8	60.8
Road - oil	2.2	1.1	12.2	73.0
Non-specified other - oil	0.4	-40.7	2.4	75.3
Main activity prod. elec. and heat - gas	0.3	-81.9	1.8	77.1
Manufacturing industries - gas	0.2	-50.7	1.2	78.4
Manufacturing industries - oil	0.2	-90.3	1.2	79.6
Main activity prod. elec. and heat - other	0.2	x	1.2	80.7
Non-specified other - gas	0.2	687.8	1.0	81.7
Manufacturing industries - coal	0.1	-92.2	0.7	82.4
Memo: total CO_2 from fuel combustion	*15.5*	*-56.8*	*86.4*	*86.4*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Ethiopia [1]

Figure 1. CO_2 emissions by fuel

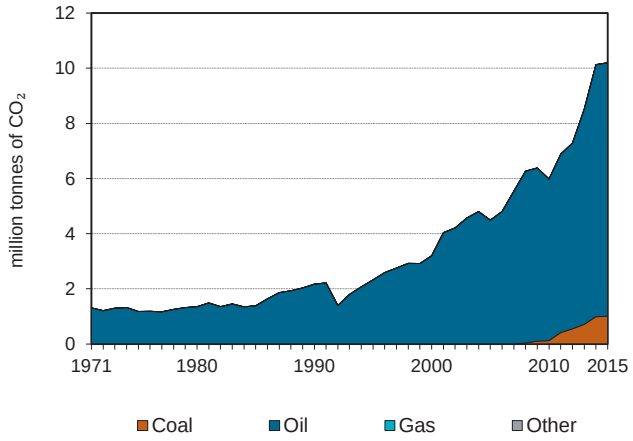


Figure 2. CO_2 emissions by sector

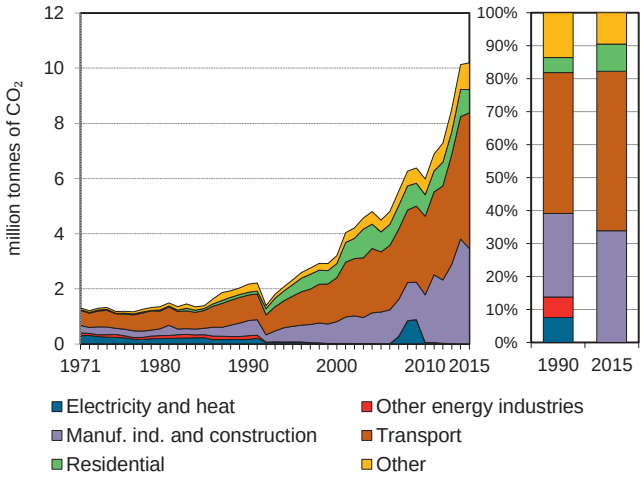


Figure 3. Electricity generation by fuel

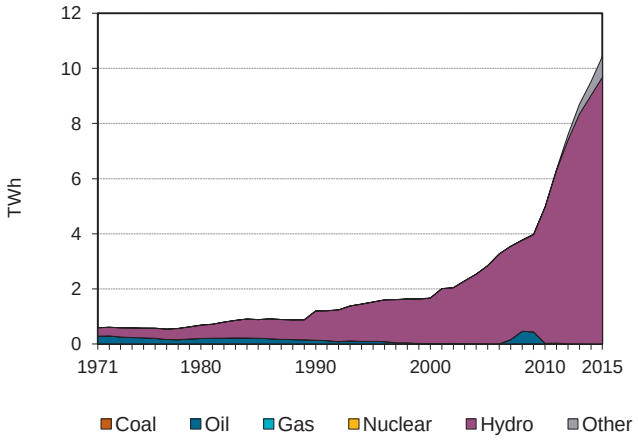


Figure 4. CO_2 from electricity generation: driving factors[2]

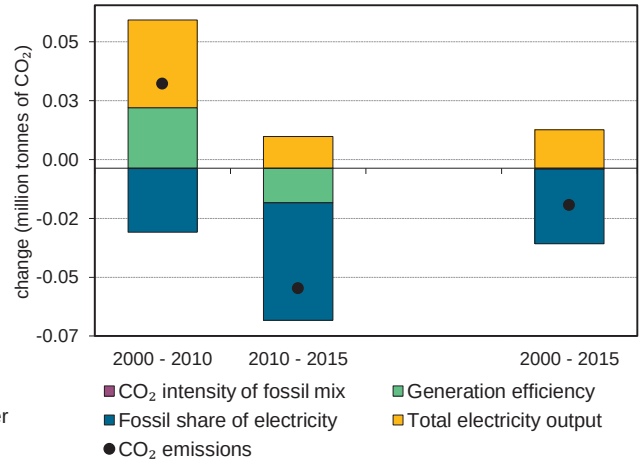


Figure 5. Changes in selected indicators

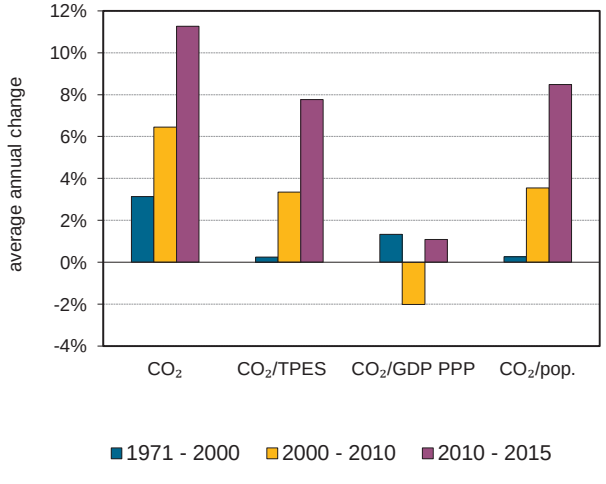
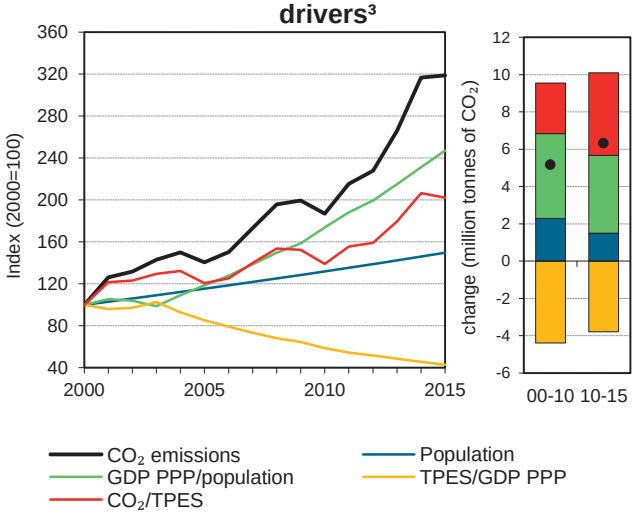


Figure 6. Total CO_2 emissions and drivers[3]



1. Data for Ethiopia include Eritrea until 1991.
2. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
3. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Ethiopia [1]

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	2.2	2.3	3.2	4.5	6.0	10.1	10.2	370%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	960	1 142	1 327	1 544	1 785	2 035	2 093	118%
GDP (billion 2010 USD)	10	10.5	13.1	17.9	29.9	44.1	48.3	385%
GDP PPP (billion 2010 USD)	30.7	32.3	40.3	55.1	92.3	135.9	149.0	385%
Population (millions)	48.1	57.2	66.4	76.6	87.6	97.0	99.4	107%
CO_2 / TPES (tCO_2 per TJ)	2.3	2.0	2.4	2.9	3.4	5.0	4.9	116%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.22	0.2	0.2	0.3	0.2	0.2	0.2	-3%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.07	0.1	0.1	0.1	0.1	0.1	0.1	-3%
CO_2 / population (tCO_2 per capita)	0.1	0.0	0.0	0.1	0.1	0.1	0.1	127%
Share of electricity output from fossil fuels	12%	6%	1%	0%	1%	0%	0%	
CO_2 / kWh of electricity (gCO_2/kWh)	137	42	11	3	11	1	0	-100%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [2]								
CO_2 emissions index	100	107	147	207	276	467	470	370%
Population index	100	119	138	159	182	202	207	107%
GDP PPP per population index	100	88	95	112	165	219	235	135%
Energy intensity index - TPES / GDP PPP	100	113	105	90	62	48	45	-55%
Carbon intensity index - CO_2 / TPES	100	90	107	129	148	220	216	116%

1. Data for Ethiopia include Eritrea until 1991. 2. Please see the chapter *Indicator sources and methods* in Part I for methodological notes.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [3]	Total	%change 90-15
CO_2 fuel combustion	**1.0**	**9.2**	**-**	**-**	**10.2**	**370%**
Electricity and heat generation	-	0.0	-	-	0.0	-98%
Other energy industry own use	-	-	-	-	-	-100%
Manufacturing industries and construction	1.0	2.5	-	-	3.5	529%
Transport	-	4.9	-	-	4.9	431%
of which: road	-	*4.7*	-	-	*4.7*	406%
Other	-	1.8	-	-	1.8	360%
of which: residential	-	*0.8*	-	-	*0.8*	749%
of which: services	-	*0.2*	-	-	*0.2*	657%
Memo: international marine bunkers	-	..	-	-	..	..
Memo: international aviation bunkers	-	*1.3*	-	-	*1.3*	*145%*

3. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[4] (%)	Cumulative total (%)
Road - oil	4.7	405.9	2.2	2.2
Manufacturing industries - oil	2.5	346.2	1.2	3.4
Manufacturing industries - coal	1.0	x	0.5	3.8
Non-specified other - oil	1.0	229.3	0.5	4.3
Residential - oil	0.8	748.7	0.4	4.7
Other transport - oil	0.2	x	0.1	4.8
Main activity prod. elec. and heat - oil	0.0	-96.5	0.0	4.8
-	-	-	-	-
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*10.2*	*369.9*	*4.8*	*4.8*

4. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Finland

Figure 1. CO_2 emissions by fuel

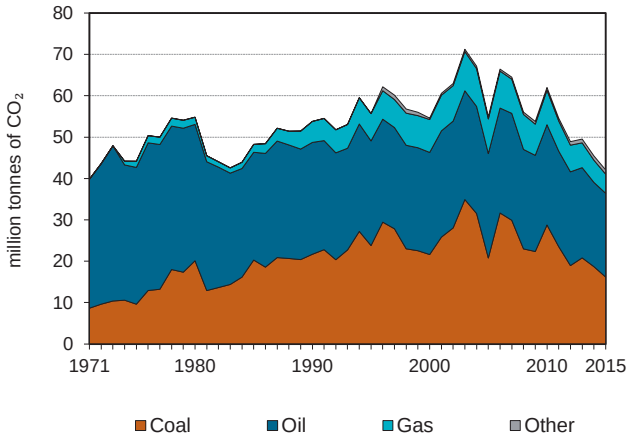


Figure 2. CO_2 emissions by sector

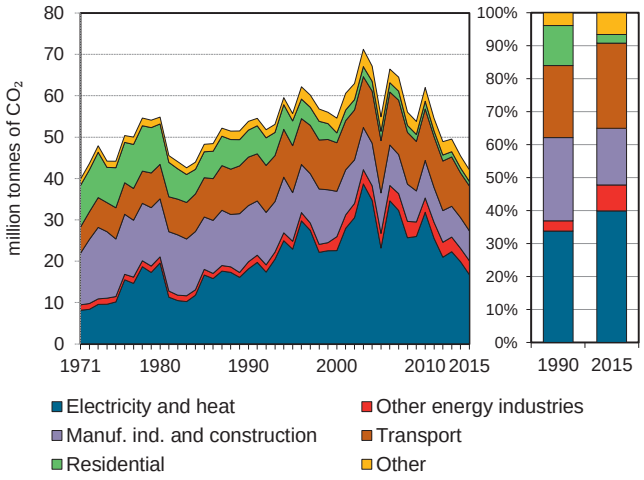


Figure 3. Electricity generation by fuel

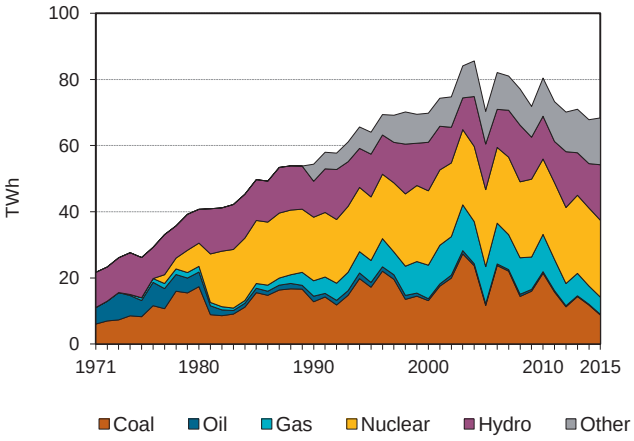


Figure 4. CO_2 from electricity generation: driving factors[1]

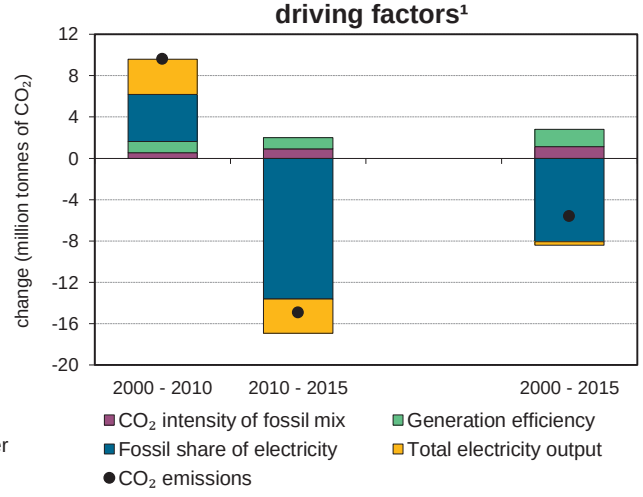


Figure 5. Changes in selected indicators

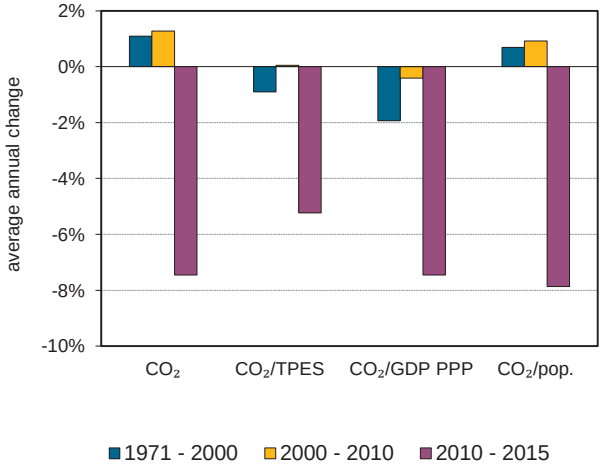
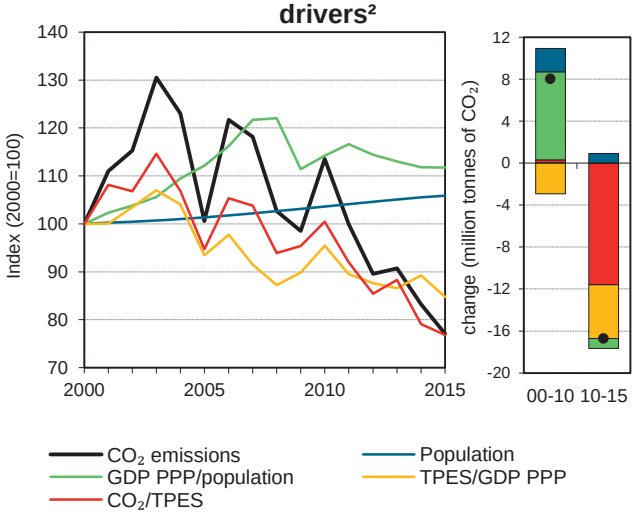


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Finland

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	53.8	55.7	54.6	54.9	62.0	45.5	42.1	-22%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	1188	1 211	1 356	1 440	1 532	1 428	1 360	14%
GDP (billion 2010 USD)	167.1	163.4	209.4	237.9	247.8	247.1	247.7	48%
GDP PPP (billion 2010 USD)	140.4	137.3	175.9	199.9	208.2	207.6	208.1	48%
Population (millions)	5	5.1	5.2	5.2	5.4	5.5	5.5	10%
CO_2 / TPES (tCO_2 per TJ)	45.3	46.0	40.3	38.1	40.5	31.8	30.9	-32%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.32	0.3	0.3	0.2	0.3	0.2	0.2	-47%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.38	0.4	0.3	0.3	0.3	0.2	0.2	-47%
CO_2 / population (tCO_2 per capita)	10.8	10.9	10.5	10.5	11.6	8.3	7.7	-29%
Share of electricity output from fossil fuels	35%	39%	34%	34%	42%	27%	22%	
CO_2 / kWh of electricity (gCO_2/kWh)	193	227	178	168	234	147	107	-45%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	103	101	102	115	84	78	-22%
Population index	100	102	104	105	108	110	110	10%
GDP PPP per population index	100	95	121	135	138	135	135	35%
Energy intensity index - TPES / GDP PPP	100	104	91	85	87	81	77	-23%
Carbon intensity index - CO_2 / TPES	100	102	89	84	89	70	68	-32%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**16.2**	**20.2**	**4.6**	**1.0**	**42.1**	**-22%**
Electricity and heat generation	12.5	0.8	2.8	0.8	16.8	-8%
Other energy industry own use	1.3	1.6	0.4	-	3.3	95%
Manufacturing industries and construction	2.2	3.5	1.3	0.2	7.2	-47%
Transport	-	10.9	0.0	-	10.9	-7%
of which: road	-	*10.2*	*0.0*	-	*10.2*	-5%
Other	0.2	3.6	0.1	-	3.9	-55%
of which: residential	*0.0*	*1.0*	*0.1*	-	*1.1*	-83%
of which: services	*0.0*	*0.7*	*0.1*	-	*0.8*	x
Memo: international marine bunkers	-	*0.9*	-	-	*0.9*	*-48%*
Memo: international aviation bunkers	-	*1.9*	-	-	*1.9*	*93%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	12.2	-3.9	21.1	21.1
Road - oil	10.2	-5.3	17.7	38.7
Manufacturing industries - oil	3.5	-11.5	6.1	44.8
Non-specified other - oil	2.6	23.1	4.4	49.2
Main activity prod. elec. and heat - gas	2.4	22.4	4.2	53.4
Manufacturing industries - coal	2.2	-70.5	3.8	57.2
Other energy industry own use - oil	1.6	33.4	2.7	59.9
Other energy industry - coal	1.3	x	2.3	62.2
Manufacturing industries - gas	1.3	-39.7	2.3	64.5
Memo: total CO_2 from fuel combustion	*42.1*	*-21.8*	*72.9*	*72.9*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Former Yugoslav Republic of Macedonia

Figure 1. CO_2 emissions by fuel

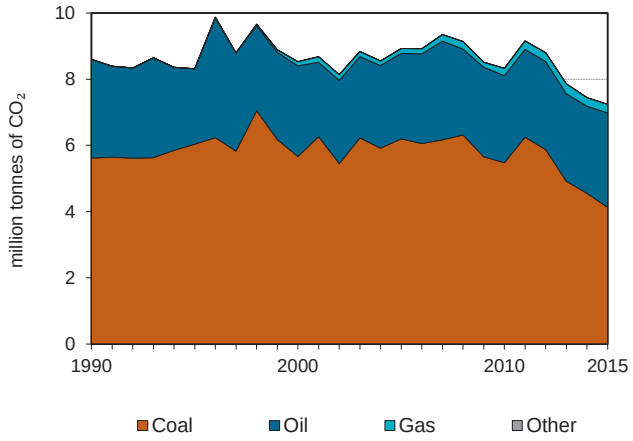


Figure 2. CO_2 emissions by sector

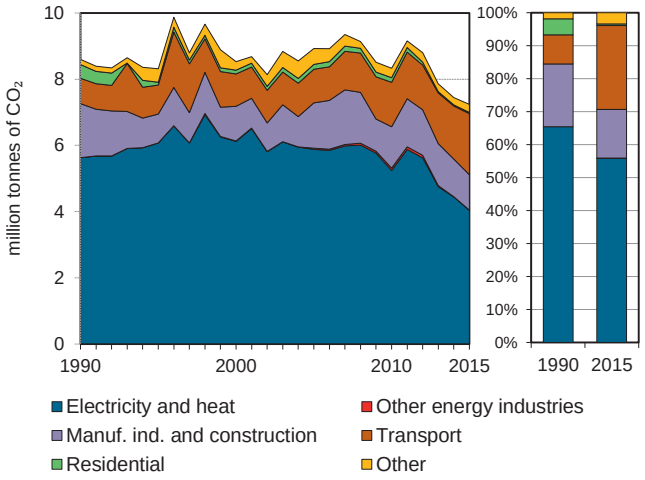


Figure 3. Electricity generation by fuel

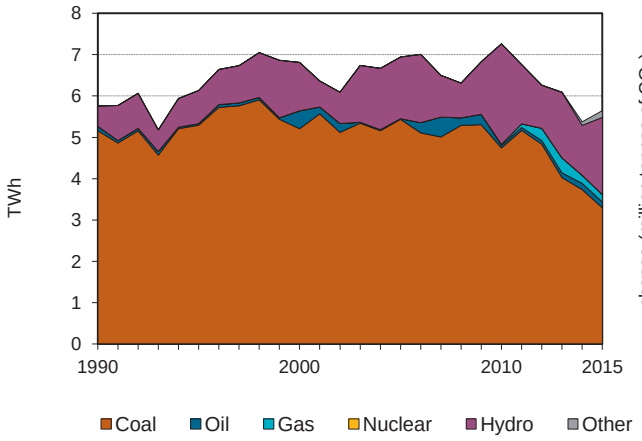


Figure 4. CO_2 from electricity generation: driving factors[1]

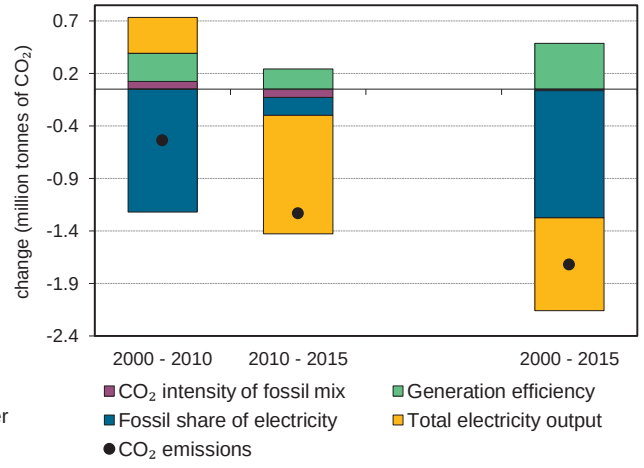


Figure 5. Changes in selected indicators

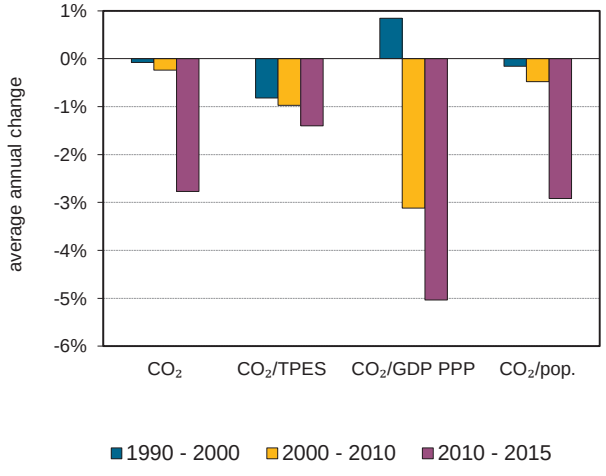
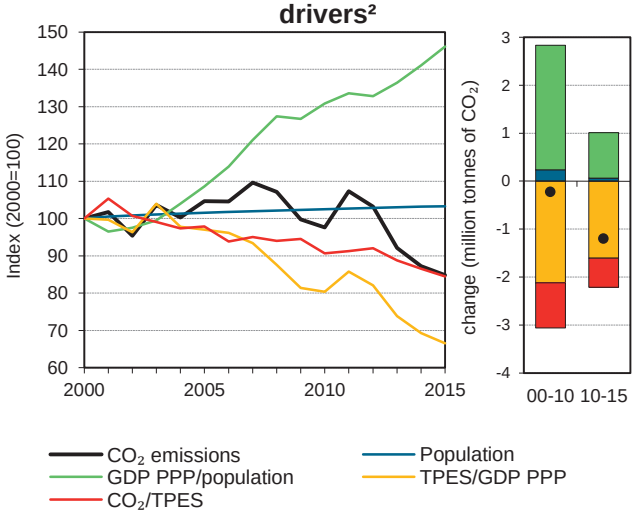


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Former Yugoslav Republic of Macedonia

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	8.6	8.3	8.5	8.9	8.3	7.4	7.2	-16%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	104	105	112	119	120	113	112	8%
GDP (billion 2010 USD)	7.7	6.1	7.0	7.7	9.4	10.2	10.6	38%
GDP PPP (billion 2010 USD)	19.7	15.5	18.0	19.8	24.1	26.1	27.1	38%
Population (millions)	2	2.0	2.0	2.0	2.1	2.1	2.1	4%
CO_2 / TPES (tCO_2 per TJ)	82.9	79.5	76.4	74.8	69.3	66.1	64.6	-22%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	1.12	1.4	1.2	1.2	0.9	0.7	0.7	-39%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.44	0.5	0.5	0.5	0.3	0.3	0.3	-39%
CO_2 / population (tCO_2 per capita)	4.3	4.3	4.2	4.4	4.0	3.6	3.5	-19%
Share of electricity output from fossil fuels	91%	87%	83%	79%	67%	76%	64%	
CO_2 / kWh of electricity (gCO_2/kWh)	935	897	815	806	697	804	692	-26%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	97	99	104	97	87	84	-16%
Population index	100	98	101	102	103	104	104	4%
GDP PPP per population index	100	80	90	98	118	128	132	32%
Energy intensity index - TPES / GDP PPP	100	128	118	115	95	82	79	-21%
Carbon intensity index - CO_2 / TPES	100	96	92	90	84	80	78	-22%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**4.1**	**2.8**	**0.3**	**-**	**7.2**	**-16%**
Electricity and heat generation	3.7	0.1	0.2	-	4.0	-28%
Other energy industry own use	-	0.0	-	-	0.0	x
Manufacturing industries and construction	0.4	0.6	0.1	-	1.1	-35%
Transport	-	1.8	0.0	-	1.8	141%
of which: road	-	*1.8*	*0.0*	-	*1.8*	147%
Other	0.0	0.3	0.0	-	0.3	-51%
of which: residential	*0.0*	*0.0*	*0.0*	-	*0.0*	-91%
of which: services	*0.0*	*0.2*	*0.0*	-	*0.2*	+
Memo: international marine bunkers	-	-	-	-	-	-
Memo: international aviation bunkers	-	*0.0*	-	-	*0.0*	*180%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	3.7	-26.4	34.8	34.8
Road - oil	1.8	147.3	17.1	51.9
Manufacturing industries - oil	0.6	-48.3	5.8	57.6
Manufacturing industries - coal	0.4	-10.8	3.6	61.3
Non-specified other - oil	0.2	59.0	2.1	63.4
Main activity prod. elec. and heat - gas	0.2	x	1.7	65.1
Main activity prod. elec. and heat - oil	0.1	-30.4	1.1	66.2
Manufacturing industries - gas	0.1	x	0.6	66.8
Residential - oil	0.0	-91.8	0.3	67.1
Memo: total CO_2 from fuel combustion	*7.2*	*-15.8*	*67.4*	*67.4*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

France

Figure 1. CO_2 emissions by fuel

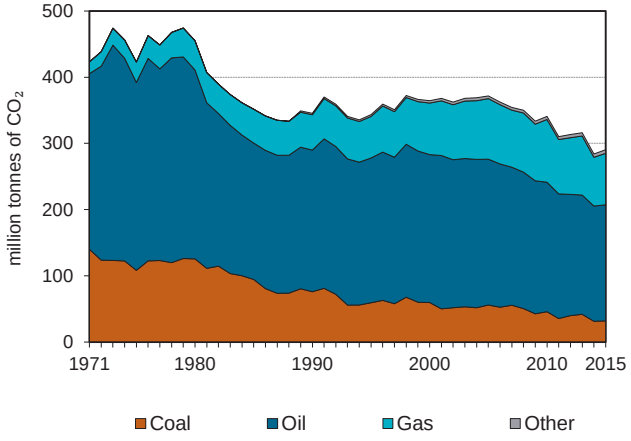


Figure 2. CO_2 emissions by sector

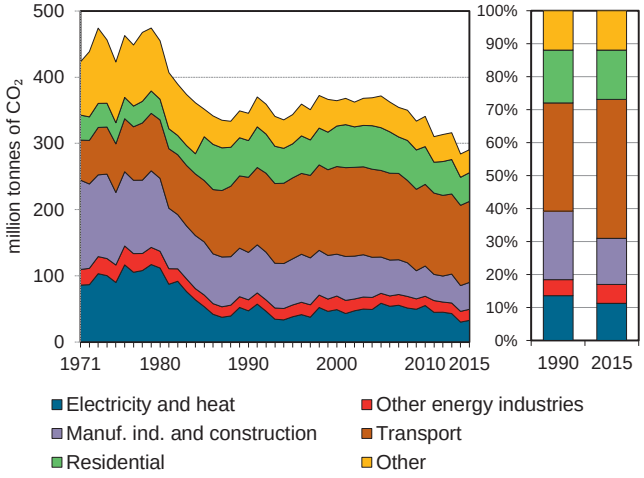


Figure 3. Electricity generation by fuel

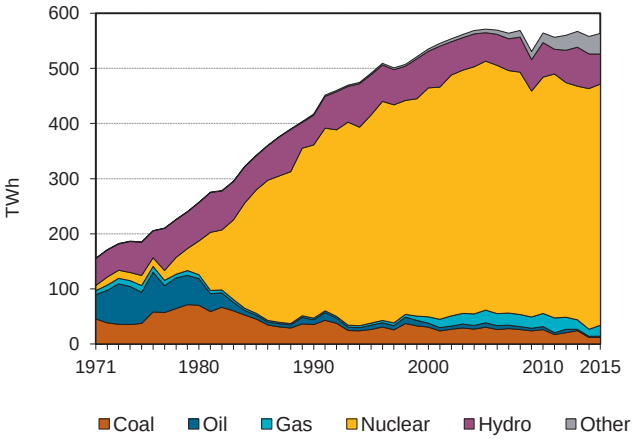


Figure 4. CO_2 from electricity generation: driving factors[1]

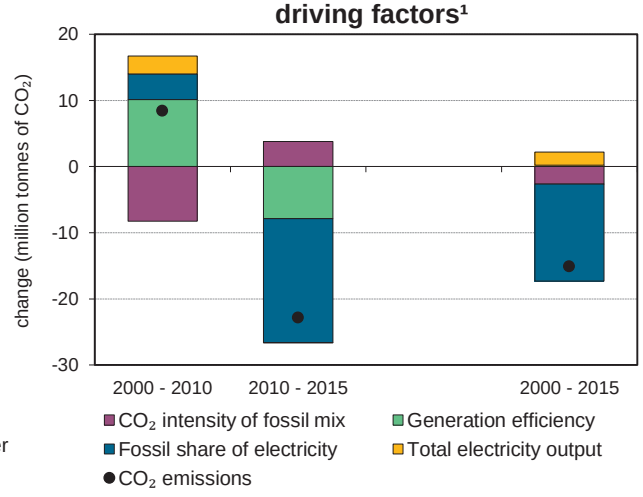


Figure 5. Changes in selected indicators

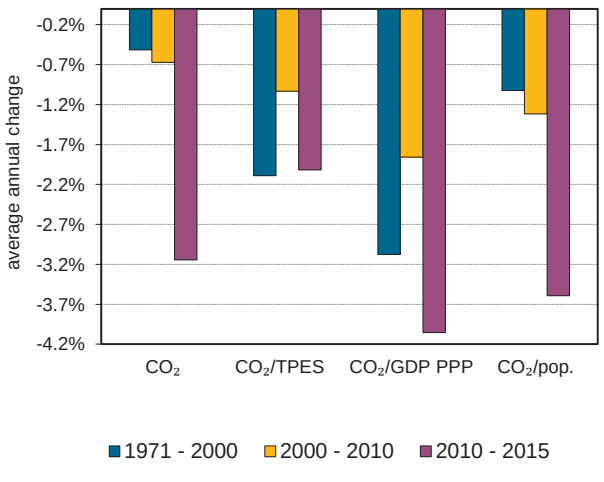
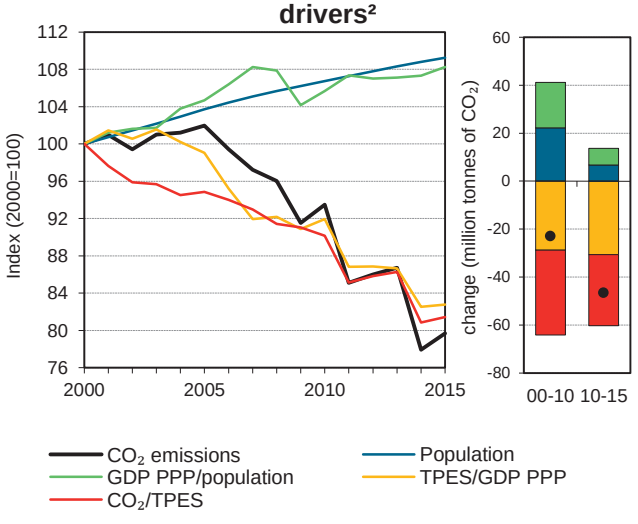


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

France

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	345.5	343.5	364.5	371.8	340.8	284.0	290.5	-16%
Share of World CO_2 from fuel combustion	2%	2%	2%	1%	1%	1%	1%	
TPES (PJ)	9379	9 925	10 547	11 340	10 936	10 162	10 321	10%
GDP (billion 2010 USD)	1907.3	2 033.1	2 346.5	2 547.2	2 646.8	2 748.2	2 777.5	46%
GDP PPP (billion 2010 USD)	1688.2	1 799.5	2 076.9	2 254.5	2 342.7	2 425.0	2 455.9	45%
Population (millions)	58.2	59.5	60.9	63.1	65.0	66.2	66.5	14%
CO_2 / TPES (tCO_2 per TJ)	36.8	34.6	34.6	32.8	31.2	28.0	28.1	-24%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.18	0.2	0.2	0.1	0.1	0.1	0.1	-42%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.2	0.2	0.2	0.2	0.1	0.1	0.1	-42%
CO_2 / population (tCO_2 per capita)	5.9	5.8	6.0	5.9	5.2	4.3	4.4	-26%
Share of electricity output from fossil fuels	11%	8%	9%	11%	10%	5%	7%	
CO_2 / kWh of electricity (gCO_2/kWh)	108	74	77	81	80	43	46	-57%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	99	106	108	99	82	84	-16%
Population index	100	102	105	108	112	114	114	14%
GDP PPP per population index	100	104	118	123	124	126	127	27%
Energy intensity index - TPES / GDP PPP	100	99	91	91	84	75	76	-24%
Carbon intensity index - CO_2 / TPES	100	94	94	89	85	76	76	-24%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**31.9**	**175.4**	**77.8**	**5.4**	**290.5**	**-16%**
Electricity and heat generation	15.6	2.1	10.1	4.9	32.6	-31%
Other energy industry own use	6.8	5.3	4.5	0.1	16.7	1%
Manufacturing industries and construction	9.2	7.3	24.2	0.0	40.6	-43%
Transport	-	122.0	0.4	-	122.4	8%
of which: road	-	*117.7*	*0.2*	-	*118.0*	8%
Other	0.3	38.6	38.7	0.5	78.1	-19%
of which: residential	*0.1*	*19.3*	*23.9*	-	*43.4*	-22%
of which: services	*0.2*	*7.0*	*14.4*	*0.5*	*22.1*	-27%
Memo: international marine bunkers	-	*5.2*	-	-	*5.2*	*-34%*
Memo: international aviation bunkers	-	*17.8*	-	-	*17.8*	*89%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	117.7	8.2	26.7	26.7
Manufacturing industries - gas	24.2	11.9	5.5	32.1
Residential - gas ***	23.9	54.6	5.4	37.6
Residential - oil	19.3	-42.0	4.4	41.9
Non-specified other - oil	19.3	-27.4	4.4	46.3
Non-specified other - gas	14.8	1.0	3.4	49.7
Main activity prod. elec. and heat - coal	12.1	-43.8	2.7	52.4
Manufacturing industries - coal	9.2	-68.4	2.1	54.5
Main activity prod. elec. and heat - gas ***	8.4	+	1.9	56.4
Memo: total CO_2 from fuel combustion	*290.5*	*-15.9*	*65.8*	*65.8*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Gabon

Figure 1. CO_2 emissions by fuel

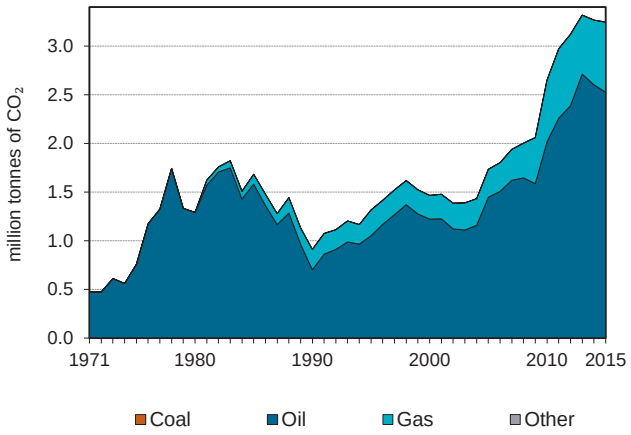


Figure 2. CO_2 emissions by sector

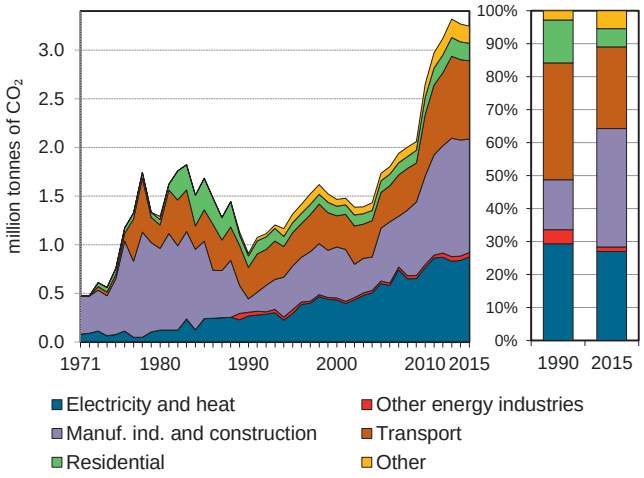


Figure 3. Electricity generation by fuel

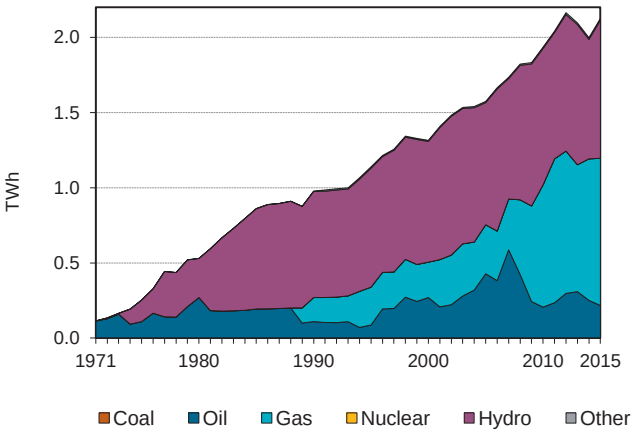


Figure 4. CO_2 from electricity generation: driving factors[1]

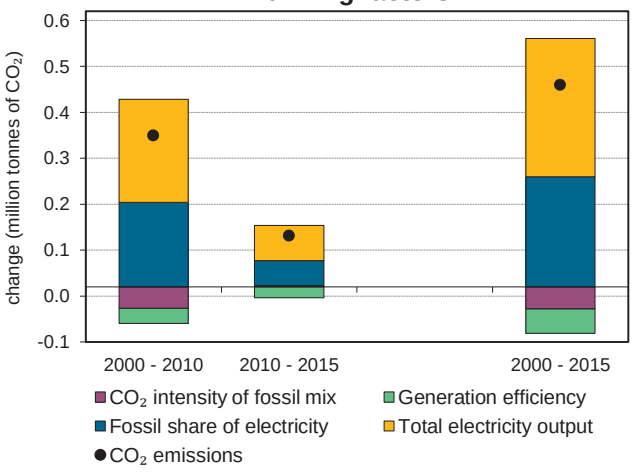


Figure 5. Changes in selected indicators

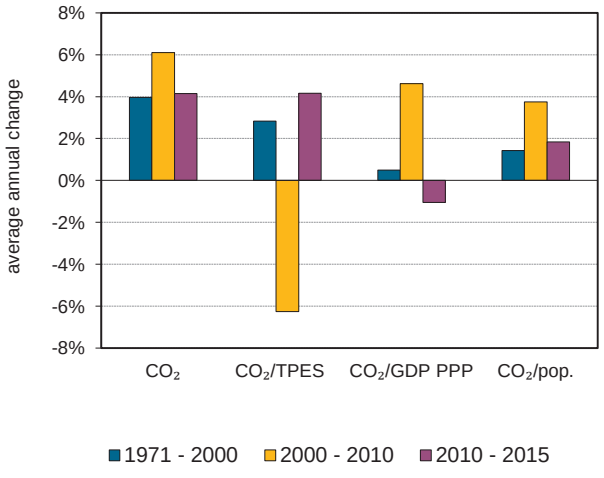
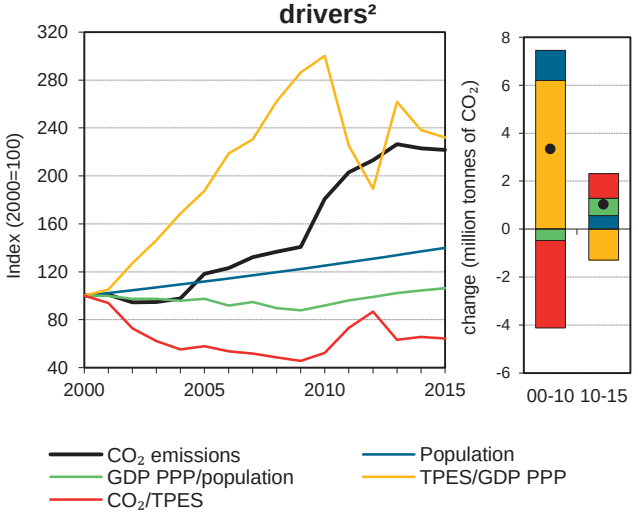


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Gabon

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	0.9	1.3	1.5	1.7	2.6	3.3	3.2	257%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	49	56	62	126	213	209	212	329%
GDP (billion 2010 USD)	10.6	12.3	12.5	13.6	14.4	17.8	18.6	75%
GDP PPP (billion 2010 USD)	18.2	21.2	21.5	23.4	24.7	30.7	31.9	75%
Population (millions)	1	1.1	1.2	1.4	1.5	1.7	1.7	81%
CO_2 / TPES (tCO_2 per TJ)	18.4	23.4	23.8	13.8	12.5	15.6	15.3	-17%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.09	0.1	0.1	0.1	0.2	0.2	0.2	104%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.05	0.1	0.1	0.1	0.1	0.1	0.1	104%
CO_2 / population (tCO_2 per capita)	1	1.2	1.2	1.3	1.7	1.9	1.9	97%
Share of electricity output from fossil fuels	28%	30%	38%	48%	53%	60%	56%	
CO_2 / kWh of electricity (gCO_2/kWh)	272	257	328	381	395	419	411	51%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	145	161	190	291	359	357	257%
Population index	100	114	129	145	162	177	181	81%
GDP PPP per population index	100	102	91	89	84	95	97	-3%
Energy intensity index - TPES / GDP PPP	100	98	106	198	317	251	245	145%
Carbon intensity index - CO_2 / TPES	100	127	129	75	68	85	83	-17%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**2.5**	**0.7**	**-**	**3.2**	**257%**
Electricity and heat generation	-	0.2	0.7	-	0.9	228%
Other energy industry own use	-	-	0.0	-	0.0	15%
Manufacturing industries and construction	-	1.2	0.0	-	1.2	747%
Transport	-	0.8	-	-	0.8	149%
of which: road	-	*0.8*	-	-	*0.8*	149%
Other	-	0.4	-	-	0.4	148%
of which: residential	-	*0.2*	-	-	*0.2*	52%
of which: services	-	*0.1*	-	-	*0.1*	x
Memo: international marine bunkers	-	*0.6*	-	-	*0.6*	*623%*
Memo: international aviation bunkers	-	*0.2*	-	-	*0.2*	*3%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Manufacturing industries - oil	1.2	761.3	6.0	6.0
Road - oil	0.8	148.6	4.1	10.1
Main activity prod. elec. and heat - gas	0.6	354.2	2.9	13.0
Residential - oil	0.2	52.4	0.9	13.9
Non-specified other - oil	0.2	587.5	0.9	14.8
Main activity prod. elec. and heat - oil	0.1	53.8	0.7	15.5
Unallocated autoproducers - gas	0.1	145.7	0.5	16.0
Unallocated autoproducers - oil	0.1	380.0	0.4	16.4
Other energy industry own use - gas	0.0	14.8	0.2	16.6
Memo: total CO_2 from fuel combustion	*3.2*	*256.7*	*16.6*	*16.6*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Georgia

Figure 1. CO_2 emissions by fuel

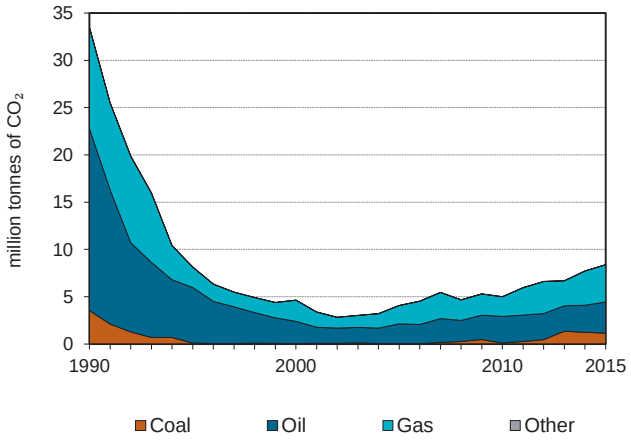


Figure 2. CO_2 emissions by sector

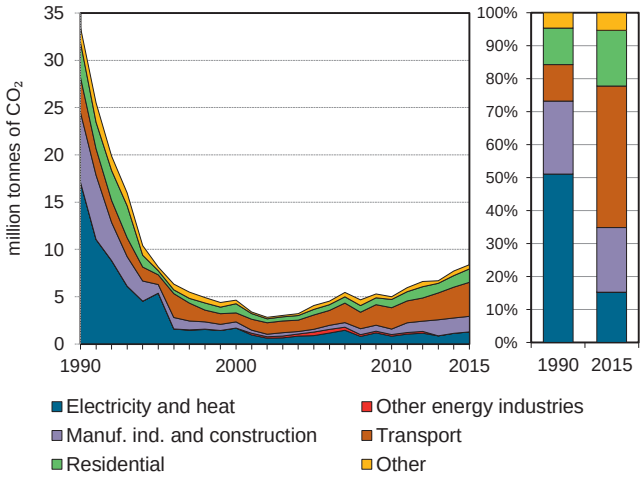


Figure 3. Electricity generation by fuel

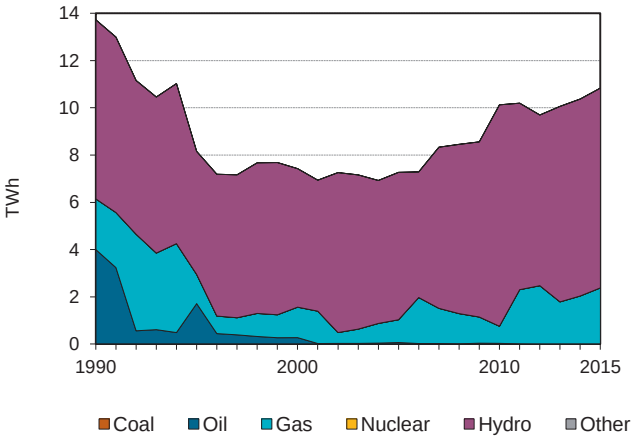


Figure 4. CO_2 from electricity generation: driving factors[1]

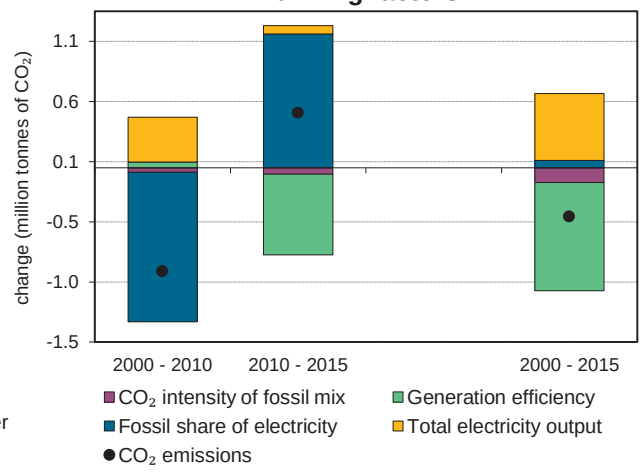


Figure 5. Changes in selected indicators

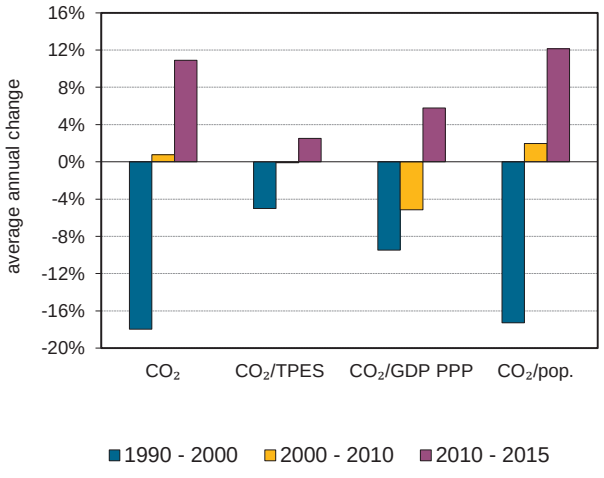
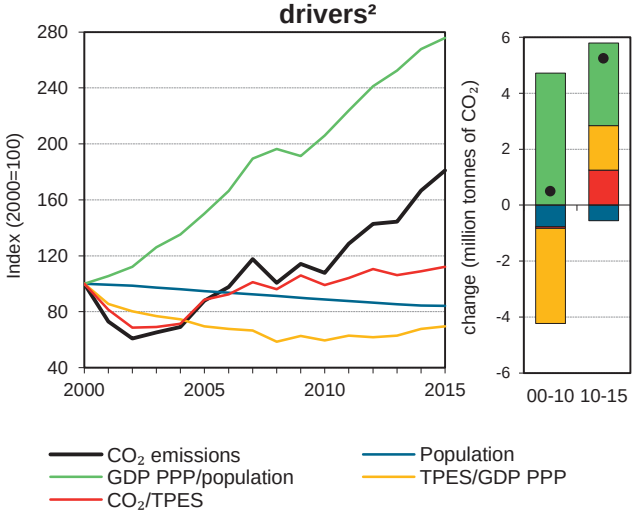


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Georgia

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	33.5	8.1	4.6	4.1	5.0	7.7	8.4	-75%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	520	156	120	119	131	184	194	-63%
GDP (billion 2010 USD)	17	4.8	6.4	9.1	11.6	14.4	14.8	-13%
GDP PPP (billion 2010 USD)	37.7	10.7	14.1	20.2	25.9	31.9	32.8	-13%
Population (millions)	4.8	4.7	4.4	4.2	3.9	3.7	3.7	-23%
CO_2 / TPES (tCO_2 per TJ)	64.4	52.2	38.6	34.2	38.2	42.0	43.2	-33%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	1.98	1.7	0.7	0.4	0.4	0.5	0.6	-71%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.89	0.8	0.3	0.2	0.2	0.2	0.3	-71%
CO_2 / population (tCO_2 per capita)	7	1.7	1.0	1.0	1.3	2.1	2.3	-68%
Share of electricity output from fossil fuels	45%	36%	21%	14%	7%	20%	22%	
CO_2 / kWh of electricity (gCO_2/kWh)	580	514	226	101	69	109	118	-80%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	24	14	12	15	23	25	-75%
Population index	100	99	92	87	82	78	77	-23%
GDP PPP per population index	100	29	41	61	84	109	112	12%
Energy intensity index - TPES / GDP PPP	100	106	62	43	37	42	43	-57%
Carbon intensity index - CO_2 / TPES	100	81	60	53	59	65	67	-33%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**1.2**	**3.3**	**3.9**	**-**	**8.4**	**-75%**
Electricity and heat generation	-	-	1.3	-	1.3	-93%
Other energy industry own use	0.0	-	-	-	0.0	x
Manufacturing industries and construction	1.1	0.3	0.2	-	1.6	-78%
Transport	-	2.9	0.7	-	3.6	-3%
of which: road	-	*2.9*	*0.7*	-	*3.6*	2%
Other	0.0	0.1	1.7	-	1.9	-65%
of which: residential	*0.0*	*0.1*	*1.4*	-	*1.4*	-62%
of which: services	*0.0*	*0.0*	*0.4*	-	*0.4*	-62%
Memo: international marine bunkers	-	..	-	-	..	..
Memo: international aviation bunkers	-	*0.2*	-	-	*0.2*	*-65%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	2.9	-18.2	17.9	17.9
Residential - gas	1.4	-48.1	8.6	26.5
Main activity prod. elec. and heat - gas	1.3	-72.3	8.0	34.5
Manufacturing industries - coal	1.1	-50.6	7.2	41.7
Road - gas	0.7	x	4.5	46.1
Non-specified other - gas	0.4	22.9	2.3	48.5
Manufacturing industries - oil	0.3	-86.0	1.7	50.2
Manufacturing industries - gas	0.2	-92.7	1.4	51.6
Non-specified other - oil	0.1	-93.6	0.5	52.1
Memo: total CO_2 from fuel combustion	*8.4*	*-75.0*	*52.6*	*52.6*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Germany

Figure 1. CO_2 emissions by fuel

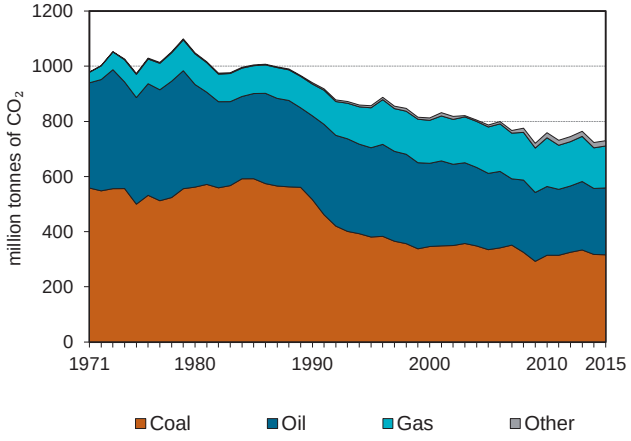


Figure 2. CO_2 emissions by sector

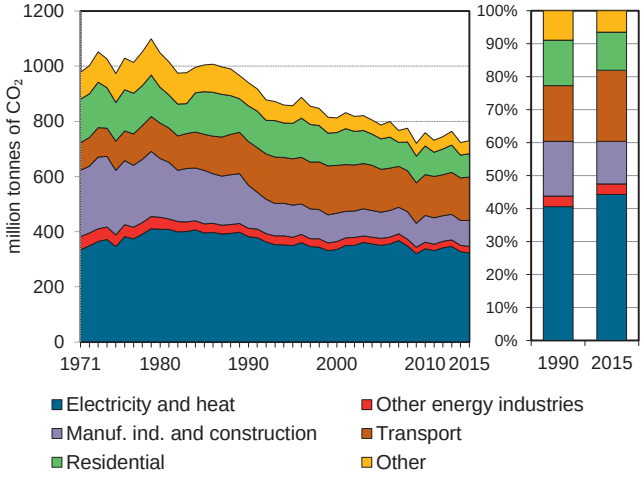


Figure 3. Electricity generation by fuel

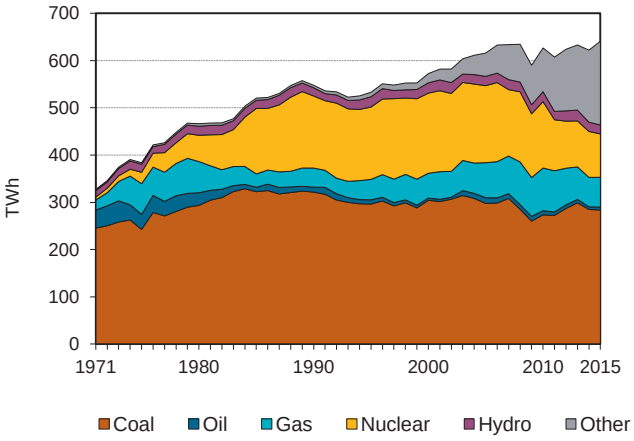


Figure 4. CO_2 from electricity generation: driving factors[1]

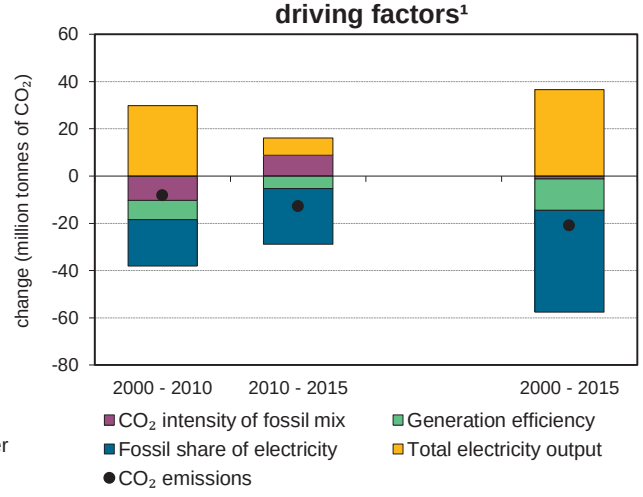


Figure 5. Changes in selected indicators

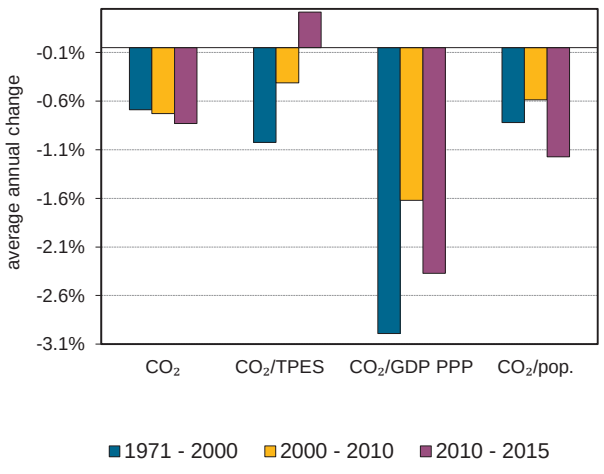
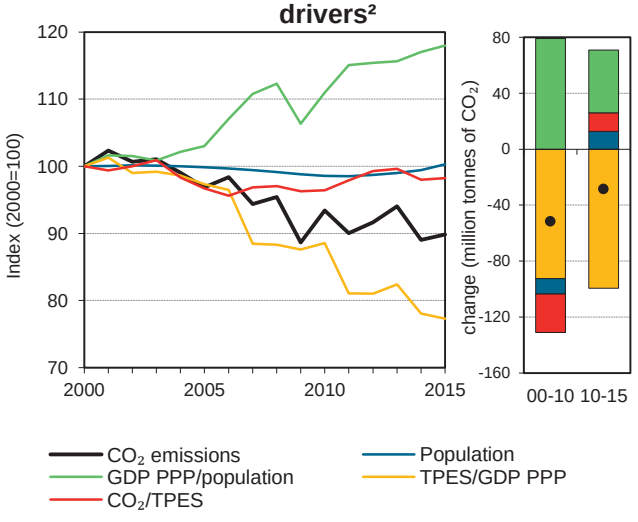


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Germany

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	940.3	856.7	812.4	786.8	758.9	723.3	729.8	-22%
Share of World CO_2 from fuel combustion	5%	4%	4%	3%	2%	2%	2%	
TPES (PJ)	14704	14 088	14 092	14 113	13 648	12 800	12 887	-12%
GDP (billion 2010 USD)	2568.6	2 841.0	3 123.9	3 213.8	3 417.1	3 634.1	3 696.6	44%
GDP PPP (billion 2010 USD)	2413.6	2 669.5	2 935.3	3 019.8	3 210.8	3 414.7	3 473.5	44%
Population (millions)	79.4	81.3	81.5	81.3	80.3	81.0	81.7	3%
CO_2 / TPES (tCO_2 per TJ)	64	60.8	57.7	55.7	55.6	56.5	56.6	-11%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.37	0.3	0.3	0.2	0.2	0.2	0.2	-46%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.39	0.3	0.3	0.3	0.2	0.2	0.2	-46%
CO_2 / population (tCO_2 per capita)	11.9	10.5	10.0	9.7	9.5	8.9	8.9	-25%
Share of electricity output from fossil fuels	69%	66%	64%	63%	61%	58%	56%	
CO_2 / kWh of electricity (gCO_2/kWh)	624	601	542	506	475	474	450	-28%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	91	86	84	81	77	78	-22%
Population index	100	102	103	102	101	102	103	3%
GDP PPP per population index	100	108	118	122	132	139	140	40%
Energy intensity index - TPES / GDP PPP	100	87	79	77	70	62	61	-39%
Carbon intensity index - CO_2 / TPES	100	95	90	87	87	88	89	-11%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**316.2**	**242.4**	**152.1**	**19.0**	**729.8**	**-22%**
Electricity and heat generation	271.8	4.3	33.1	13.6	322.8	-15%
Other energy industry own use	5.9	14.4	3.3	0.0	23.6	-22%
Manufacturing industries and construction	35.3	9.3	43.9	5.3	93.9	-40%
Transport	-	156.5	1.0	-	157.5	-1%
of which: road	-	*152.0*	*0.4*	-	*152.4*	1%
Other	3.2	57.8	70.9	-	131.8	-38%
of which: residential	*2.4*	*35.9*	*46.3*	-	*84.7*	-34%
of which: services	*0.7*	*21.5*	*24.5*	-	*46.8*	-31%
Memo: international marine bunkers	-	*7.6*	-	-	*7.6*	*-4%*
Memo: international aviation bunkers	-	*24.1*	-	-	*24.1*	*81%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	247.8	-14.0	27.8	27.8
Road - oil	152.0	1.2	17.1	44.9
Residential - gas	46.3	47.2	5.2	50.1
Manufacturing industries - gas	43.9	9.7	4.9	55.1
Residential - oil	35.9	-35.7	4.0	59.1
Manufacturing industries - coal	35.3	-62.2	4.0	63.1
Non-specified other - gas	24.5	64.3	2.8	65.8
Main activity prod. elec. and heat - gas	24.4	31.4	2.7	68.6
Unallocated autoproducers - coal	24.0	-55.1	2.7	71.3
Memo: total CO_2 from fuel combustion	*729.8*	*-22.4*	*82.0*	*82.0*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Ghana

Figure 1. CO_2 emissions by fuel

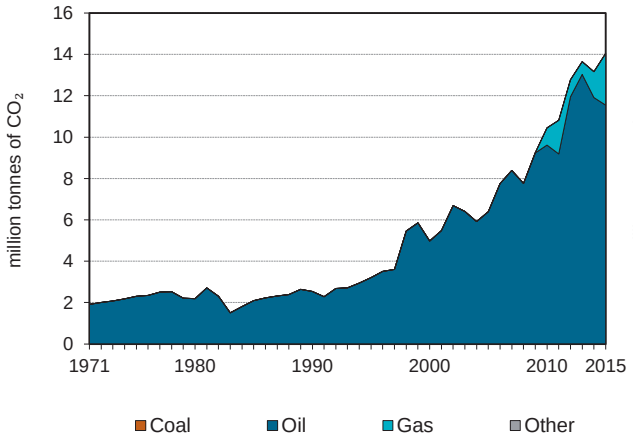


Figure 2. CO_2 emissions by sector

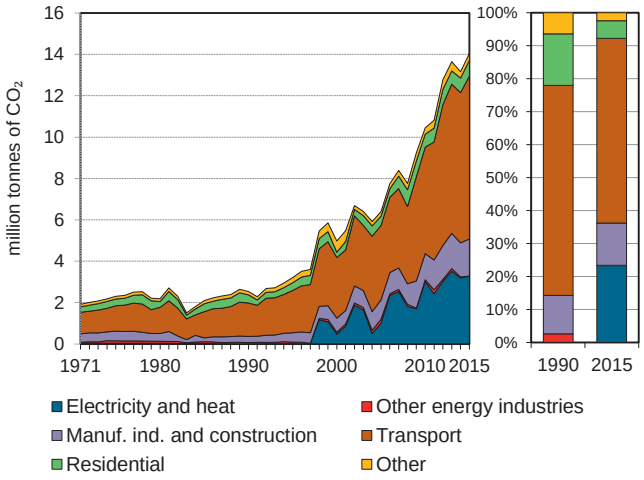


Figure 3. Electricity generation by fuel

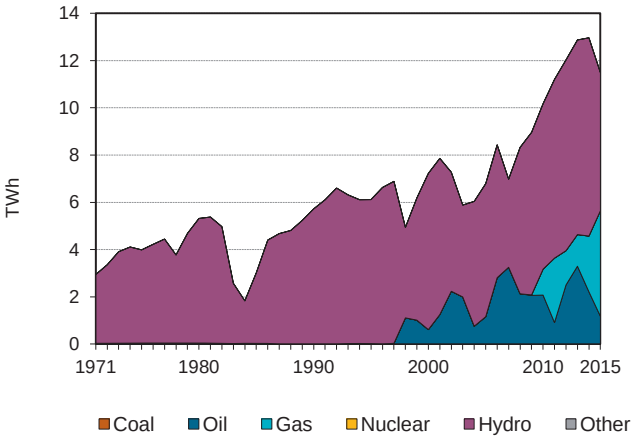


Figure 4. CO_2 from electricity generation: driving factors[1]

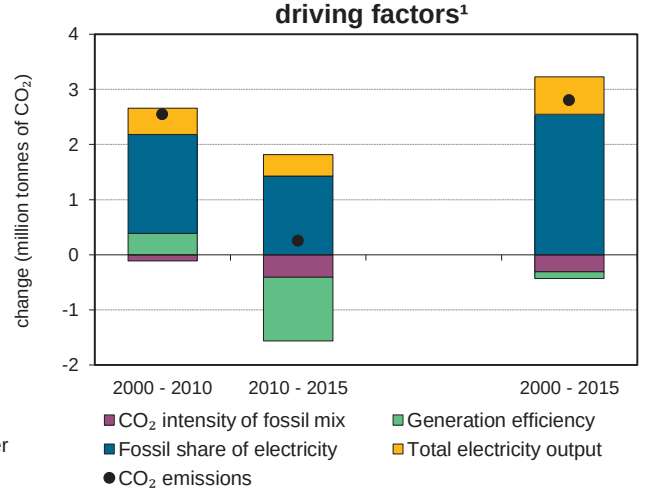


Figure 5. Changes in selected indicators

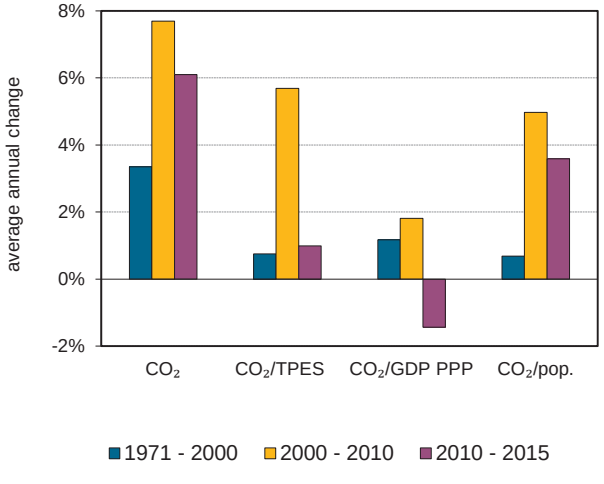
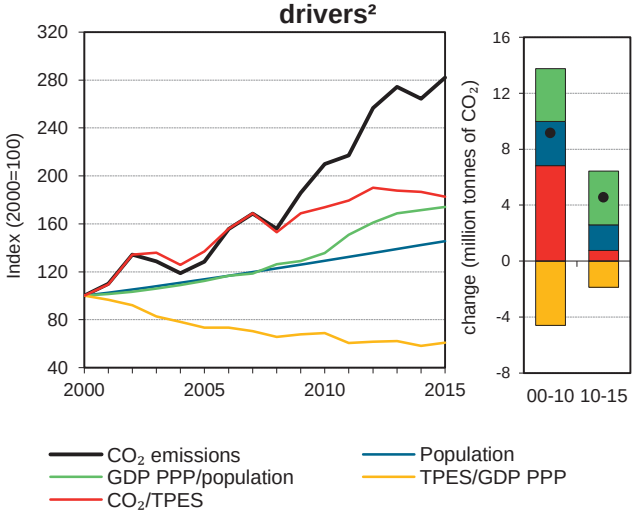


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Ghana

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	2.5	3.2	5.0	6.4	10.4	13.2	14.0	453%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	222	271	263	246	317	372	406	83%
GDP (billion 2010 USD)	12.1	14.9	18.4	23.5	32.2	44.8	46.5	286%
GDP PPP (billion 2010 USD)	27.5	33.9	41.9	53.6	73.5	102.2	106.2	286%
Population (millions)	14.6	16.8	18.8	21.4	24.3	26.8	27.4	87%
CO_2 / TPES (tCO_2 per TJ)	11.5	11.8	18.9	26.0	32.9	35.4	34.6	202%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.21	0.2	0.3	0.3	0.3	0.3	0.3	43%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.09	0.1	0.1	0.1	0.1	0.1	0.1	43%
CO_2 / population (tCO_2 per capita)	0.2	0.2	0.3	0.3	0.4	0.5	0.5	195%
Share of electricity output from fossil fuels	0%	0%	9%	17%	31%	35%	49%	
CO_2 / kWh of electricity (gCO_2/kWh)	0	3	66	148	297	247	285	0%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	126	196	252	412	519	553	453%
Population index	100	115	129	146	166	183	187	87%
GDP PPP per population index	100	108	118	133	161	203	206	106%
Energy intensity index - TPES / GDP PPP	100	99	78	57	54	45	47	-53%
Carbon intensity index - CO_2 / TPES	100	103	165	227	287	309	302	202%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**11.5**	**2.5**	**-**	**14.0**	**453%**
Electricity and heat generation	-	0.8	2.5	-	3.3	x
Other energy industry own use	-	0.0	-	-	0.0	-78%
Manufacturing industries and construction	-	1.8	-	-	1.8	503%
Transport	-	7.9	-	-	7.9	387%
of which: road	-	*7.3*	-	-	*7.3*	376%
Other	-	1.1	-	-	1.1	96%
of which: residential	-	*0.8*	-	-	*0.8*	92%
of which: services	-	*0.1*	-	-	*0.1*	148%
Memo: international marine bunkers	-	..	-	-	..	..
Memo: international aviation bunkers	-	*0.4*	-	-	*0.4*	*173%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	7.3	376.4	9.2	9.2
Main activity prod. elec. and heat - gas	2.5	x	3.2	12.4
Manufacturing industries - oil	1.8	502.8	2.3	14.7
Main activity prod. elec. and heat - oil	0.8	x	1.0	15.7
Residential - oil	0.8	91.7	1.0	16.6
Other transport - oil	0.6	588.5	0.7	17.3
Non-specified other - oil	0.3	105.0	0.4	17.8
Other energy industry own use - oil	0.0	-78.1	0.0	17.8
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*14.0*	*453.4*	*17.8*	*17.8*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Gibraltar

Figure 1. CO_2 emissions by fuel

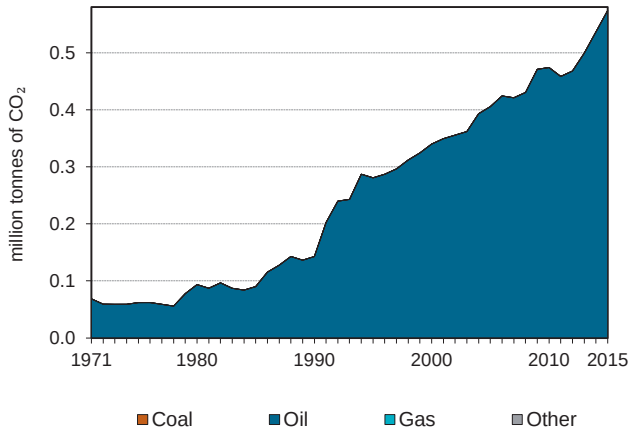


Figure 2. CO_2 emissions by sector

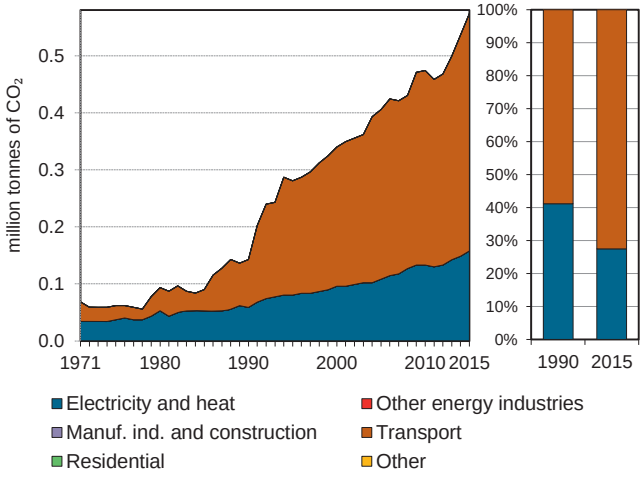


Figure 3. Electricity generation by fuel

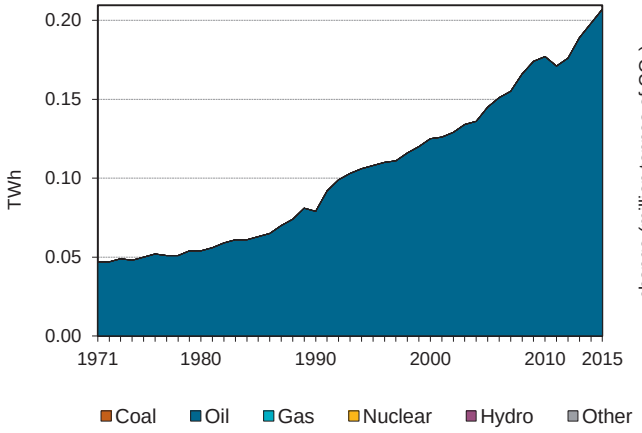


Figure 4. CO_2 from electricity generation: driving factors[1]

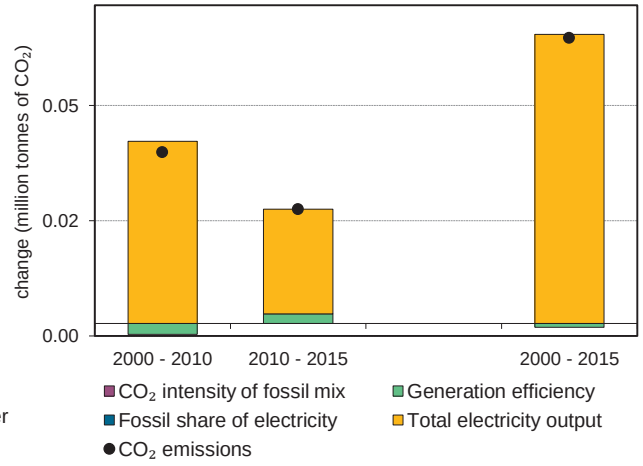


Figure 5. Changes in selected indicators

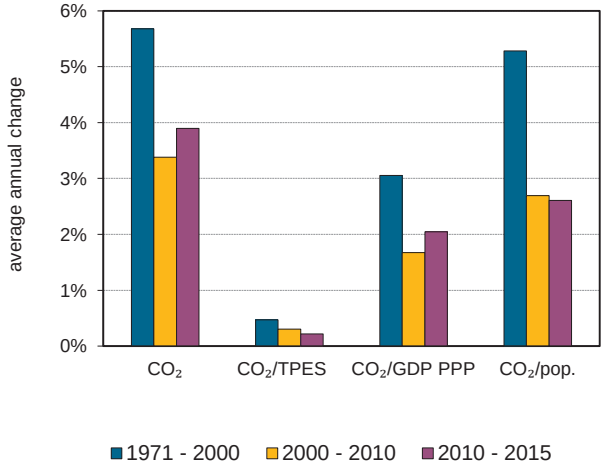
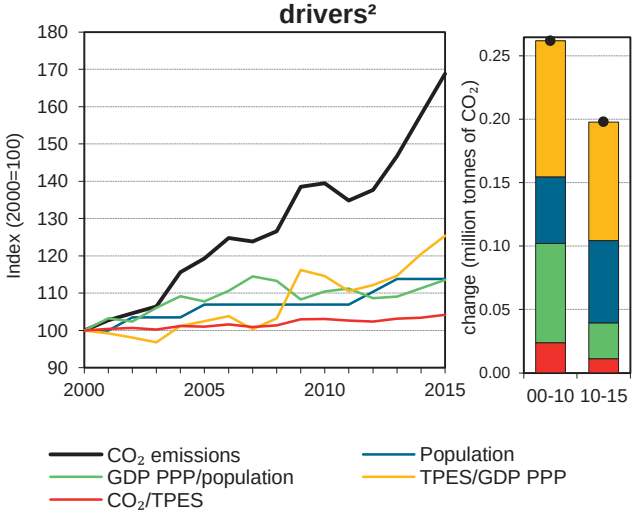


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Gibraltar

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	0.1	0.3	0.3	0.4	0.5	0.5	0.6	302%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	2	4	5	6	7	8	9	260%
GDP (billion 2010 USD)	0.7	0.8	0.9	1.0	1.1	1.1	1.2	63%
GDP PPP (billion 2010 USD)	0.6	0.6	0.8	0.9	0.9	1.0	1.0	72%
Population (millions)	0	0.0	0.0	0.0	0.0	0.0	0.0	18%
CO_2 / TPES (tCO_2 per TJ)	59.2	63.9	63.5	64.2	65.4	65.7	66.2	12%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.2	0.4	0.4	0.4	0.5	0.5	0.5	146%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.25	0.4	0.4	0.5	0.5	0.5	0.6	134%
CO_2 / population (tCO_2 per capita)	5.1	9.7	11.7	13.1	15.3	16.3	17.4	241%
Share of electricity output from fossil fuels	100%	100%	100%	100%	100%	100%	100%	
CO_2 / kWh of electricity (gCO_2/kWh)	744	745	767	747	752	750	762	2%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	197	238	284	332	376	402	302%
Population index	100	104	104	111	111	118	118	18%
GDP PPP per population index	100	105	129	139	142	143	146	46%
Energy intensity index - TPES / GDP PPP	100	168	167	171	191	201	209	109%
Carbon intensity index - CO_2 / TPES	100	108	107	108	110	111	112	12%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**0.6**	**-**	**-**	**0.6**	**302%**
Electricity and heat generation	-	0.2	-	-	0.2	168%
Other energy industry own use	-	-	-	-	-	-
Manufacturing industries and construction	-	-	-	-	-	-
Transport	-	0.4	-	-	0.4	396%
of which: road	-	*0.4*	-	-	*0.4*	396%
Other	-	-	-	-	-	-
of which: residential	-	-	-	-	-	-
of which: services	-	-	-	-	-	-
Memo: international marine bunkers	-	*11.7*	-	-	*11.7*	*113%*
Memo: international aviation bunkers	-	*0.0*	-	-	*0.0*	*14%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	0.4	395.8	69.3	69.3
Main activity prod. elec. and heat - oil	0.2	168.4	26.3	95.6
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*0.6*	*302.1*	*95.6*	*95.6*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Greece

Figure 1. CO_2 emissions by fuel

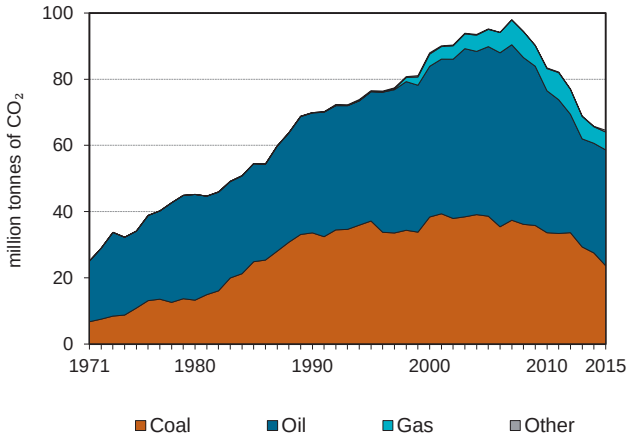


Figure 2. CO_2 emissions by sector

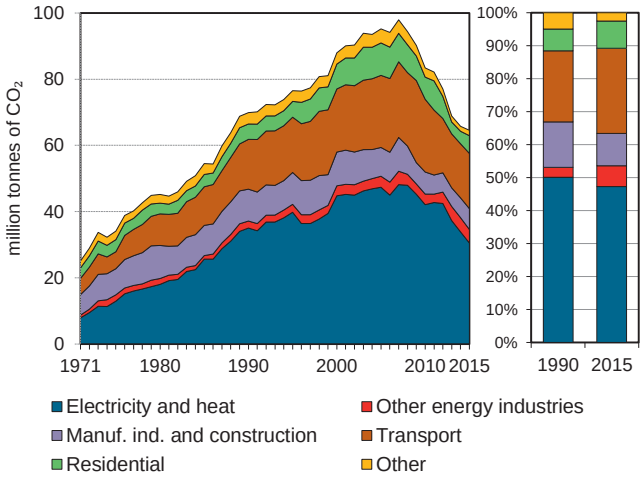


Figure 3. Electricity generation by fuel

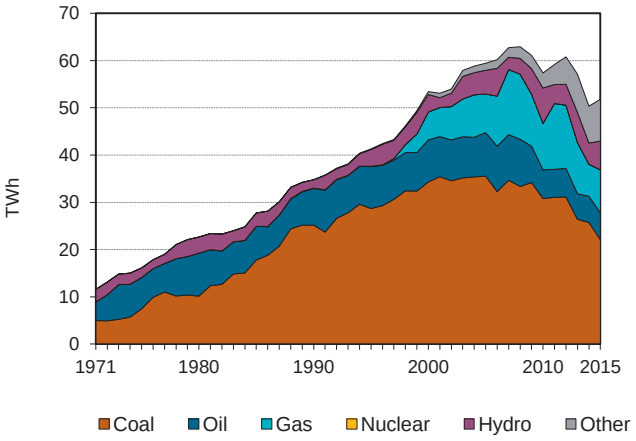


Figure 4. CO_2 from electricity generation: driving factors[1]

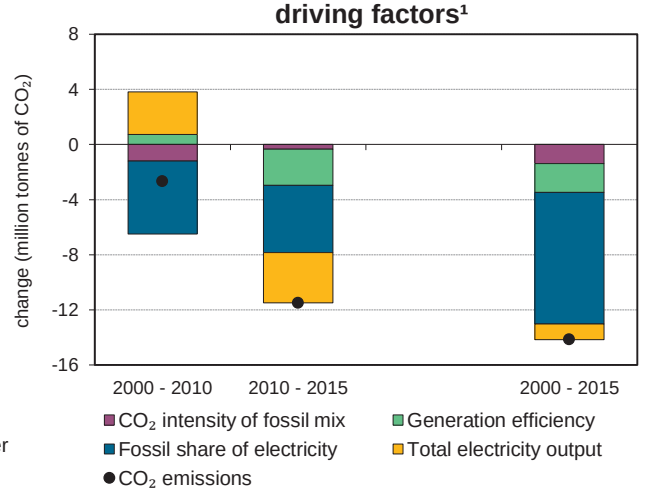


Figure 5. Changes in selected indicators

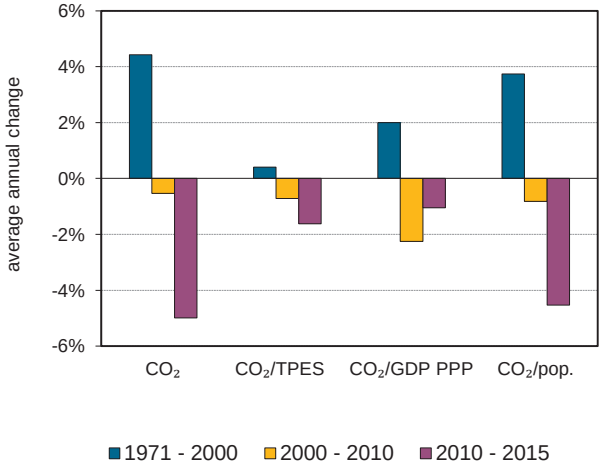
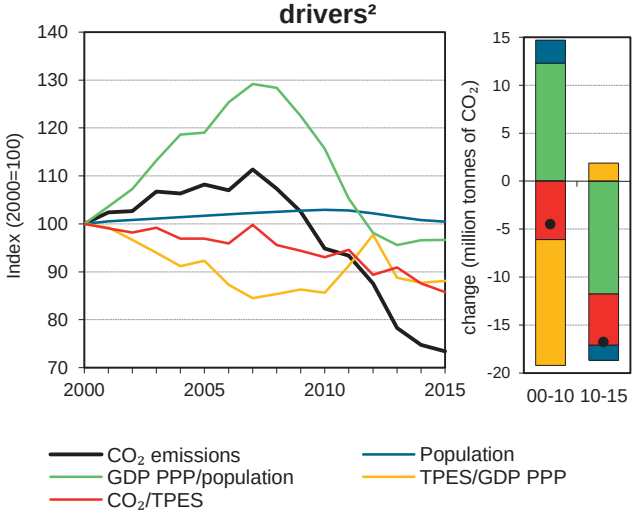


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Greece

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	69.9	76.5	88.0	95.2	83.4	65.8	64.6	-8%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	898	949	1 134	1 266	1 156	968	971	8%
GDP (billion 2010 USD)	197.7	210.3	251.5	304.3	299.4	244.9	244.3	24%
GDP PPP (billion 2010 USD)	207.1	220.3	263.5	318.9	313.7	256.5	256.0	24%
Population (millions)	10.3	10.6	10.8	11.0	11.1	10.9	10.9	6%
CO_2 / TPES (tCO_2 per TJ)	77.9	80.6	77.6	75.2	72.2	67.9	66.5	-15%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.35	0.4	0.3	0.3	0.3	0.3	0.3	-25%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.34	0.3	0.3	0.3	0.3	0.3	0.3	-25%
CO_2 / population (tCO_2 per capita)	6.8	7.2	8.1	8.7	7.5	6.0	5.9	-13%
Share of electricity output from fossil fuels	95%	91%	92%	89%	82%	76%	71%	
CO_2 / kWh of electricity (gCO_2/kWh)	1007	964	836	793	730	668	584	-42%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	109	126	136	119	94	92	-8%
Population index	100	103	105	107	108	106	106	6%
GDP PPP per population index	100	103	121	144	140	117	117	17%
Energy intensity index - TPES / GDP PPP	100	99	99	92	85	87	87	-13%
Carbon intensity index - CO_2 / TPES	100	104	100	97	93	87	85	-15%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**23.7**	**35.0**	**5.4**	**0.5**	**64.6**	**-8%**
Electricity and heat generation	22.8	4.5	3.1	0.1	30.5	-13%
Other energy industry own use	-	4.1	0.0	-	4.1	94%
Manufacturing industries and construction	0.9	4.0	1.0	0.4	6.3	-35%
Transport	-	16.6	0.0	-	16.7	11%
of which: road	-	*14.3*	*0.0*	-	*14.4*	23%
Other	0.0	5.7	1.2	-	7.0	-13%
of which: residential	*0.0*	*4.5*	*0.8*	-	*5.4*	16%
of which: services	-	*0.3*	*0.4*	-	*0.7*	42%
Memo: international marine bunkers	-	*5.7*	-	-	*5.7*	*-29%*
Memo: international aviation bunkers	-	*2.5*	-	-	*2.5*	*4%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	22.8	-22.0	25.0	25.0
Road - oil	14.3	23.2	15.7	40.7
Residential - oil	4.5	-1.0	4.9	45.7
Other energy industry own use - oil	4.1	97.3	4.5	50.1
Manufacturing industries - oil	4.0	-25.1	4.4	54.5
Main activity prod. elec. and heat - oil	3.5	-34.3	3.9	58.4
Main activity prod. elec. and heat - gas	2.6	x	2.9	61.3
Other transport - oil	2.3	-32.2	2.6	63.8
Non-specified other - oil	1.2	-63.8	1.3	65.2
Memo: total CO_2 from fuel combustion	*64.6*	*-7.6*	*70.9*	*70.9*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Guatemala

Figure 1. CO_2 emissions by fuel

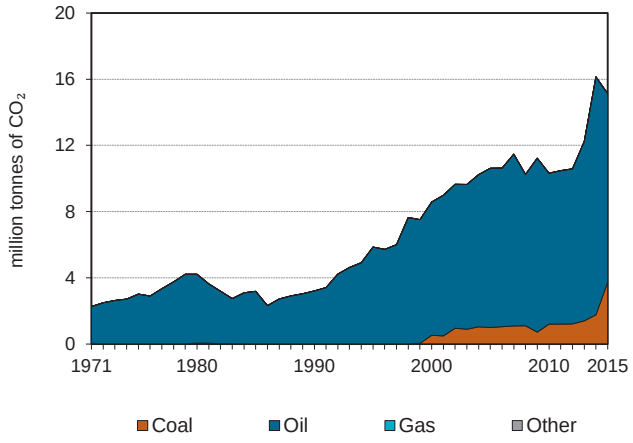


Figure 2. CO_2 emissions by sector

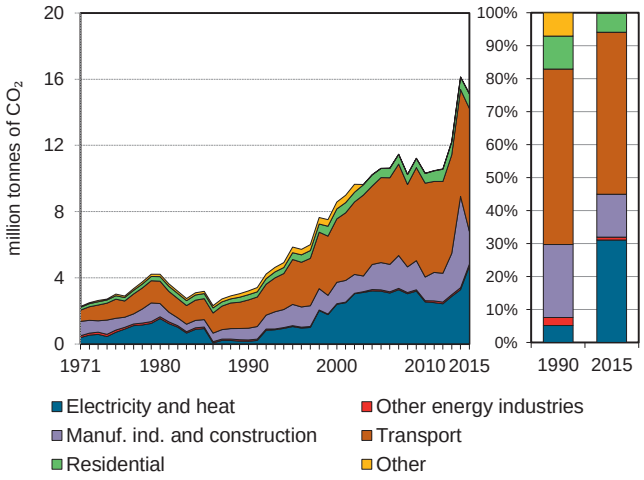


Figure 3. Electricity generation by fuel

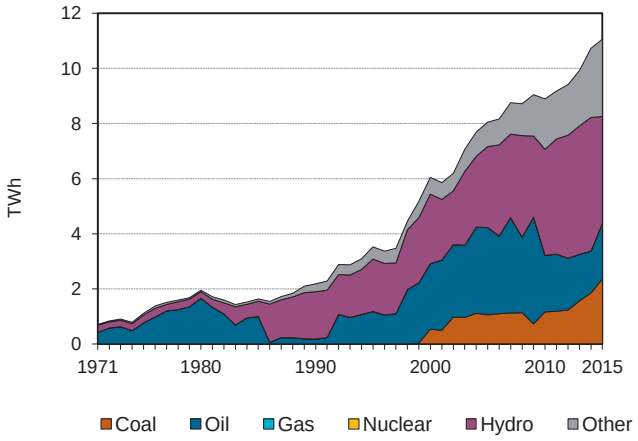


Figure 4. CO_2 from electricity generation: driving factors[1]

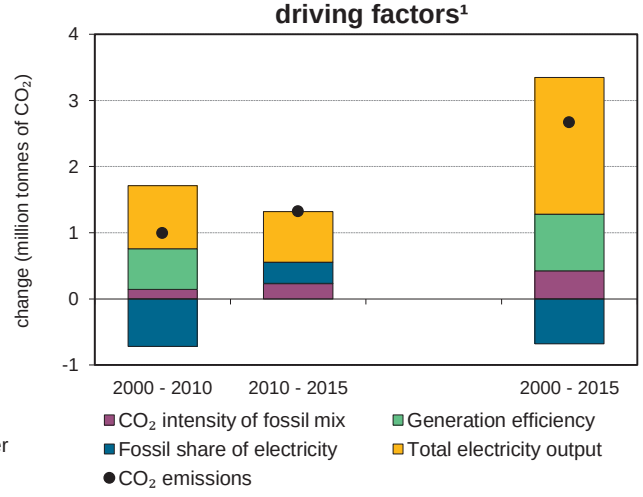


Figure 5. Changes in selected indicators

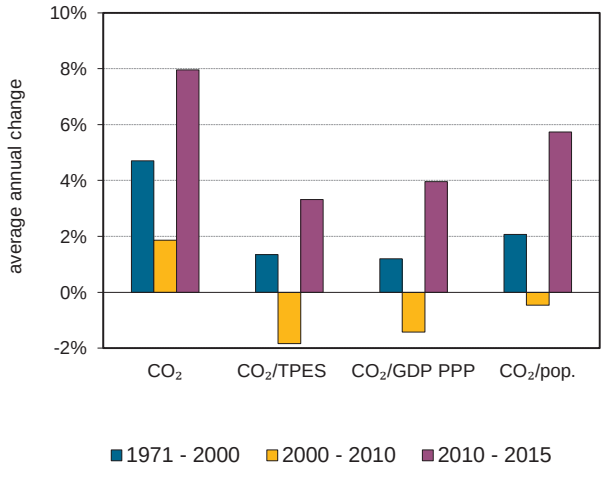
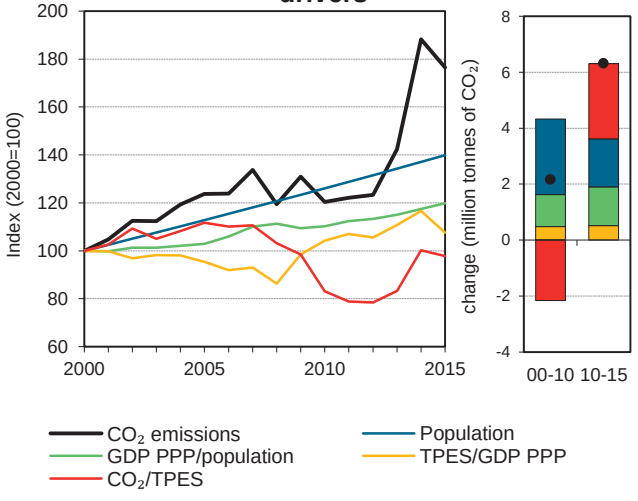


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Guatemala

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	3.2	5.9	8.6	10.6	10.3	16.1	15.1	372%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	185	223	295	327	427	553	531	188%
GDP (billion 2010 USD)	19.9	24.5	29.8	34.6	41.3	47.9	49.9	151%
GDP PPP (billion 2010 USD)	46.3	57.1	69.3	80.4	96.2	111.5	116.1	151%
Population (millions)	9.2	10.4	11.7	13.2	14.7	16.0	16.3	78%
CO_2 / TPES (tCO_2 per TJ)	17.4	26.3	29.1	32.5	24.2	29.2	28.5	64%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.16	0.2	0.3	0.3	0.2	0.3	0.3	88%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.07	0.1	0.1	0.1	0.1	0.1	0.1	88%
CO_2 / population (tCO_2 per capita)	0.4	0.6	0.7	0.8	0.7	1.0	0.9	165%
Share of electricity output from fossil fuels	8%	34%	48%	53%	36%	31%	40%	
CO_2 / kWh of electricity (gCO_2/kWh)	75	299	397	396	286	306	426	467%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	183	268	331	322	504	472	372%
Population index	100	113	128	144	161	175	178	78%
GDP PPP per population index	100	109	117	121	129	138	141	41%
Energy intensity index - TPES / GDP PPP	100	98	107	102	111	124	115	15%
Carbon intensity index - CO_2 / TPES	100	151	168	187	139	168	164	64%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**3.7**	**11.4**	**-**	**-**	**15.1**	**372%**
Electricity and heat generation	3.7	1.0	-	-	4.7	+
Other energy industry own use	-	0.1	-	-	0.1	55%
Manufacturing industries and construction	-	2.0	-	-	2.0	179%
Transport	-	7.4	-	-	7.4	335%
of which: road	-	*7.4*	-	-	*7.4*	335%
Other	-	0.9	-	-	0.9	64%
of which: residential	-	*0.9*	-	-	*0.9*	174%
of which: services	-	*0.0*	-	-	*0.0*	-84%
Memo: international marine bunkers	-	*1.1*	-	-	*1.1*	*152%*
Memo: international aviation bunkers	-	*0.2*	-	-	*0.2*	*46%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	7.4	334.7	20.5	20.5
Main activity prod. elec. and heat - coal	3.7	x	10.3	30.8
Manufacturing industries - oil	2.0	178.7	5.5	36.3
Main activity prod. elec. and heat - oil	0.9	476.3	2.6	38.9
Residential - oil	0.9	174.4	2.4	41.4
Other energy industry own use - oil	0.1	54.6	0.3	41.7
Unallocated autoproducers - oil	0.0	x	0.1	41.8
Non-specified other - oil	0.0	-89.4	0.1	41.8
Other transport - oil	0.0	x	0.0	41.9
Memo: total CO_2 from fuel combustion	*15.1*	*372.1*	*41.9*	*41.9*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Haiti

Figure 1. CO_2 emissions by fuel

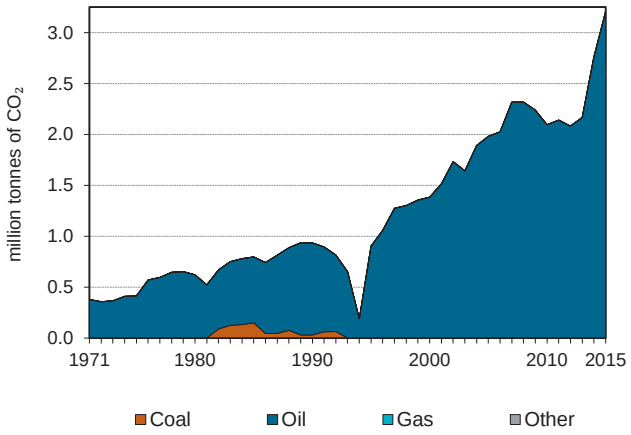


Figure 2. CO_2 emissions by sector

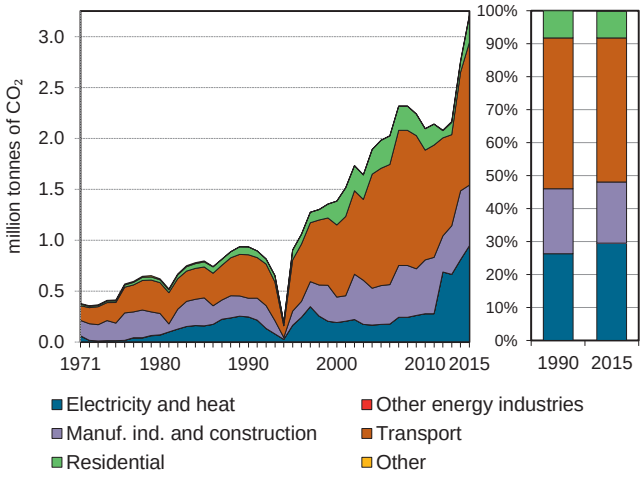


Figure 3. Electricity generation by fuel

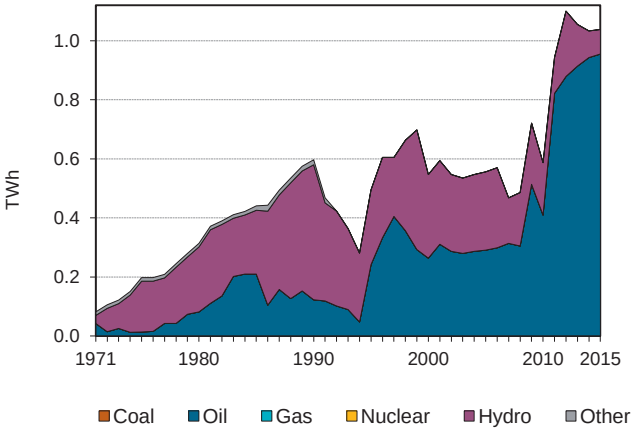


Figure 4. CO_2 from electricity generation: driving factors[1]

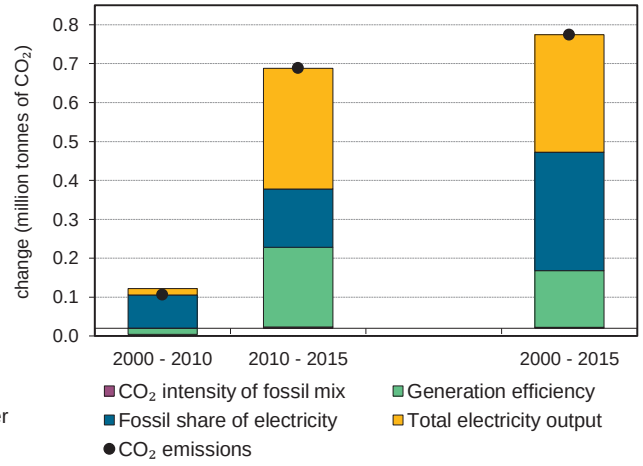


Figure 5. Changes in selected indicators

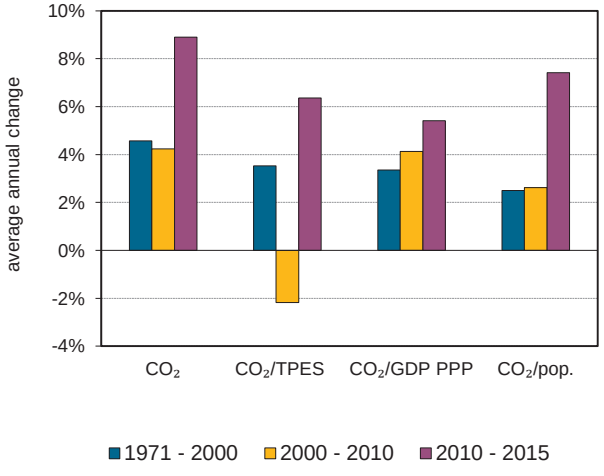
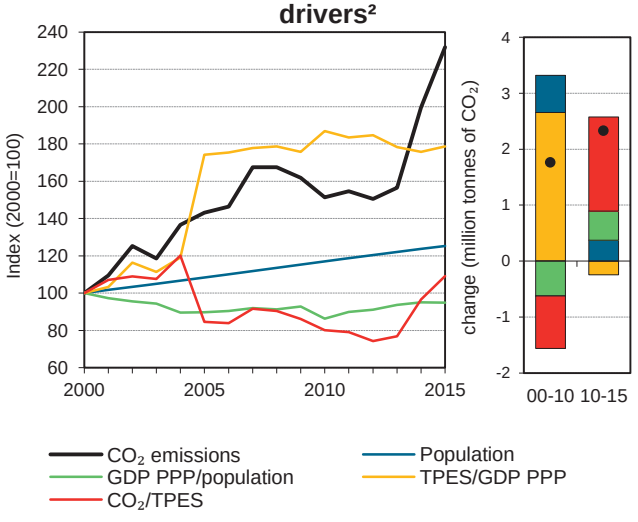


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Haiti

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	0.9	0.9	1.4	2.0	2.1	2.8	3.2	244%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	65	71	84	143	159	174	179	174%
GDP (billion 2010 USD)	6.3	5.8	6.6	6.4	6.6	7.7	7.8	23%
GDP PPP (billion 2010 USD)	14.1	12.9	14.6	14.2	14.7	17.1	17.3	23%
Population (millions)	7.1	7.8	8.5	9.3	10.0	10.6	10.7	51%
CO_2 / TPES (tCO_2 per TJ)	14.3	12.7	16.4	13.9	13.2	15.9	17.9	25%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.15	0.2	0.2	0.3	0.3	0.4	0.4	179%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.07	0.1	0.1	0.1	0.1	0.2	0.2	179%
CO_2 / population (tCO_2 per capita)	0.1	0.1	0.2	0.2	0.2	0.3	0.3	128%
Share of electricity output from fossil fuels	21%	49%	48%	52%	70%	91%	92%	
CO_2 / kWh of electricity (gCO_2/kWh)	412	330	349	310	472	783	911	121%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	97	148	212	224	296	344	244%
Population index	100	110	120	130	141	149	151	51%
GDP PPP per population index	100	83	86	77	74	82	82	-18%
Energy intensity index - TPES / GDP PPP	100	119	124	217	233	219	222	122%
Carbon intensity index - CO_2 / TPES	100	89	115	97	92	111	125	25%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**3.2**	**-**	**-**	**3.2**	**244%**
Electricity and heat generation	-	0.9	-	-	0.9	284%
Other energy industry own use	-	-	-	-	-	-
Manufacturing industries and construction	-	0.6	-	-	0.6	224%
Transport	-	1.4	-	-	1.4	229%
of which: road	-	*1.4*	-	-	*1.4*	653%
Other	-	0.3	-	-	0.3	243%
of which: residential	-	*0.3*	-	-	*0.3*	239%
of which: services	-	*0.0*	-	-	*0.0*	x
Memo: international marine bunkers	-	..	-	-	..	..
Memo: international aviation bunkers	-	*0.1*	-	-	*0.1*	*-4%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	1.4	652.8	9.4	9.4
Main activity prod. elec. and heat - oil	0.7	190.6	4.4	13.8
Manufacturing industries - oil	0.6	285.7	4.0	17.8
Unallocated autoproducers - oil	0.3	+	2.0	19.8
Residential - oil	0.3	238.7	1.8	21.6
Non-specified other - oil	0.0	x	0.0	21.6
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*3.2*	*243.5*	*21.6*	*21.6*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Honduras

Figure 1. CO_2 emissions by fuel

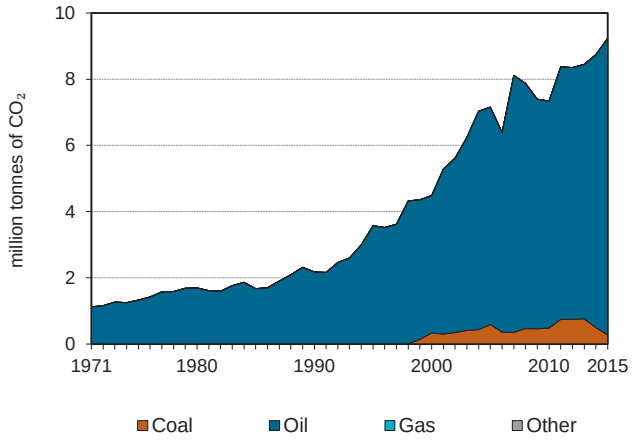


Figure 2. CO_2 emissions by sector

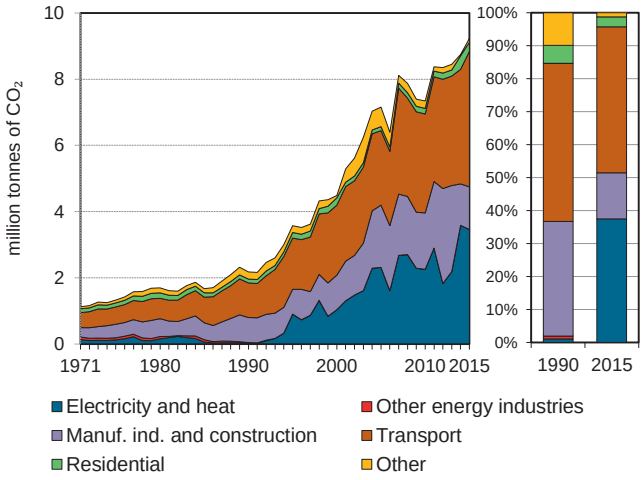


Figure 3. Electricity generation by fuel

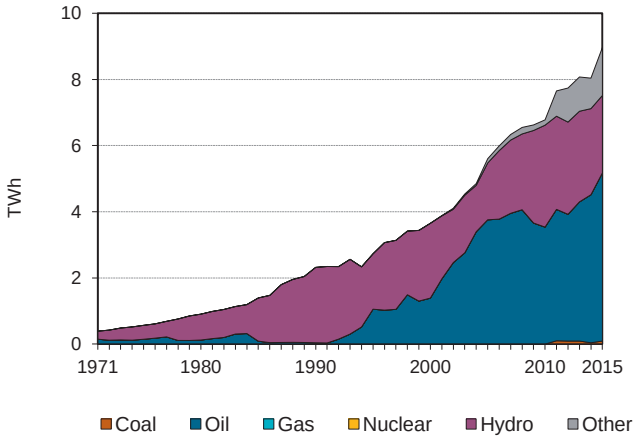


Figure 4. CO_2 from electricity generation: driving factors[1]

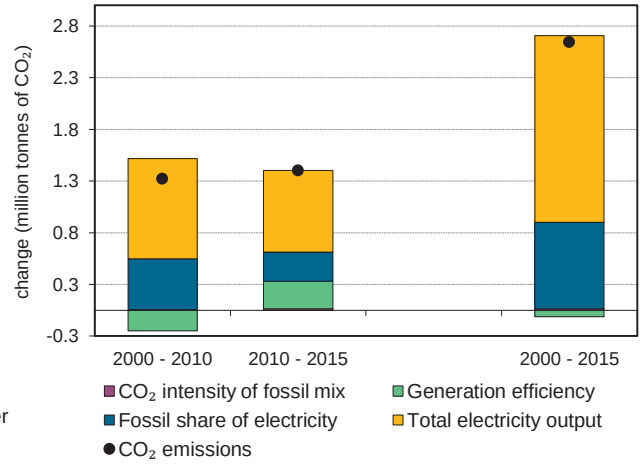


Figure 5. Changes in selected indicators

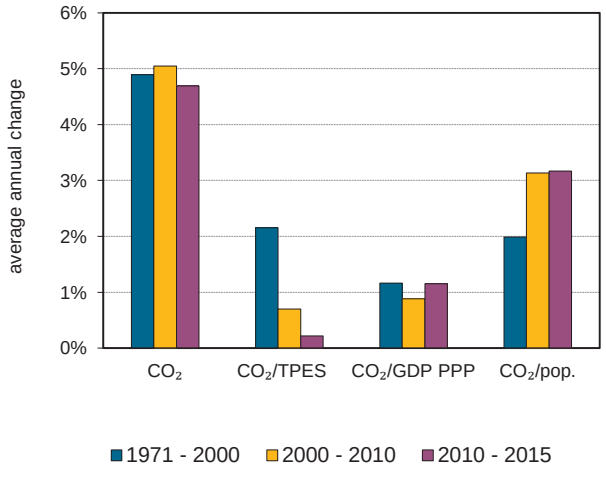
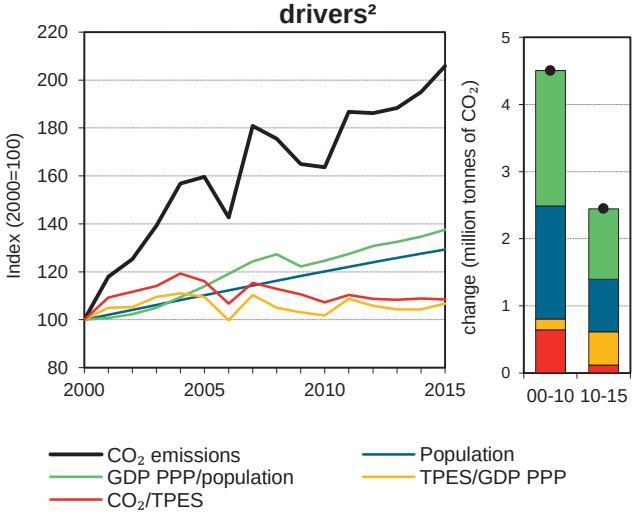


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Honduras

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	2.2	3.6	4.5	7.2	7.3	8.7	9.2	324%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	100	118	125	172	191	224	238	139%
GDP (billion 2010 USD)	7.6	9.0	10.5	13.2	15.7	18.0	18.7	146%
GDP PPP (billion 2010 USD)	15.4	18.3	21.3	26.7	31.9	36.5	37.9	146%
Population (millions)	4.9	5.6	6.2	6.9	7.5	8.0	8.1	65%
CO_2 / TPES (tCO_2 per TJ)	21.9	30.2	35.8	41.6	38.4	39.0	38.8	78%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.29	0.4	0.4	0.5	0.5	0.5	0.5	73%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.14	0.2	0.2	0.3	0.2	0.2	0.2	73%
CO_2 / population (tCO_2 per capita)	0.4	0.6	0.7	1.0	1.0	1.1	1.1	158%
Share of electricity output from fossil fuels	2%	39%	38%	67%	52%	56%	58%	
CO_2 / kWh of electricity (gCO_2/kWh)	10	330	284	413	333	446	386	3887%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	164	206	329	337	402	424	324%
Population index	100	114	127	140	153	162	165	65%
GDP PPP per population index	100	104	109	124	135	146	149	49%
Energy intensity index - TPES / GDP PPP	100	100	91	100	93	95	97	-3%
Carbon intensity index - CO_2 / TPES	100	138	164	190	176	179	178	78%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**0.3**	**9.0**	**-**	**-**	**9.2**	**324%**
Electricity and heat generation	0.1	3.4	-	-	3.5	+
Other energy industry own use	-	-	-	-	-	-100%
Manufacturing industries and construction	0.2	1.1	-	-	1.3	71%
Transport	-	4.1	-	-	4.1	292%
of which: road	-	*3.9*	-	-	*3.9*	274%
Other	-	0.4	-	-	0.4	17%
of which: residential	-	*0.3*	-	-	*0.3*	133%
of which: services	-	-	-	-	-	-100%
Memo: international marine bunkers	-	*0.0*	-	-	*0.0*	..
Memo: international aviation bunkers	-	*0.2*	-	-	*0.2*	*169%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	3.9	274.2	10.0	10.0
Main activity prod. elec. and heat - oil	3.0	+	7.6	17.6
Manufacturing industries - oil	1.1	46.2	2.8	20.4
Unallocated autoproducers - oil	0.4	+	1.0	21.4
Residential - oil	0.3	133.4	0.7	22.1
Manufacturing industries - coal	0.2	+	0.5	22.6
Other transport - oil	0.2	x	0.5	23.1
Non-specified other - oil	0.1	-46.5	0.3	23.4
Main activity prod. elec. and heat - coal	0.1	x	0.2	23.6
Memo: total CO_2 from fuel combustion	*9.2*	*324.3*	*23.6*	*23.6*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Hong Kong, China

Figure 1. CO_2 emissions by fuel

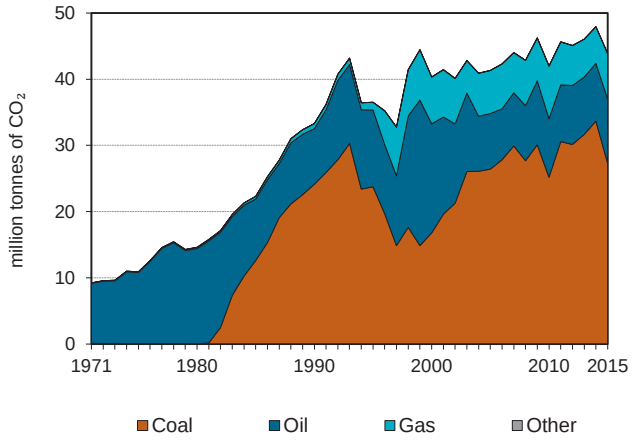


Figure 2. CO_2 emissions by sector

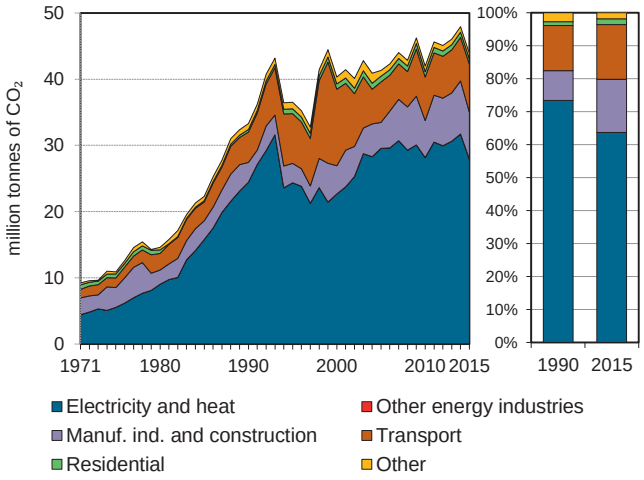


Figure 3. Electricity generation by fuel

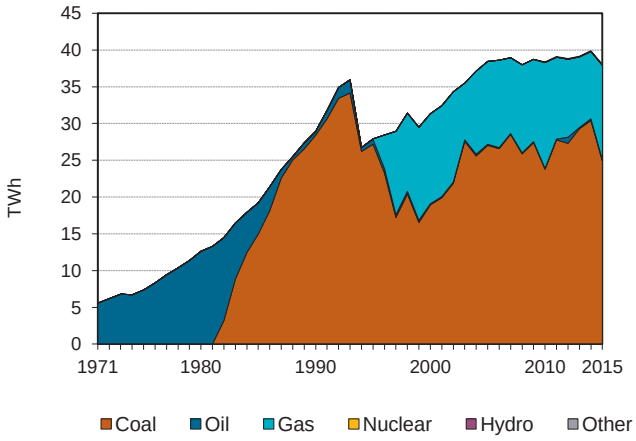


Figure 4. CO_2 from electricity generation: driving factors[1]

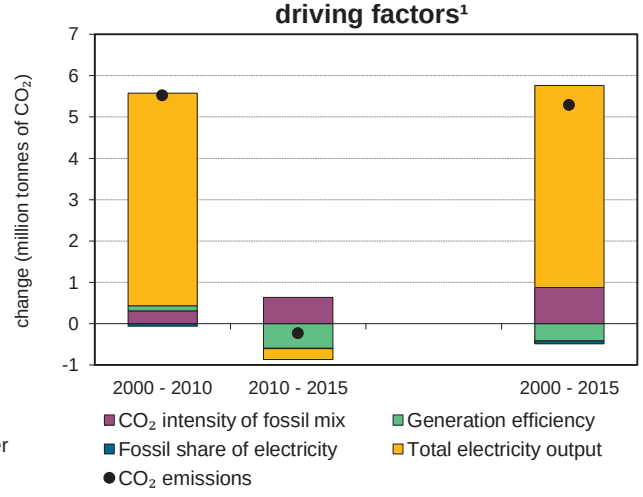


Figure 5. Changes in selected indicators

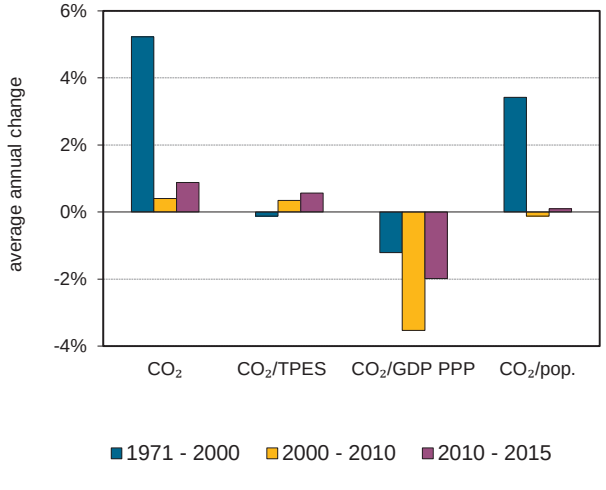
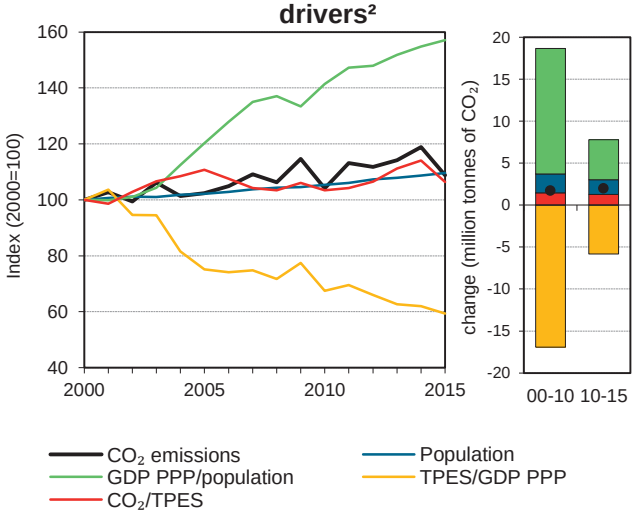


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Hong Kong, China

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	33.3	36.5	40.3	41.3	42.0	47.9	43.9	32%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	361	443	569	526	572	593	582	61%
GDP (billion 2010 USD)	104.1	134.8	153.4	188.6	228.6	258.0	264.3	154%
GDP PPP (billion 2010 USD)	150.8	195.2	222.1	273.2	331.1	373.6	382.7	154%
Population (millions)	5.7	6.2	6.7	6.8	7.0	7.2	7.3	28%
CO_2 / TPES (tCO_2 per TJ)	92.3	82.4	70.9	78.5	73.3	80.8	75.5	-18%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.32	0.3	0.3	0.2	0.2	0.2	0.2	-48%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.22	0.2	0.2	0.2	0.1	0.1	0.1	-48%
CO_2 / population (tCO_2 per capita)	5.8	5.9	6.1	6.1	6.0	6.6	6.0	3%
Share of electricity output from fossil fuels	100%	100%	100%	100%	100%	100%	100%	
CO_2 / kWh of electricity (gCO_2/kWh)	845	872	723	769	734	795	734	-13%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	110	121	124	126	144	132	32%
Population index	100	108	117	119	123	127	128	28%
GDP PPP per population index	100	120	126	152	178	195	198	98%
Energy intensity index - TPES / GDP PPP	100	95	107	80	72	66	63	-37%
Carbon intensity index - CO_2 / TPES	100	89	77	85	79	88	82	-18%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**27.3**	**9.7**	**6.9**	**-**	**43.9**	**32%**
Electricity and heat generation	22.3	0.2	5.4	-	27.9	14%
Other energy industry own use	-	-	-	-	-	-
Manufacturing industries and construction	5.0	2.0	0.1	-	7.1	137%
Transport	-	7.3	-	-	7.3	59%
of which: road	-	*7.3*	-	-	*7.3*	59%
Other	-	0.2	1.4	-	1.6	24%
of which: residential	-	*0.0*	*0.8*	-	*0.8*	101%
of which: services	-	*0.2*	*0.6*	-	*0.8*	-9%
Memo: international marine bunkers	-	*27.5*	-	-	*27.5*	*501%*
Memo: international aviation bunkers	-	*19.2*	-	-	*19.2*	*238%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	22.3	-7.5	45.8	45.8
Road - oil	7.3	58.7	14.9	60.7
Main activity prod. elec. and heat - gas	5.4	x	11.2	71.9
Manufacturing industries - coal	5.0	+	10.2	82.1
Manufacturing industries - oil	2.0	-31.6	4.2	86.3
Residential - gas	0.8	96.7	1.5	87.8
Non-specified other - gas	0.6	71.8	1.2	89.1
Non-specified other - oil	0.2	-60.7	0.4	89.5
Main activity prod. elec. and heat - oil	0.2	-47.0	0.4	89.9
Memo: total CO_2 from fuel combustion	*43.9*	*31.8*	*90.1*	*90.1*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Hungary [1]

Figure 1. CO_2 emissions by fuel

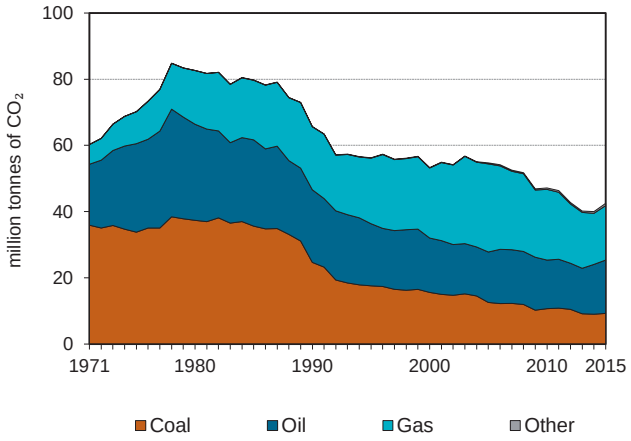


Figure 2. CO_2 emissions by sector

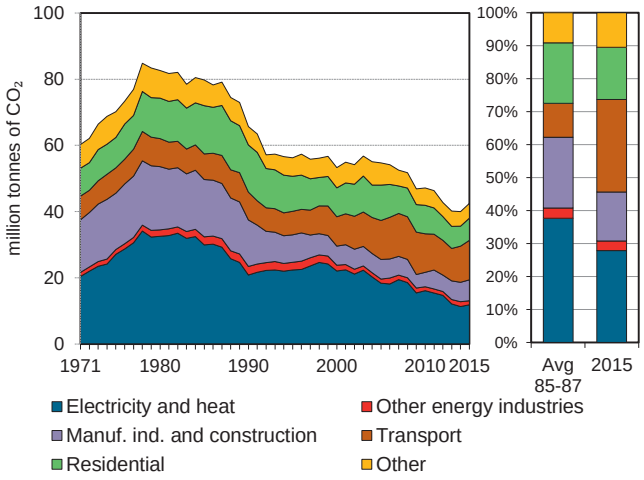


Figure 3. Electricity generation by fuel

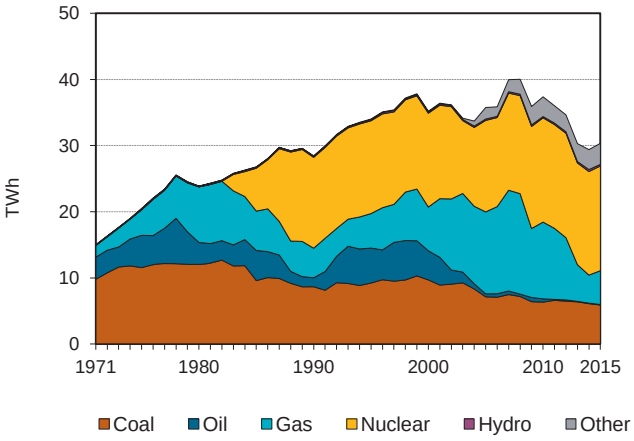


Figure 4. CO_2 from electricity generation: driving factors[2]

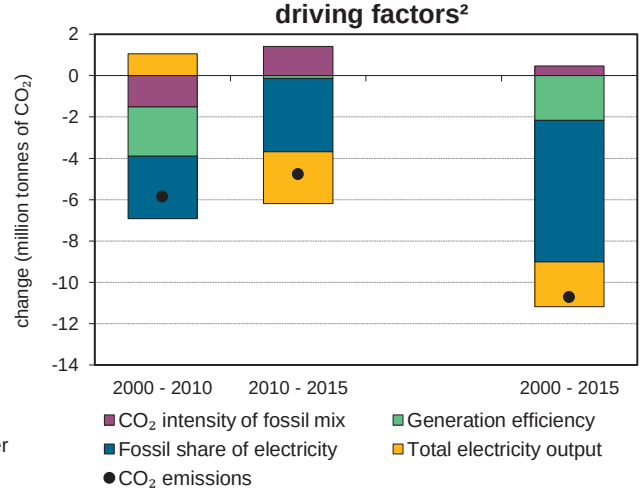


Figure 5. Changes in selected indicators

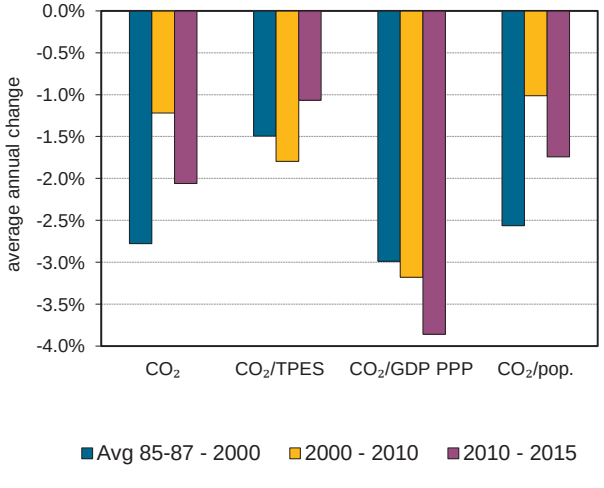
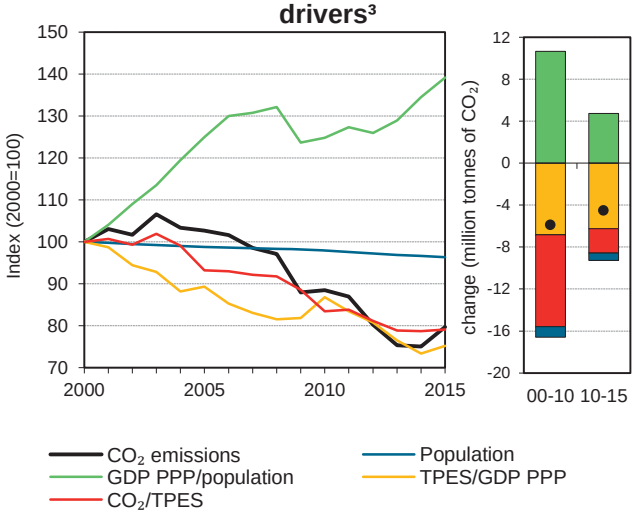


Figure 6. Total CO_2 emissions and drivers[3]



1. Under the Convention Hungary is allowed use the average of 85-87 as its base year.
2. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
3. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Hungary [1]

Key indicators

	Avg 85-87	1990	1995	2005	2010	2014	2015	%change base-15
CO_2 fuel combustion ($MtCO_2$)	79.1	65.7	56.3	54.7	47.1	40.0	42.5	-46%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	1258	1 205	1 082	1 153	1 110	998	1 055	-16%
GDP (billion 2010 USD)	103.5	103.8	92.1	131.6	130.3	138.5	142.9	38%
GDP PPP (billion 2010 USD)	170.6	171.0	151.7	216.8	214.7	228.3	235.5	38%
Population (millions)	10.5	10.4	10.3	10.1	10.0	9.9	9.8	-7%
CO_2 / TPES (tCO_2 per TJ)	62.9	54.5	52.0	47.4	42.5	40.1	40.3	-36%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.76	0.6	0.6	0.4	0.4	0.3	0.3	-61%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.46	0.4	0.4	0.3	0.2	0.2	0.2	-61%
CO_2 / population (tCO_2 per capita)	7.5	6.3	5.4	5.4	4.7	4.1	4.3	-42%
Share of electricity output from fossil fuels	0%	51%	58%	56%	50%	36%	37%	
CO_2 / kWh of electricity (gCO_2/kWh)	0	503	519	374	320	277	274	0%
CO_2 emissions and drivers - Kaya decomposition (Avg 85-87=100) [2]								
CO_2 emissions index	100	83	71	69	60	51	54	-46%
Population index	100	98	98	96	95	94	93	-7%
GDP PPP per population index	100	102	91	133	133	143	148	48%
Energy intensity index - TPES / GDP PPP	100	96	97	72	70	59	61	-39%
Carbon intensity index - CO_2 / TPES	100	87	83	75	68	64	64	-36%

1. Under the Convention Hungary is allowed use the average of 85-87 as its base year. 2. Please see Part I for methodological notes.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [3]	Total	%change base-15
CO_2 fuel combustion	**9.2**	**16.1**	**16.4**	**0.7**	**42.5**	**-46%**
Electricity and heat generation	7.6	0.1	3.9	0.3	11.8	-60%
Other energy industry own use	0.2	0.9	0.2	-	1.2	-51%
Manufacturing industries and construction	1.1	2.0	2.9	0.3	6.3	-63%
Transport	-	11.9	0.1	-	11.9	47%
of which: road	-	*11.7*	*0.0*	-	*11.7*	67%
Other	0.4	1.4	9.4	0.0	11.2	-49%
of which: residential	*0.4*	*0.2*	*6.2*	-	*6.7*	-54%
of which: services	*0.0*	*0.1*	*3.0*	*0.0*	*3.1*	6%
Memo: international marine bunkers	-	-	-	-	-	-
Memo: international aviation bunkers	-	*0.5*	-	-	*0.5*	*21%*

3. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change base-15	Level assessment[4] (%)	Cumulative total (%)
Road - oil	11.7	66.4	18.8	18.8
Main activity prod. elec. and heat - coal	7.5	-55.7	12.2	31.0
Residential - gas	6.2	146.8	9.9	40.9
Main activity prod. elec. and heat - gas	3.7	-22.3	6.0	46.9
Non-specified other - gas	3.2	85.5	5.2	52.1
Manufacturing industries - gas	2.9	-61.7	4.7	56.8
Manufacturing industries - oil	2.0	-39.2	3.2	60.0
Non-specified other - oil	1.2	-71.3	1.9	61.9
Manufacturing industries - coal	1.1	-81.8	1.8	63.7
Memo: total CO_2 from fuel combustion	*42.5*	*-46.3*	*68.4*	*68.4*

4. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Iceland

Figure 1. CO_2 emissions by fuel

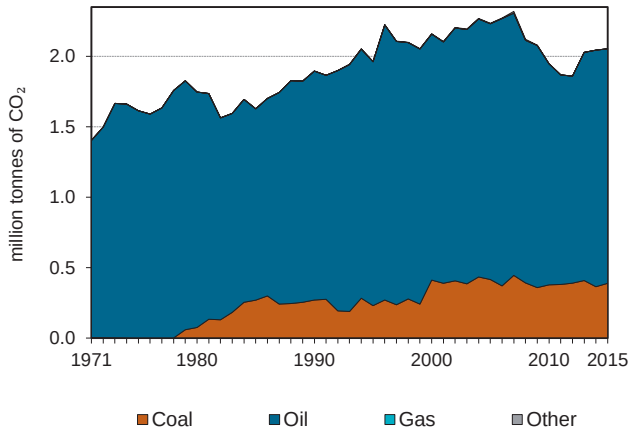


Figure 2. CO_2 emissions by sector

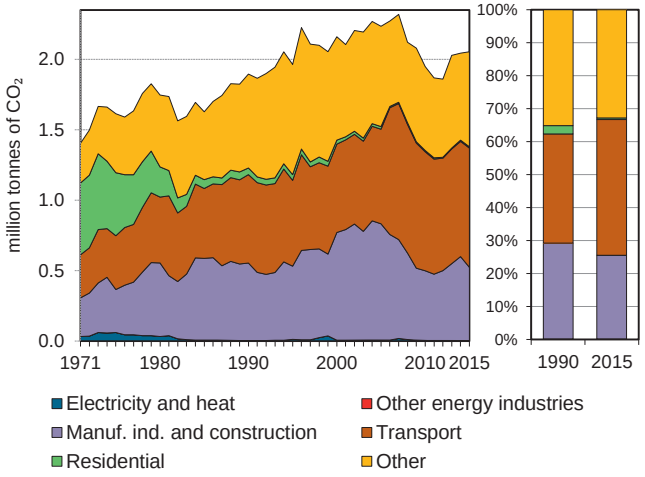


Figure 3. Electricity generation by fuel

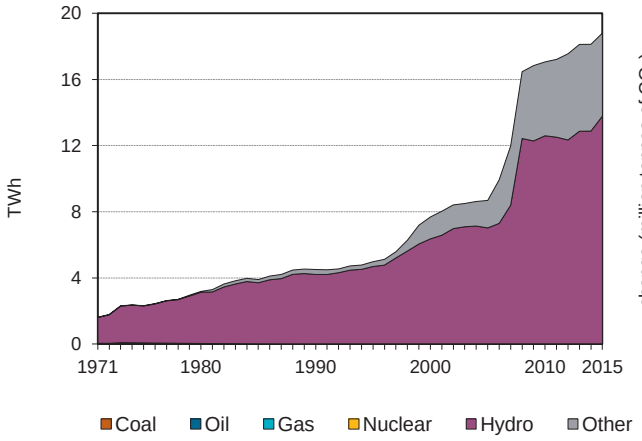


Figure 4. CO_2 from electricity generation: driving factors[1]

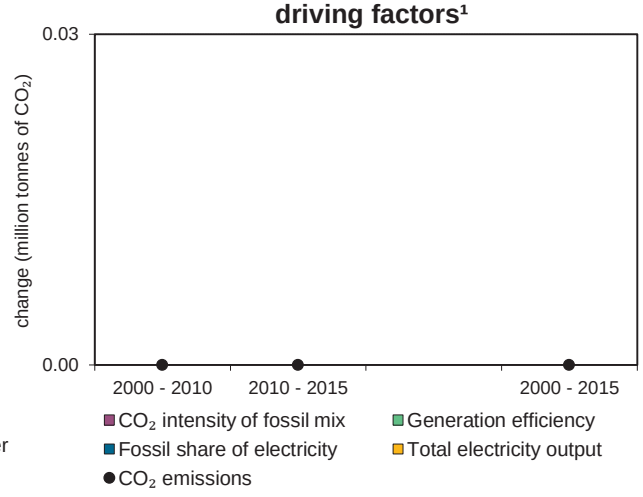


Figure 5. Changes in selected indicators

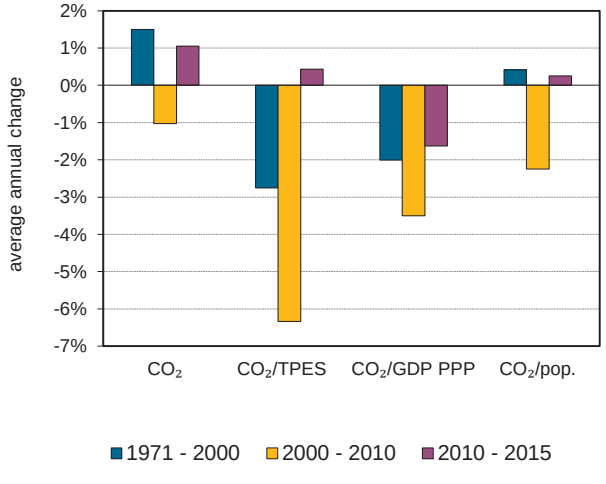
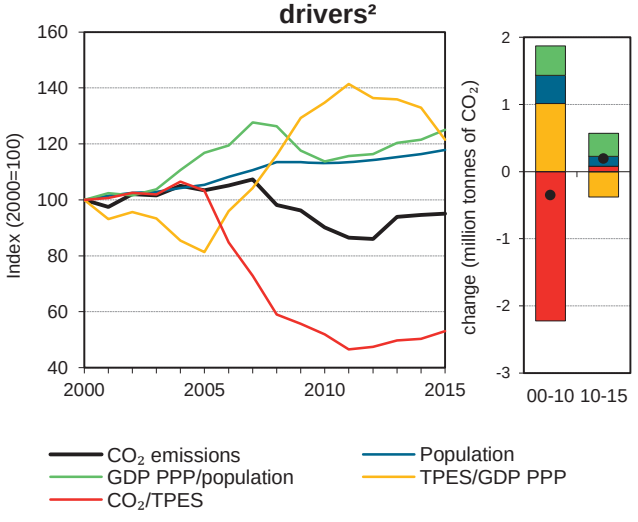


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Iceland

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	1.9	2.0	2.2	2.2	1.9	2.0	2.1	8%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	95	92	131	131	227	246	234	146%
GDP (billion 2010 USD)	8	8.1	10.3	12.7	13.3	14.6	15.2	90%
GDP PPP (billion 2010 USD)	7.3	7.4	9.5	11.7	12.2	13.4	14.0	90%
Population (millions)	0.3	0.3	0.3	0.3	0.3	0.3	0.3	30%
CO_2 / TPES (tCO_2 per TJ)	19.9	21.2	16.5	17.1	8.6	8.3	8.8	-56%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.24	0.2	0.2	0.2	0.1	0.1	0.1	-43%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.26	0.3	0.2	0.2	0.2	0.2	0.1	-43%
CO_2 / population (tCO_2 per capita)	7.4	7.4	7.7	7.5	6.1	6.3	6.2	-17%
Share of electricity output from fossil fuels	0%	0%	0%	0%	0%	0%	0%	
CO_2 / kWh of electricity (gCO_2/kWh)	1	1	0	0	0	0	0	-76%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	104	114	118	103	108	108	8%
Population index	100	105	110	116	125	128	130	30%
GDP PPP per population index	100	97	117	137	133	143	147	47%
Energy intensity index - TPES / GDP PPP	100	96	106	87	143	141	129	29%
Carbon intensity index - CO_2 / TPES	100	107	83	86	43	42	44	-56%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**0.4**	**1.7**	**-**	**-**	**2.1**	**8%**
Electricity and heat generation	-	0.0	-	-	0.0	-
Other energy industry own use	-	-	-	-	-	-
Manufacturing industries and construction	0.4	0.1	-	-	0.5	-5%
Transport	-	0.8	-	-	0.8	35%
of which: road	-	*0.8*	-	-	*0.8*	50%
Other	-	0.7	-	-	0.7	-4%
of which: residential	-	*0.0*	-	-	*0.0*	-81%
of which: services	-	-	-	-	-	-
Memo: international marine bunkers	-	*0.1*	-	-	*0.1*	*51%*
Memo: international aviation bunkers	-	*0.7*	-	-	*0.7*	*201%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	0.8	49.6	15.7	15.7
Non-specified other - oil	0.7	1.2	13.2	28.9
Manufacturing industries - coal	0.4	44.0	7.6	36.5
Manufacturing industries - oil	0.1	-53.0	2.6	39.0
Other transport - oil	0.0	-49.9	0.9	40.0
Residential - oil	0.0	-80.9	0.2	40.1
Main activity prod. elec. and heat - oil	0.0	-	0.1	40.2
-	-	-	-	-
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*2.1*	*8.4*	*40.2*	*40.2*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

India

Figure 1. CO_2 emissions by fuel

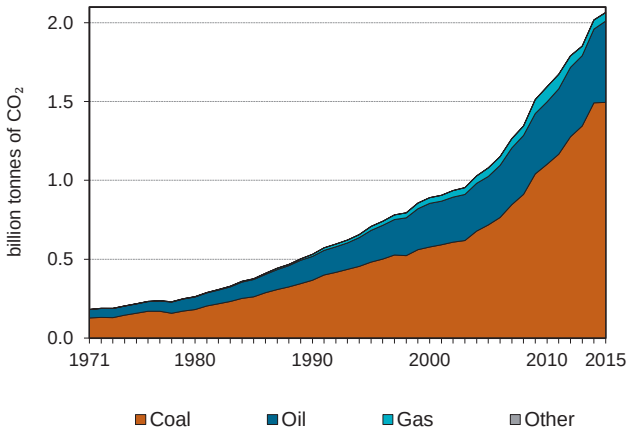


Figure 2. CO_2 emissions by sector

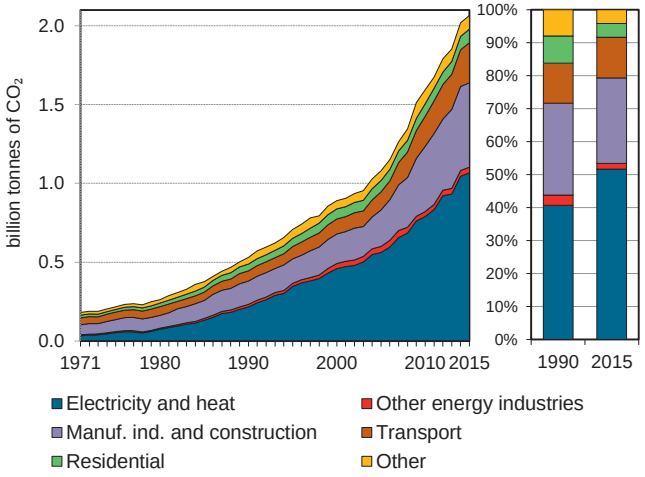


Figure 3. Electricity generation by fuel

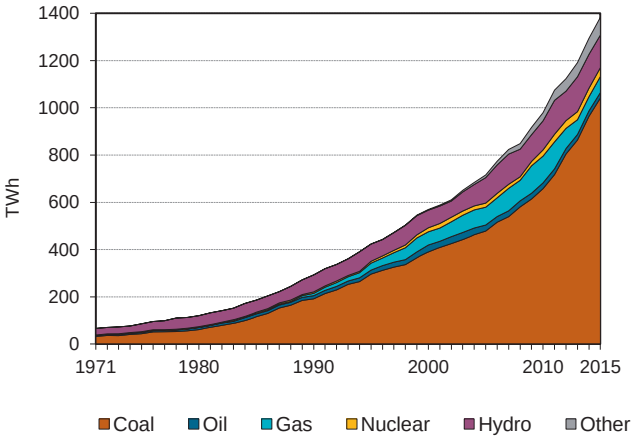


Figure 4. CO_2 from electricity generation: driving factors[1]

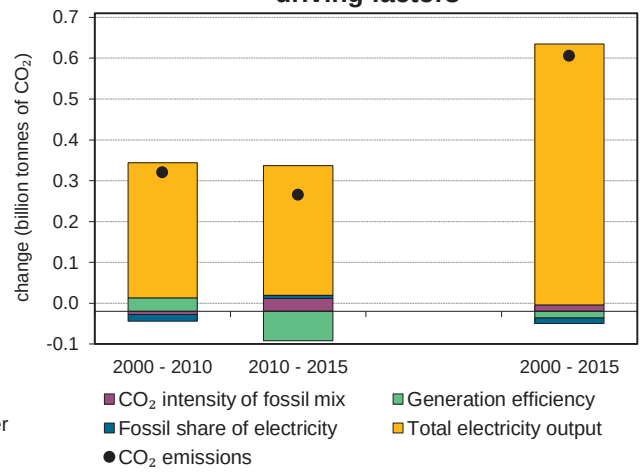


Figure 5. Changes in selected indicators

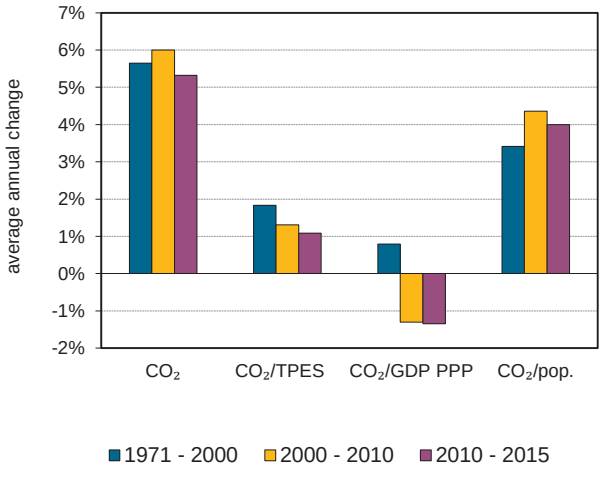
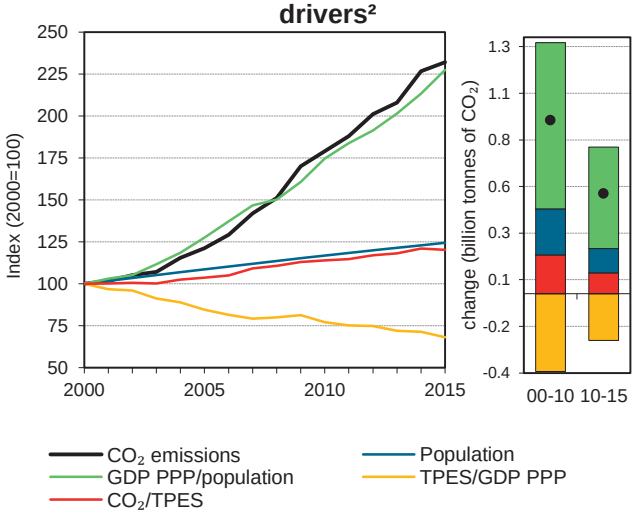


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

India

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	530.4	707.7	890.4	1 079.6	1 594.3	2 018.8	2 066.0	290%
Share of World CO_2 from fuel combustion	3%	3%	4%	4%	5%	6%	6%	
TPES (PJ)	12800	15 541	18 459	21 610	29 024	34 591	35 635	178%
GDP (billion 2010 USD)	471.6	604.3	811.5	1 123.4	1 656.6	2 127.8	2 296.6	387%
GDP PPP (billion 2010 USD)	1512.5	1 937.7	2 602.5	3 602.4	5 312.2	6 823.4	7 364.8	387%
Population (millions)	870.6	960.9	1 053.5	1 144.3	1 231.0	1 295.3	1 311.1	51%
CO_2 / TPES (tCO_2 per TJ)	41.4	45.5	48.2	50.0	54.9	58.4	58.0	40%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	1.12	1.2	1.1	1.0	1.0	0.9	0.9	-20%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.35	0.4	0.3	0.3	0.3	0.3	0.3	-20%
CO_2 / population (tCO_2 per capita)	0.6	0.7	0.8	0.9	1.3	1.6	1.6	159%
Share of electricity output from fossil fuels	73%	81%	83%	81%	81%	81%	82%	
CO_2 / kWh of electricity (gCO_2/kWh)	737	816	806	784	806	808	771	5%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	133	168	204	301	381	390	290%
Population index	100	110	121	131	141	149	151	51%
GDP PPP per population index	100	116	142	181	248	303	323	223%
Energy intensity index - TPES / GDP PPP	100	95	84	71	65	60	57	-43%
Carbon intensity index - CO_2 / TPES	100	110	116	121	133	141	140	40%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**1 495.1**	**515.9**	**53.6**	**1.4**	**2 066.0**	**290%**
Electricity and heat generation	1 009.0	24.4	32.0	1.4	1 066.7	394%
Other energy industry own use	2.9	32.2	1.5	-	36.7	125%
Manufacturing industries and construction	427.6	96.2	11.0	-	534.8	261%
Transport	-	249.0	5.4	-	254.4	294%
of which: road	-	*231.9*	*4.6*	-	*236.5*	399%
Other	55.6	114.0	3.7	-	173.4	102%
of which: residential	*12.7*	*72.2*	*1.6*	-	*86.5*	99%
of which: services	*20.6*	*4.6*	*1.7*	-	*27.0*	98%
Memo: international marine bunkers	-	*4.4*	-	-	*4.4*	*221%*
Memo: international aviation bunkers	-	*14.0*	-	-	*14.0*	*273%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	886.9	394.2	42.1	42.1
Manufacturing industries - coal	427.6	254.1	20.3	62.4
Road - oil	231.9	388.9	11.0	73.4
Unallocated autoproducers - coal	122.1	889.5	5.8	79.2
Manufacturing industries - oil	96.2	270.5	4.6	83.7
Residential - oil	72.2	124.4	3.4	87.2
Non-specified other sectors - coal	42.9	51.8	2.0	89.2
Non-specified other - oil	41.8	200.7	2.0	91.2
Other energy industry own use - oil	32.2	329.6	1.5	92.7
Memo: total CO_2 from fuel combustion	*2066.0*	*289.5*	*98.0*	*98.0*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Indonesia

Figure 1. CO_2 emissions by fuel

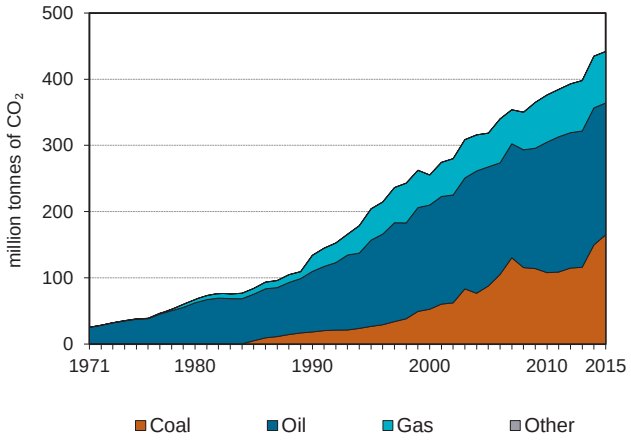


Figure 2. CO_2 emissions by sector

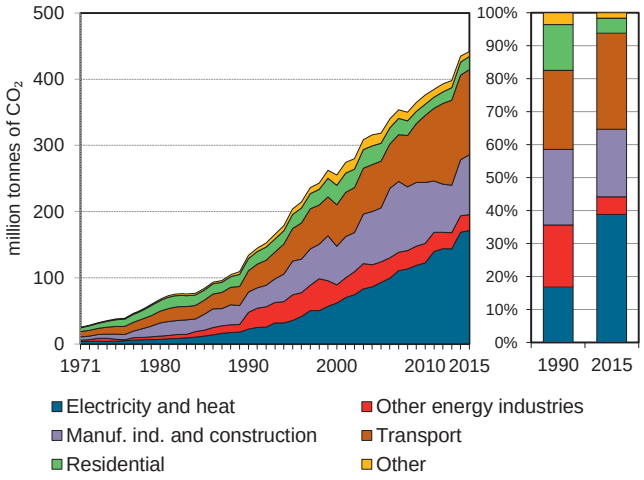


Figure 3. Electricity generation by fuel

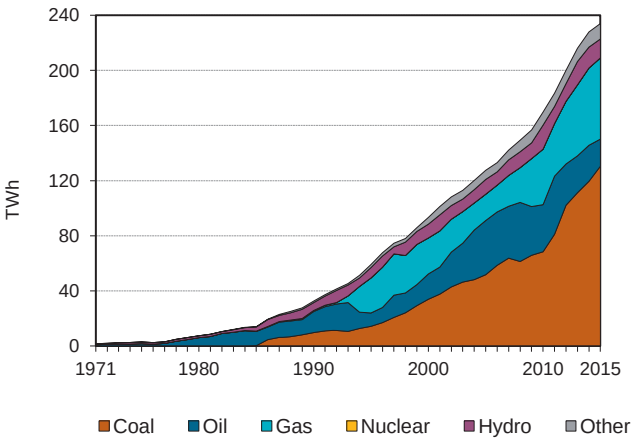


Figure 4. CO_2 from electricity generation: driving factors[1]

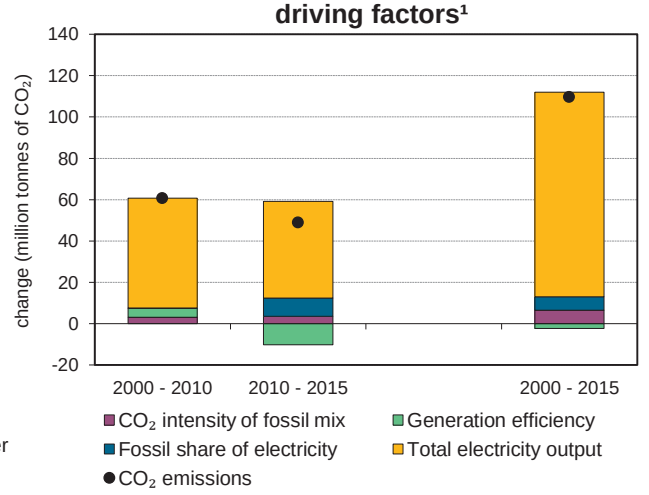


Figure 5. Changes in selected indicators

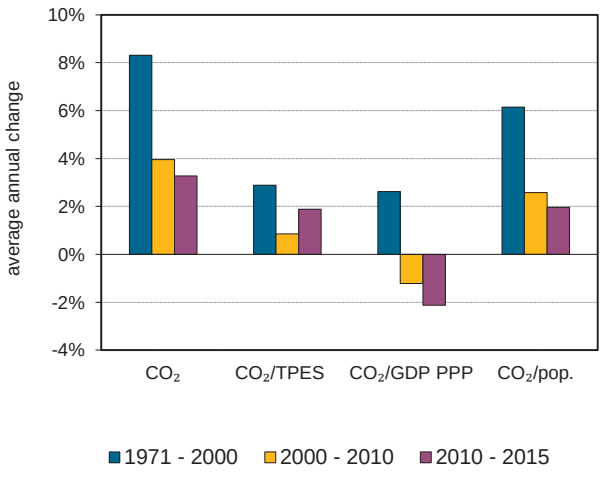
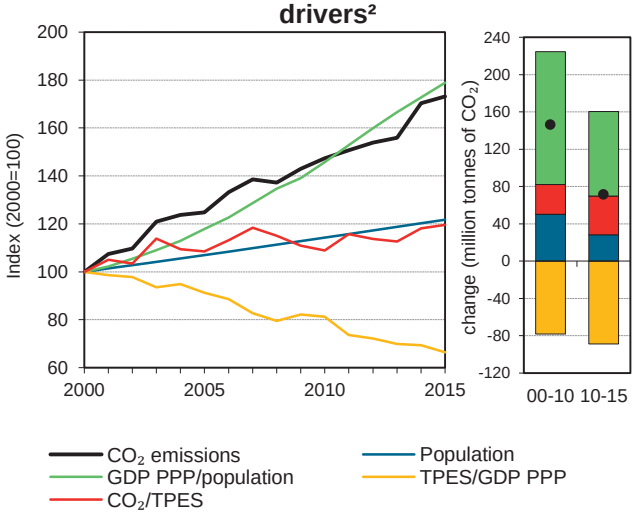


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Indonesia

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	133.9	204.1	255.3	318.5	376.2	434.9	441.9	230%
Share of World CO_2 from fuel combustion	1%	1%	1%	1%	1%	1%	1%	
TPES (PJ)	4130	5 478	6 517	7 498	8 818	9 401	9 435	128%
GDP (billion 2010 USD)	309.8	437.2	453.4	571.2	755.1	942.3	987.5	219%
GDP PPP (billion 2010 USD)	822.2	1 160.3	1 203.3	1 515.9	2 004.0	2 500.9	2 620.8	219%
Population (millions)	181.4	197.0	211.5	226.3	241.6	254.5	257.6	42%
CO_2 / TPES (tCO_2 per TJ)	32.4	37.3	39.2	42.5	42.7	46.3	46.8	44%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.43	0.5	0.6	0.6	0.5	0.5	0.4	4%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.16	0.2	0.2	0.2	0.2	0.2	0.2	4%
CO_2 / population (tCO_2 per capita)	0.7	1.0	1.2	1.4	1.6	1.7	1.7	132%
Share of electricity output from fossil fuels	79%	84%	84%	86%	84%	89%	89%	
CO_2 / kWh of electricity (gCO_2/kWh)	688	599	664	729	722	741	733	6%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	152	191	238	281	325	330	230%
Population index	100	109	117	125	133	140	142	42%
GDP PPP per population index	100	130	126	148	183	217	225	125%
Energy intensity index - TPES / GDP PPP	100	94	108	98	88	75	72	-28%
Carbon intensity index - CO_2 / TPES	100	115	121	131	132	143	144	44%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**164.9**	**199.2**	**77.8**	**0.0**	**441.9**	**230%**
Electricity and heat generation	126.4	14.9	30.0	0.0	171.4	662%
Other energy industry own use	-	6.5	17.4	-	24.0	-5%
Manufacturing industries and construction	38.5	22.3	29.8	-	90.5	196%
Transport	-	128.5	0.1	-	128.6	300%
of which: road	-	*113.0*	*0.1*	-	*113.1*	292%
Other	-	26.9	0.5	-	27.4	17%
of which: residential	-	*19.9*	*0.0*	-	*20.0*	8%
of which: services	-	*1.9*	*0.5*	-	*2.4*	136%
Memo: international marine bunkers	-	*0.7*	-	-	*0.7*	*-57%*
Memo: international aviation bunkers	-	*2.7*	-	-	*2.7*	*174%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	113.0	291.3	23.5	23.5
Main activity prod. elec. and heat - coal	88.4	845.8	18.4	41.9
Manufacturing industries - coal	38.5	335.0	8.0	49.9
Unallocated autoproducers - coal	38.0	x	7.9	57.8
Manufacturing industries - gas	29.8	556.9	6.2	64.0
Main activity prod. elec. and heat - gas	26.5	+	5.5	69.6
Manufacturing industries - oil	22.3	29.1	4.6	74.2
Residential - oil	19.9	7.8	4.1	78.3
Other energy industry own use - gas	17.4	-9.4	3.6	82.0
Memo: total CO_2 from fuel combustion	*441.9*	*230.0*	*92.0*	*92.0*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Islamic Republic of Iran

Figure 1. CO_2 emissions by fuel

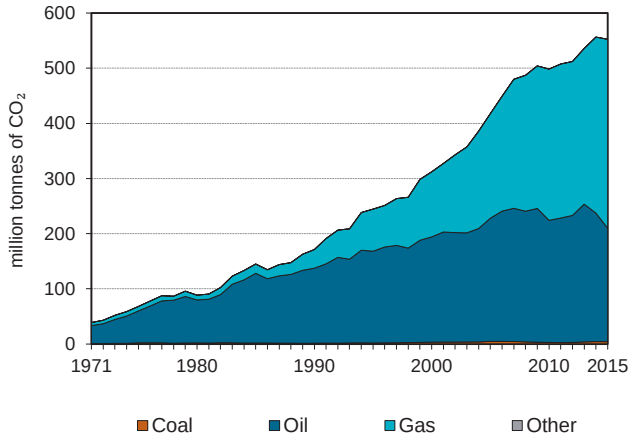


Figure 2. CO_2 emissions by sector

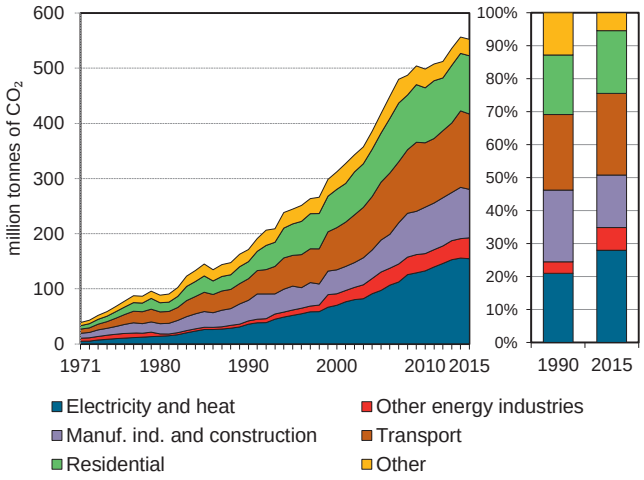


Figure 3. Electricity generation by fuel

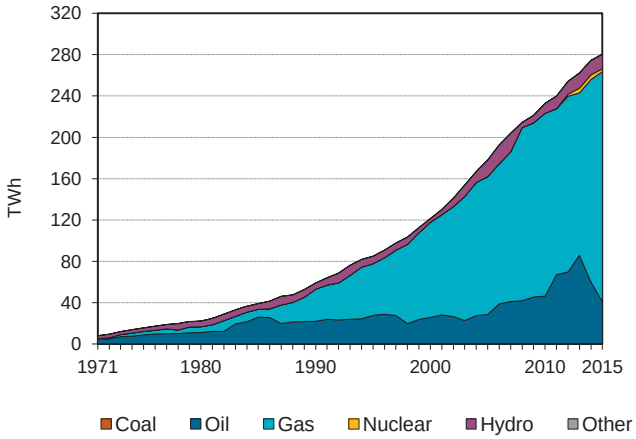


Figure 4. CO_2 from electricity generation: driving factors[1]

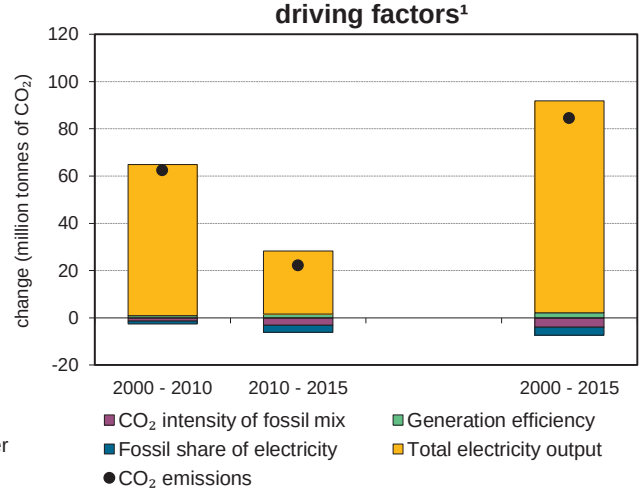


Figure 5. Changes in selected indicators

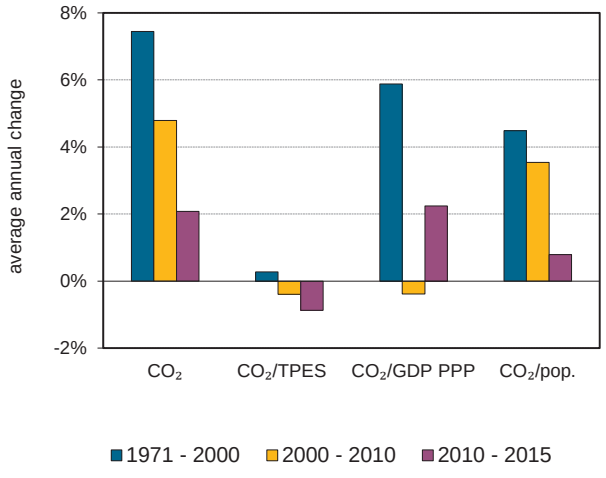
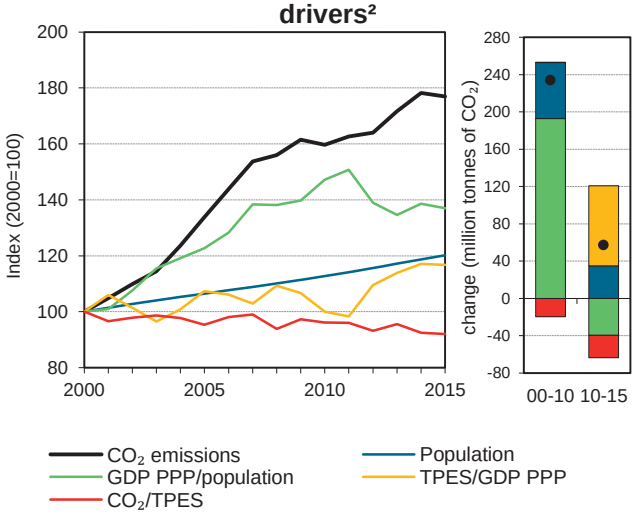


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Islamic Republic of Iran

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	171.2	244.5	312.2	417.6	498.4	556.5	552.4	223%
Share of World CO_2 from fuel combustion	1%	1%	1%	2%	2%	2%	2%	
TPES (PJ)	2903	4 238	5 151	7 229	8 553	9 929	9 903	241%
GDP (billion 2010 USD)	205.5	237.3	281.9	368.5	467.8	463.9	464.1	126%
GDP PPP (billion 2010 USD)	559.9	646.6	768.1	1 004.0	1 274.4	1 263.8	1 264.2	126%
Population (millions)	56.2	60.3	65.9	70.1	74.3	78.1	79.1	41%
CO_2 / TPES (tCO_2 per TJ)	59	57.7	60.6	57.8	58.3	56.0	55.8	-5%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.83	1.0	1.1	1.1	1.1	1.2	1.2	43%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.31	0.4	0.4	0.4	0.4	0.4	0.4	43%
CO_2 / population (tCO_2 per capita)	3.1	4.1	4.7	6.0	6.7	7.1	7.0	129%
Share of electricity output from fossil fuels	90%	91%	97%	91%	96%	93%	94%	
CO_2 / kWh of electricity (gCO_2/kWh)	607	610	578	545	569	567	551	-9%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	143	182	244	291	325	323	223%
Population index	100	107	117	125	132	139	141	41%
GDP PPP per population index	100	108	117	144	172	162	160	60%
Energy intensity index - TPES / GDP PPP	100	126	129	139	129	152	151	51%
Carbon intensity index - CO_2 / TPES	100	98	103	98	99	95	95	-5%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**4.1**	**205.8**	**342.4**	**-**	**552.4**	**223%**
Electricity and heat generation	1.7	36.9	116.1	-	154.6	331%
Other energy industry own use	1.3	10.9	25.8	-	37.9	537%
Manufacturing industries and construction	1.1	11.4	75.4	-	87.9	136%
Transport	-	120.9	15.7	-	136.6	249%
of which: road	-	*106.6*	*14.7*	-	*121.4*	210%
Other	0.0	25.8	109.6	-	135.4	156%
of which: residential	*0.0*	*13.0*	*92.5*	-	*105.6*	242%
of which: services	-	*4.2*	*13.8*	-	*17.9*	84%
Memo: international marine bunkers	-	*15.0*	-	-	*15.0*	+
Memo: international aviation bunkers	-	*4.1*	-	-	*4.1*	*177%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - gas	112.0	611.1	13.4	13.4
Road - oil	106.6	172.4	12.8	26.2
Residential - gas	92.5	+	11.1	37.2
Manufacturing industries - gas	75.4	601.1	9.0	46.3
Main activity prod. elec. and heat - oil	36.8	113.8	4.4	50.7
Other energy industry own use - gas	25.8	+	3.1	53.8
Non-specified other - gas	17.0	x	2.0	55.8
Road - gas	14.7	x	1.8	57.6
Other transport - oil	14.3	x	1.7	59.3
Memo: total CO_2 from fuel combustion	*552.4*	*222.7*	*66.1*	*66.1*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Iraq

Figure 1. CO_2 emissions by fuel

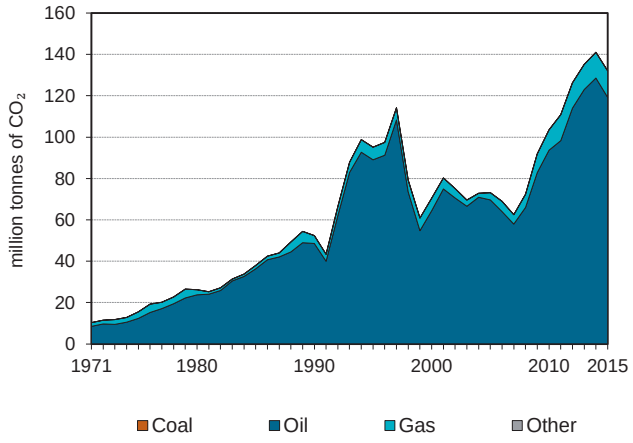


Figure 2. CO_2 emissions by sector

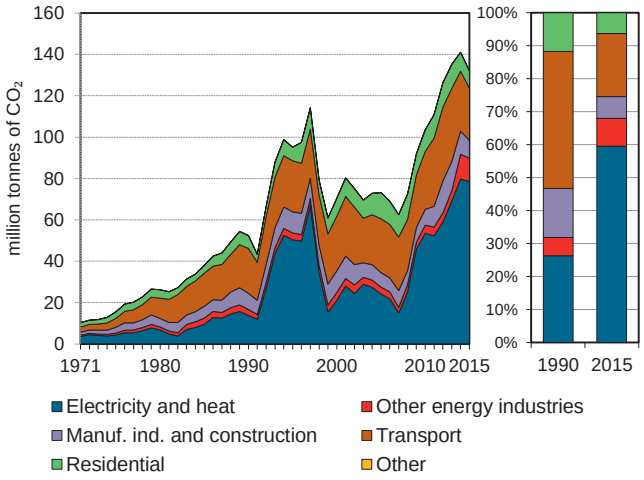


Figure 3. Electricity generation by fuel

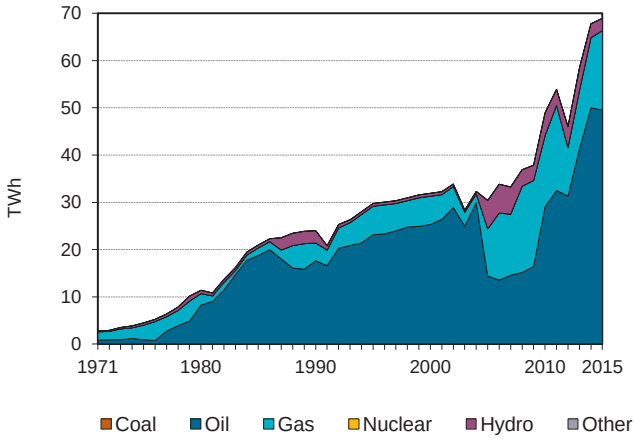


Figure 4. CO_2 from electricity generation: driving factors[1]

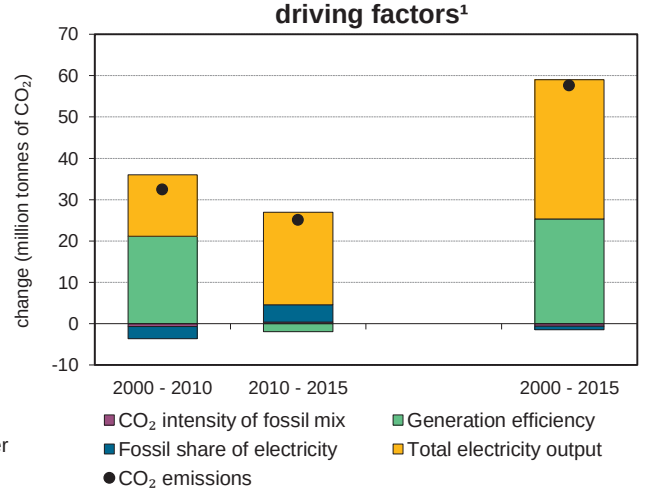


Figure 5. Changes in selected indicators

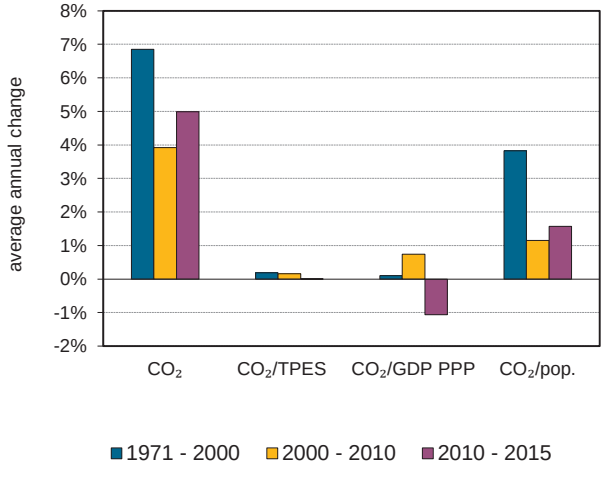
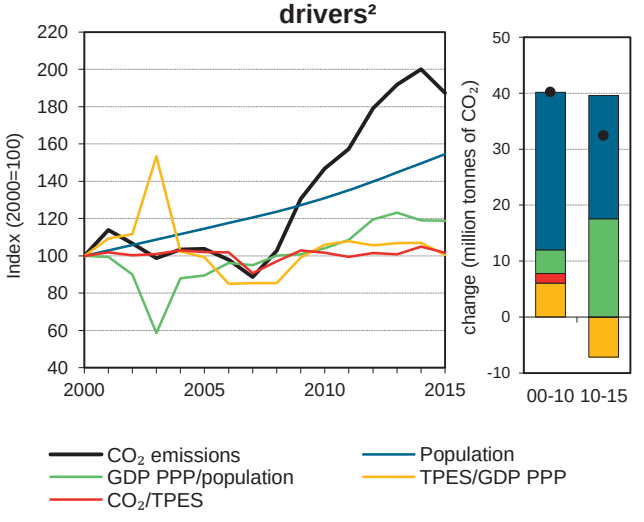


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Iraq

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	52.4	95.1	70.5	73.2	103.5	141.0	132.1	152%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	839	1 406	1 087	1 107	1 571	2 072	2 004	139%
GDP (billion 2010 USD)	71.3	46.9	101.6	104.2	138.5	181.0	186.5	162%
GDP PPP (billion 2010 USD)	197.2	129.9	281.1	288.3	383.3	500.9	516.0	162%
Population (millions)	17.5	20.2	23.6	27.0	30.9	35.3	36.4	108%
CO_2 / TPES (tCO_2 per TJ)	62.4	67.7	64.8	66.1	65.9	68.1	65.9	6%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.74	2.0	0.7	0.7	0.7	0.8	0.7	-4%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.27	0.7	0.3	0.3	0.3	0.3	0.3	-4%
CO_2 / population (tCO_2 per capita)	3	4.7	3.0	2.7	3.4	4.0	3.6	21%
Share of electricity output from fossil fuels	89%	98%	98%	80%	90%	96%	96%	
CO_2 / kWh of electricity (gCO_2/kWh)	575	1695	661	795	1094	1177	1141	98%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	182	135	140	198	269	252	152%
Population index	100	116	135	155	177	202	208	108%
GDP PPP per population index	100	57	106	95	110	126	126	26%
Energy intensity index - TPES / GDP PPP	100	254	91	90	96	97	91	-9%
Carbon intensity index - CO_2 / TPES	100	108	104	106	106	109	106	6%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**119.3**	**12.8**	**-**	**132.1**	**152%**
Electricity and heat generation	-	68.2	10.5	-	78.6	470%
Other energy industry own use	-	11.2	-	-	11.2	290%
Manufacturing industries and construction	-	6.3	2.3	-	8.7	11%
Transport	-	25.3	-	-	25.3	16%
of which: road	-	*25.3*	-	-	*25.3*	16%
Other	-	8.3	-	-	8.3	34%
of which: residential	-	*8.3*	-	-	*8.3*	34%
of which: services	-	-	-	-	-	-
Memo: international marine bunkers	-	*0.7*	-	-	*0.7*	*72%*
Memo: international aviation bunkers	-	*1.7*	-	-	*1.7*	*70%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - oil	68.2	472.9	27.2	27.2
Road - oil	25.3	16.3	10.1	37.3
Other energy industry own use - oil	11.2	290.2	4.5	41.8
Main activity prod. elec. and heat - gas	10.5	451.1	4.2	45.9
Residential - oil	8.3	33.9	3.3	49.2
Manufacturing industries - oil	6.3	7.6	2.5	51.8
Manufacturing industries - gas	2.3	23.2	0.9	52.7
-	-	-	-	-
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*132.1*	*152.1*	*52.7*	*52.7*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Ireland

Figure 1. CO_2 emissions by fuel

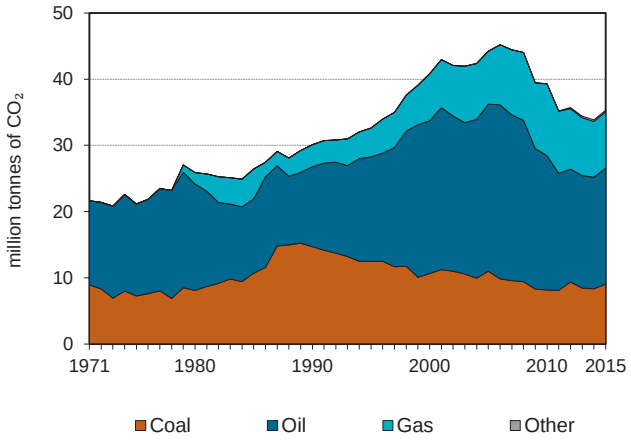


Figure 2. CO_2 emissions by sector

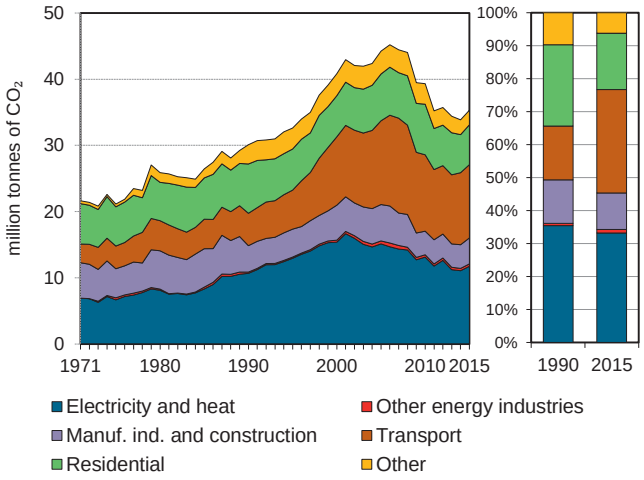


Figure 3. Electricity generation by fuel

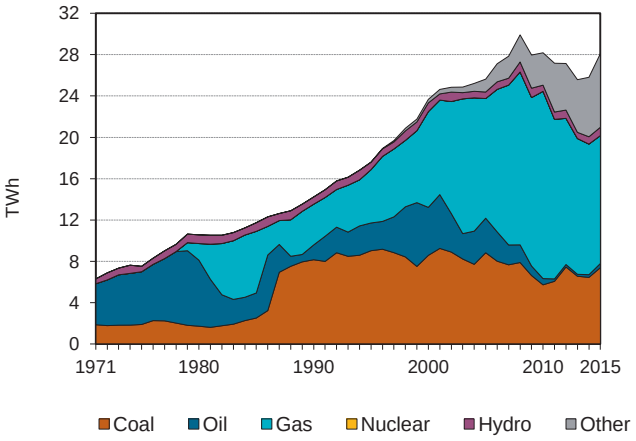


Figure 4. CO_2 from electricity generation: driving factors[1]

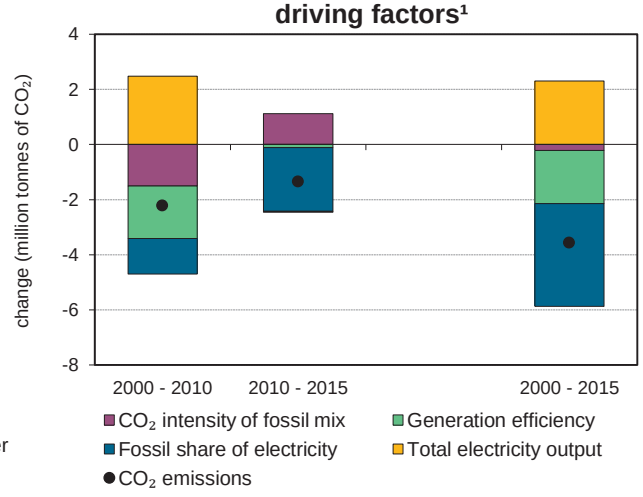


Figure 5. Changes in selected indicators

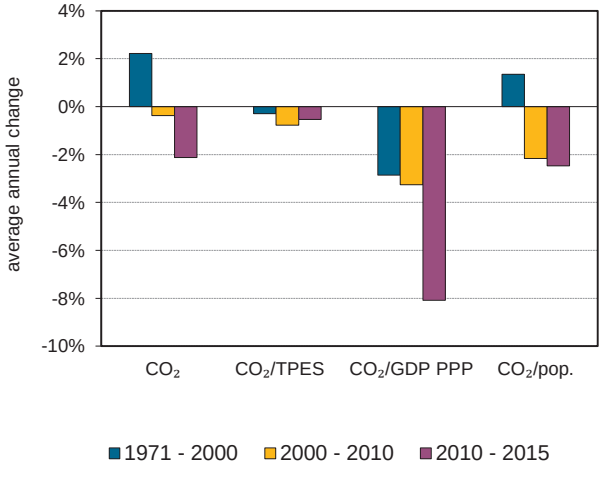
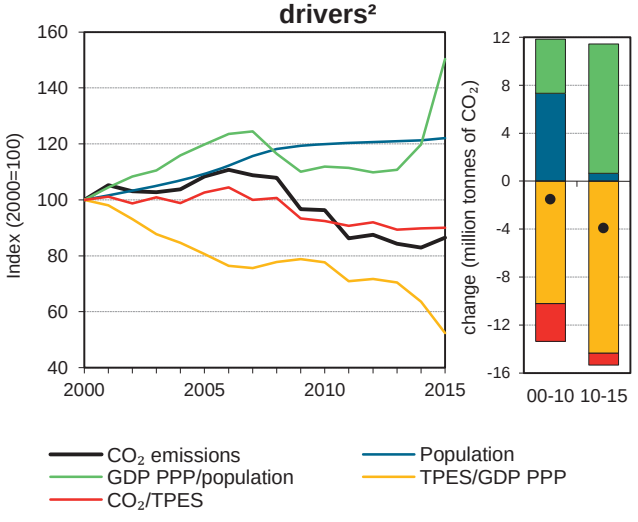


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Ireland

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	30.1	32.6	40.8	44.2	39.3	33.9	35.3	17%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	415	446	578	610	602	534	555	34%
GDP (billion 2010 USD)	82.6	103.6	165.1	216.3	221.3	239.9	303.0	267%
GDP PPP (billion 2010 USD)	73.6	92.3	147.0	192.6	197.1	213.7	269.8	267%
Population (millions)	3.5	3.6	3.8	4.2	4.6	4.6	4.6	32%
CO_2 / TPES (tCO_2 per TJ)	72.6	73.2	70.7	72.5	65.3	63.4	63.6	-12%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.36	0.3	0.2	0.2	0.2	0.1	0.1	-68%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.41	0.4	0.3	0.2	0.2	0.2	0.1	-68%
CO_2 / population (tCO_2 per capita)	8.6	9.1	10.7	10.6	8.6	7.3	7.6	-11%
Share of electricity output from fossil fuels	95%	96%	95%	93%	87%	75%	72%	
CO_2 / kWh of electricity (gCO_2/kWh)	750	736	650	590	466	429	418	-44%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	108	136	147	131	112	117	17%
Population index	100	103	109	119	130	132	132	32%
GDP PPP per population index	100	122	184	221	206	221	277	177%
Energy intensity index - TPES / GDP PPP	100	86	70	56	54	44	36	-64%
Carbon intensity index - CO_2 / TPES	100	101	97	100	90	87	88	-12%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**9.0**	**17.6**	**8.5**	**0.2**	**35.3**	**17%**
Electricity and heat generation	6.9	0.3	4.5	0.1	11.7	10%
Other energy industry own use	0.0	0.3	-	-	0.4	93%
Manufacturing industries and construction	0.4	1.6	1.8	0.1	3.9	-2%
Transport	-	11.1	0.0	-	11.1	126%
of which: road	-	*10.7*	*0.0*	-	*10.7*	132%
Other	1.7	4.3	2.2	-	8.2	-21%
of which: residential	*1.7*	*3.1*	*1.3*	-	*6.0*	-19%
of which: services	-	*0.7*	*0.9*	-	*1.7*	-26%
Memo: international marine bunkers	-	*0.5*	-	-	*0.5*	*763%*
Memo: international aviation bunkers	-	*2.4*	-	-	*2.4*	*135%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	10.7	132.1	18.1	18.1
Main activity prod. elec. and heat - coal	6.9	-8.7	11.6	29.7
Main activity prod. elec. and heat - gas	3.8	97.9	6.4	36.2
Residential - oil	3.1	162.6	5.2	41.3
Manufacturing industries - gas	1.8	114.1	3.0	44.3
Residential - coal	1.7	-72.3	2.8	47.2
Manufacturing industries - oil	1.6	-28.4	2.6	49.8
Residential - gas	1.3	373.4	2.2	52.0
Non-specified other - oil	1.3	-51.6	2.1	54.1
Memo: total CO_2 from fuel combustion	*35.3*	*17.3*	*59.6*	*59.6*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Israel

Figure 1. CO_2 emissions by fuel

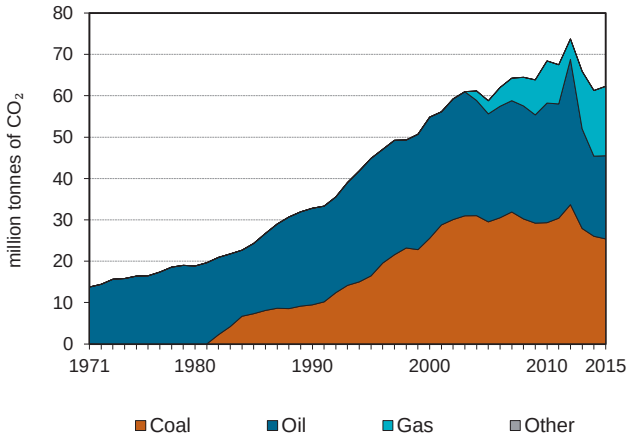


Figure 2. CO_2 emissions by sector

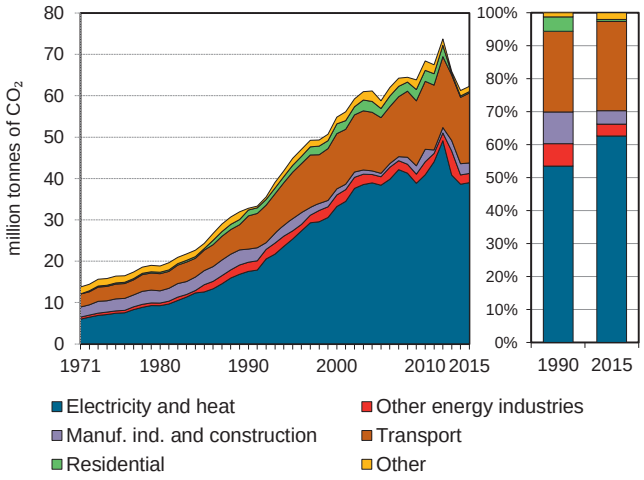


Figure 3. Electricity generation by fuel

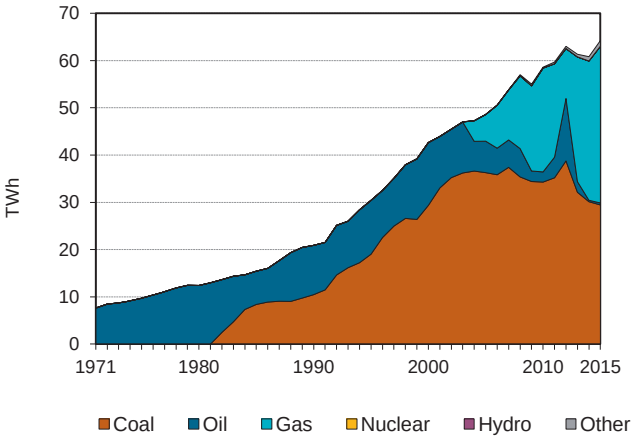


Figure 4. CO_2 from electricity generation: driving factors[1]

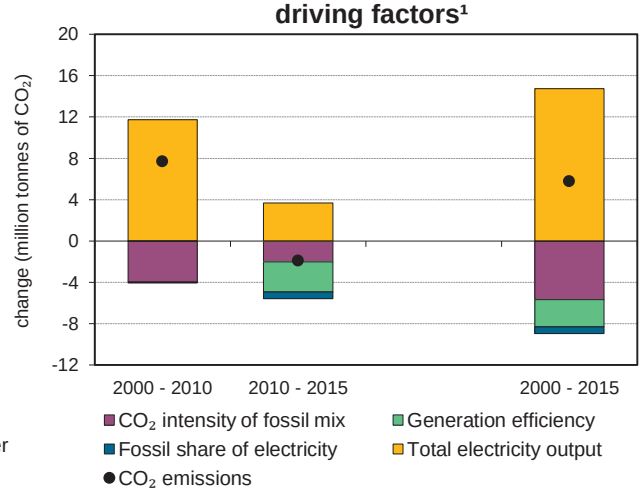


Figure 5. Changes in selected indicators

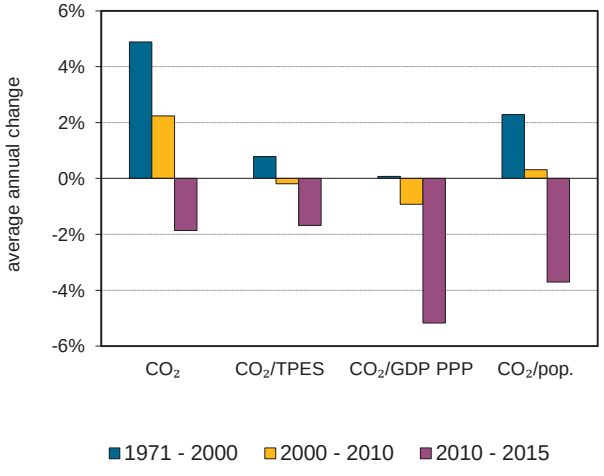
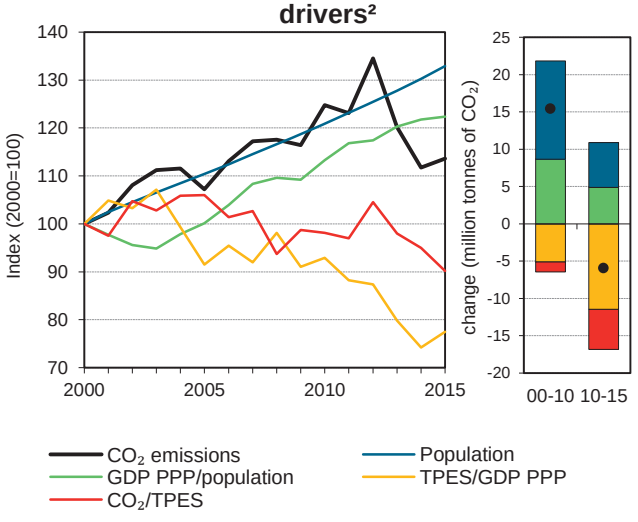


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Israel

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	32.8	44.9	54.8	58.8	68.4	61.3	62.3	90%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	480	649	763	772	971	899	962	100%
GDP (billion 2010 USD)	95.2	131.8	170.7	188.7	233.8	270.7	277.5	191%
GDP PPP (billion 2010 USD)	89.6	124.1	160.7	177.6	220.0	254.8	261.2	191%
Population (millions)	4.7	5.5	6.3	7.0	7.6	8.2	8.4	80%
CO_2 / TPES (tCO_2 per TJ)	68.4	69.1	71.8	76.1	70.5	68.2	64.7	-5%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.34	0.3	0.3	0.3	0.3	0.2	0.2	-35%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.37	0.4	0.3	0.3	0.3	0.2	0.2	-35%
CO_2 / population (tCO_2 per capita)	7	8.1	8.7	8.4	9.0	7.5	7.4	6%
Share of electricity output from fossil fuels	100%	100%	100%	100%	100%	98%	98%	
CO_2 / kWh of electricity (gCO_2/kWh)	840	833	779	790	698	635	607	-28%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	137	167	179	209	187	190	90%
Population index	100	119	135	149	164	176	180	80%
GDP PPP per population index	100	116	133	133	150	161	162	62%
Energy intensity index - TPES / GDP PPP	100	98	89	81	82	66	69	-31%
Carbon intensity index - CO_2 / TPES	100	101	105	111	103	100	95	-5%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**25.4**	**20.1**	**16.8**	**-**	**62.3**	**90%**
Electricity and heat generation	25.4	0.4	13.2	-	39.0	122%
Other energy industry own use	-	-	2.2	-	2.2	0%
Manufacturing industries and construction	-	1.4	1.2	-	2.5	-20%
Transport	-	16.9	-	-	16.9	110%
of which: road	-	*16.8*	-	-	*16.8*	111%
Other	-	1.5	0.2	-	1.6	-12%
of which: residential	-	*0.3*	-	-	*0.3*	-76%
of which: services	-	*0.3*	-	-	*0.3*	x
Memo: international marine bunkers	-	*0.8*	-	-	*0.8*	*113%*
Memo: international aviation bunkers	-	*2.8*	-	-	*2.8*	*73%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	25.2	167.7	31.1	31.1
Road - oil	16.8	111.2	20.8	51.9
Main activity prod. elec. and heat - gas	12.0	x	14.8	66.7
Other energy industry own use - gas	2.2	x	2.7	69.4
Manufacturing industries - oil	1.4	-55.8	1.7	71.1
Unallocated autoproducers - gas	1.2	x	1.5	72.7
Manufacturing industries - gas	1.2	+	1.4	74.1
Non-specified other - oil	1.1	161.5	1.4	75.5
Main activity prod. elec. and heat - oil	0.4	-95.3	0.4	75.9
Memo: total CO_2 from fuel combustion	*62.3*	*89.8*	*76.8*	*76.8*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Italy

Figure 1. CO_2 emissions by fuel

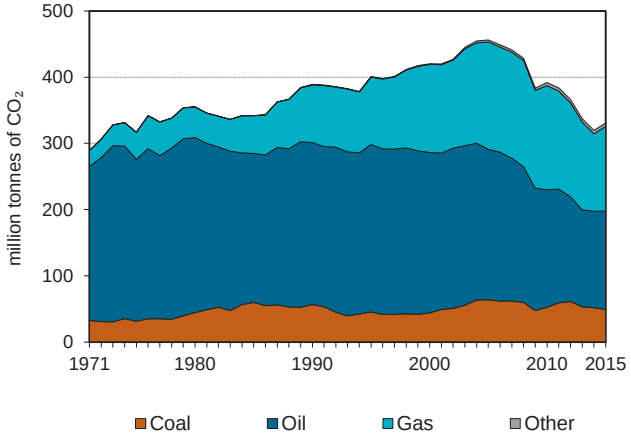


Figure 2. CO_2 emissions by sector

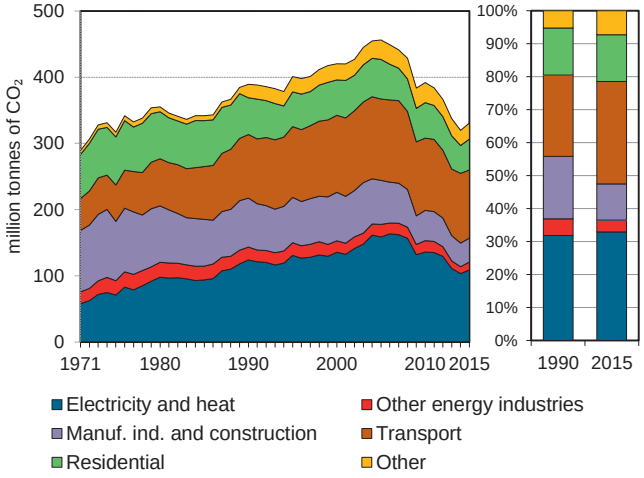


Figure 3. Electricity generation by fuel

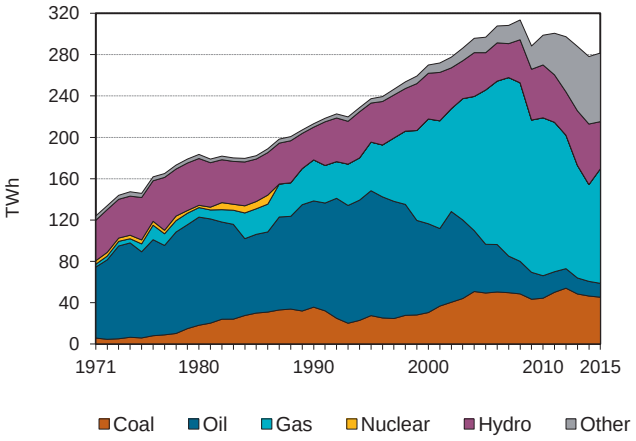


Figure 4. CO_2 from electricity generation: driving factors[1]

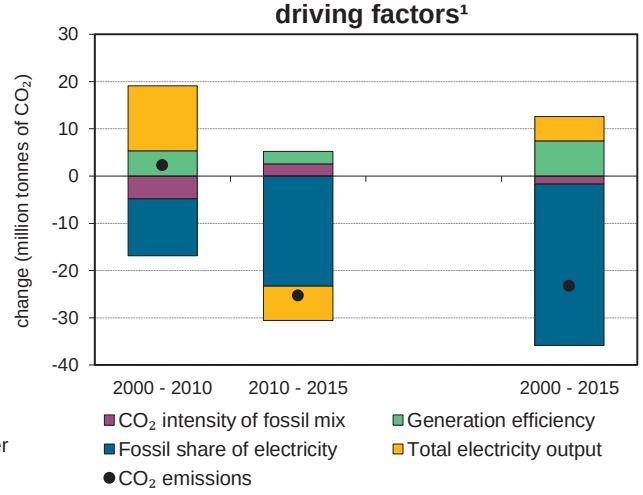


Figure 5. Changes in selected indicators

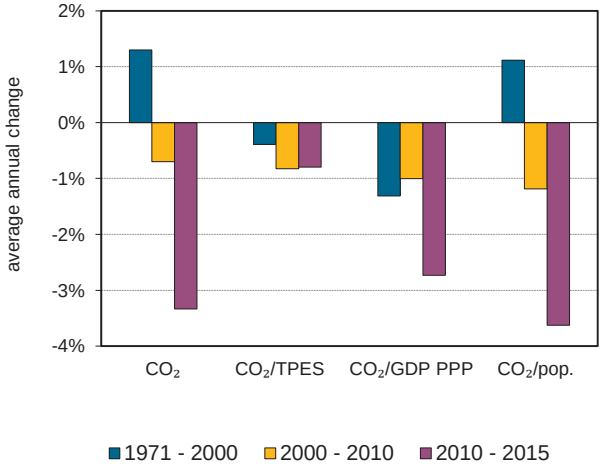
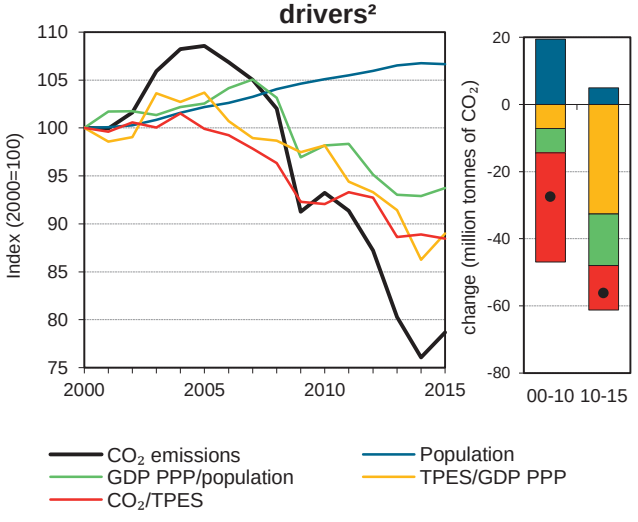


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Italy

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	389.3	401.0	420.3	456.3	391.9	319.7	330.7	-15%
Share of World CO_2 from fuel combustion	2%	2%	2%	2%	1%	1%	1%	
TPES (PJ)	6136	6 662	7 181	7 802	7 273	6 145	6 389	4%
GDP (billion 2010 USD)	1749.2	1 866.2	2 060.2	2 158.7	2 125.1	2 043.5	2 059.5	18%
GDP PPP (billion 2010 USD)	1711.4	1 825.9	2 015.8	2 112.1	2 079.2	1 999.4	2 015.0	18%
Population (millions)	56.7	56.8	56.9	58.2	59.8	60.8	60.7	7%
CO_2 / TPES (tCO_2 per TJ)	63.4	60.2	58.5	58.5	53.9	52.0	51.8	-18%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.22	0.2	0.2	0.2	0.2	0.2	0.2	-28%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.23	0.2	0.2	0.2	0.2	0.2	0.2	-28%
CO_2 / population (tCO_2 per capita)	6.9	7.1	7.4	7.8	6.6	5.3	5.4	-21%
Share of electricity output from fossil fuels	84%	83%	81%	84%	74%	57%	61%	
CO_2 / kWh of electricity (gCO_2/kWh)	581	551	502	491	410	331	342	-41%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	103	108	117	101	82	85	-15%
Population index	100	100	100	103	105	107	107	7%
GDP PPP per population index	100	106	117	120	115	109	110	10%
Energy intensity index - TPES / GDP PPP	100	102	99	103	98	86	88	-12%
Carbon intensity index - CO_2 / TPES	100	95	92	92	85	82	82	-18%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**49.1**	**148.7**	**127.9**	**5.1**	**330.7**	**-15%**
Electricity and heat generation	44.0	13.6	47.8	3.5	108.9	-12%
Other energy industry own use	0.0	9.3	2.6	-	12.0	-39%
Manufacturing industries and construction	5.0	10.0	19.4	1.6	36.0	-51%
Transport	-	100.4	2.6	-	103.0	7%
of which: road	-	*95.3*	*2.1*	-	*97.4*	5%
Other	-	15.4	55.5	-	70.9	-7%
of which: residential	-	*6.9*	*39.9*	-	*46.7*	-16%
of which: services	-	*1.6*	*15.3*	-	*16.8*	47%
Memo: international marine bunkers	-	*6.1*	-	-	*6.1*	*-28%*
Memo: international aviation bunkers	-	*9.5*	-	-	*9.5*	*109%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	95.3	3.7	22.4	22.4
Residential - gas	39.9	50.1	9.4	31.8
Main activity prod. elec. and heat - gas	39.8	146.1	9.4	41.2
Main activity prod. elec. and heat - coal	39.1	38.5	9.2	50.4
Manufacturing industries - gas	19.4	-36.2	4.6	55.0
Non-specified other - gas	15.6	56.8	3.7	58.6
Main activity prod. elec. and heat - oil	10.7	-83.2	2.5	61.2
Manufacturing industries - oil	10.0	-63.4	2.4	63.5
Other energy industry own use - oil	9.3	-32.6	2.2	65.7
Memo: total CO_2 from fuel combustion	*330.7*	*-15.0*	*77.9*	*77.9*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Jamaica

Figure 1. CO_2 emissions by fuel

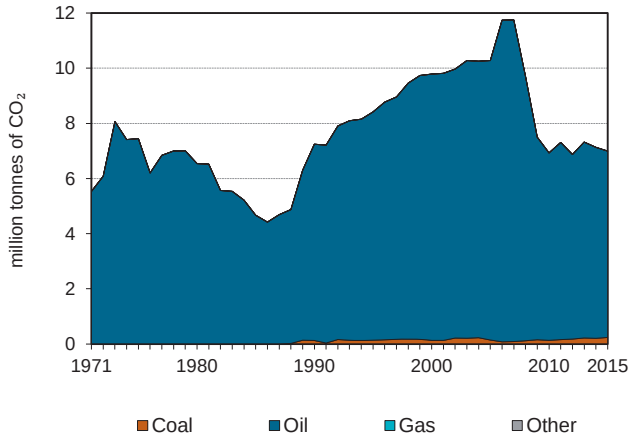


Figure 2. CO_2 emissions by sector

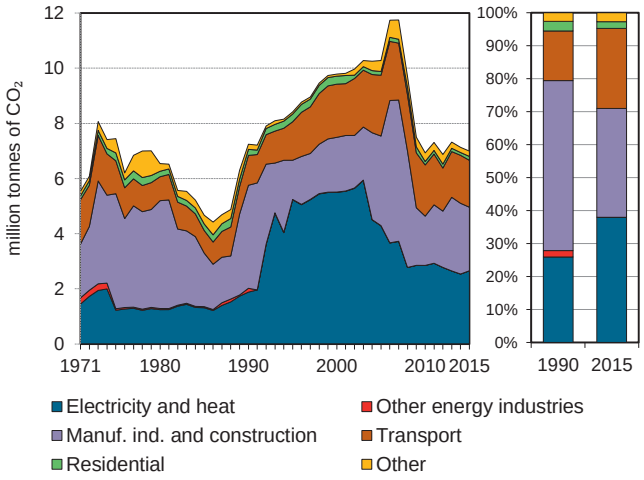


Figure 3. Electricity generation by fuel

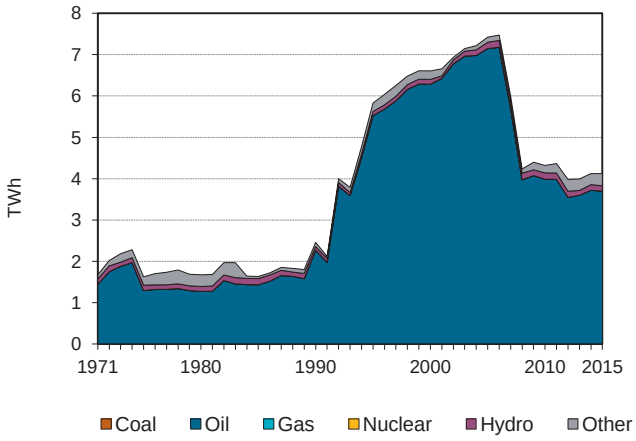


Figure 4. CO_2 from electricity generation: driving factors[1]

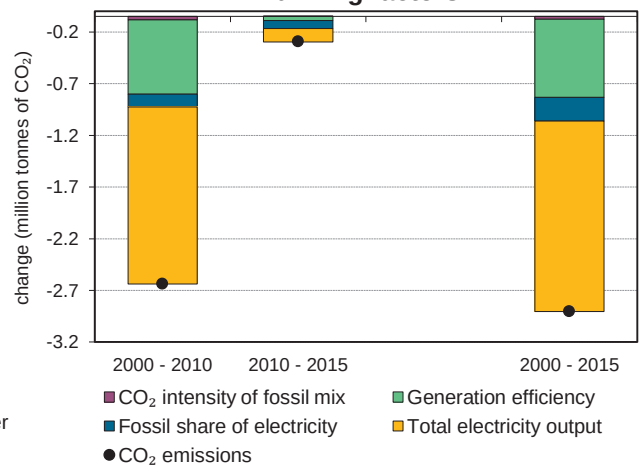


Figure 5. Changes in selected indicators

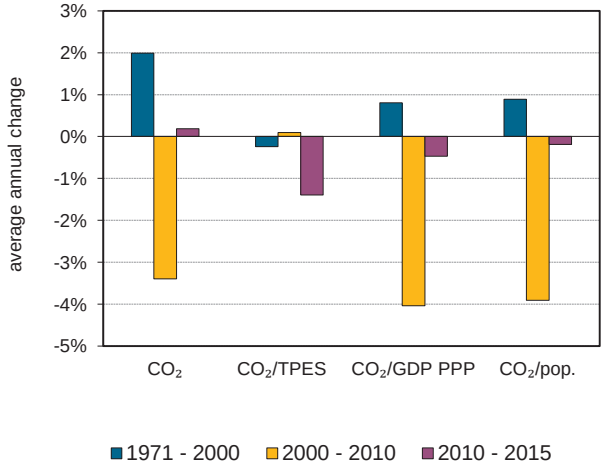
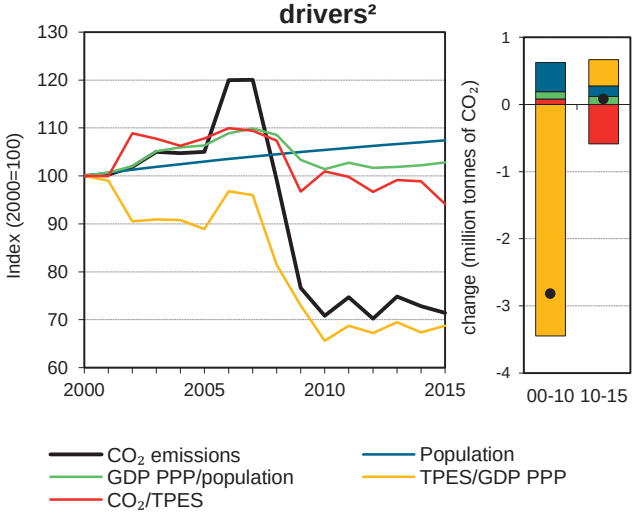


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Jamaica

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	7.2	8.4	9.8	10.3	6.9	7.1	7.0	-3%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	117	134	160	155	112	118	121	4%
GDP (billion 2010 USD)	10.3	12.6	12.3	13.5	13.2	13.5	13.6	32%
GDP PPP (billion 2010 USD)	17.3	21.0	20.6	22.6	22.1	22.6	22.8	32%
Population (millions)	2.4	2.5	2.6	2.7	2.7	2.8	2.8	17%
CO_2 / TPES (tCO_2 per TJ)	62.1	62.8	61.3	66.1	61.9	60.6	57.7	-7%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.7	0.7	0.8	0.8	0.5	0.5	0.5	-27%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.42	0.4	0.5	0.5	0.3	0.3	0.3	-27%
CO_2 / population (tCO_2 per capita)	3	3.4	3.8	3.8	2.5	2.6	2.5	-18%
Share of electricity output from fossil fuels	92%	95%	95%	96%	92%	90%	90%	
CO_2 / kWh of electricity (gCO_2/kWh)	765	897	832	577	659	615	644	-16%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	116	135	142	96	98	97	-3%
Population index	100	104	109	112	115	117	117	17%
GDP PPP per population index	100	116	109	116	111	112	113	13%
Energy intensity index - TPES / GDP PPP	100	95	115	102	75	77	79	-21%
Carbon intensity index - CO_2 / TPES	100	101	99	106	100	98	93	-7%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**0.2**	**6.8**	**-**	**-**	**7.0**	**-3%**
Electricity and heat generation	-	2.7	-	-	2.7	41%
Other energy industry own use	-	-	-	-	-	-100%
Manufacturing industries and construction	0.2	2.1	-	-	2.3	-38%
Transport	-	1.7	-	-	1.7	57%
of which: road	-	*1.7*	-	-	*1.7*	63%
Other	-	0.3	-	-	0.3	-17%
of which: residential	-	*0.1*	-	-	*0.1*	-35%
of which: services	-	*0.2*	-	-	*0.2*	127%
Memo: international marine bunkers	-	*0.6*	-	-	*0.6*	*523%*
Memo: international aviation bunkers	-	*0.6*	-	-	*0.6*	*26%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Manufacturing industries - oil	2.1	-42.7	21.3	21.3
Road - oil	1.7	63.3	17.5	38.7
Main activity prod. elec. and heat - oil	1.4	-23.8	14.7	53.5
Unallocated autoproducers - oil	1.2	x	12.6	66.0
Manufacturing industries - coal	0.2	86.5	2.4	68.5
Non-specified other - oil	0.2	2.9	2.0	70.5
Residential - oil	0.1	-34.6	1.5	71.9
-	-	-	-	-
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*7.0*	*-3.4*	*71.9*	*71.9*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Japan

Figure 1. CO_2 emissions by fuel

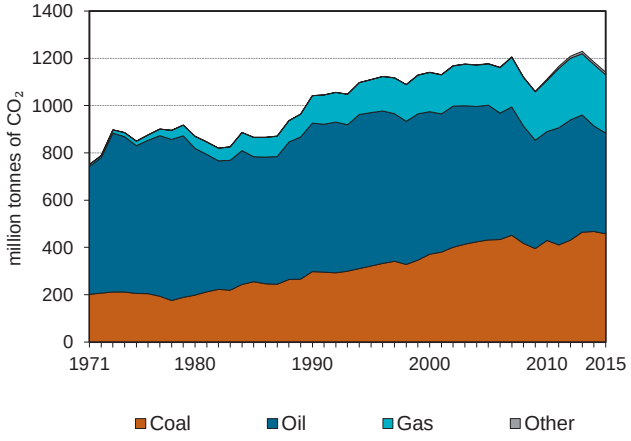


Figure 2. CO_2 emissions by sector

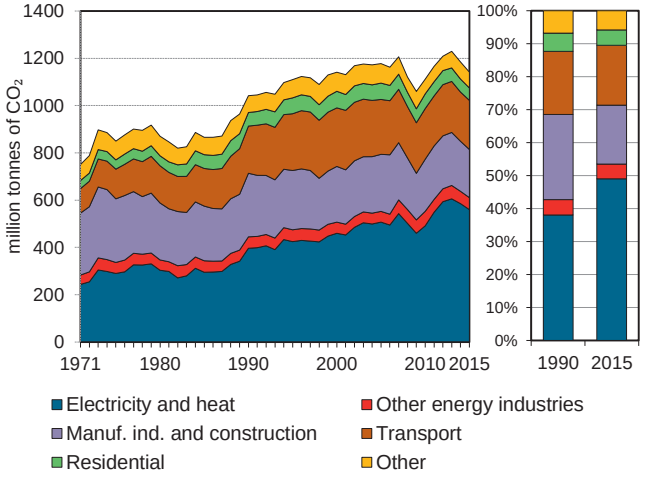


Figure 3. Electricity generation by fuel

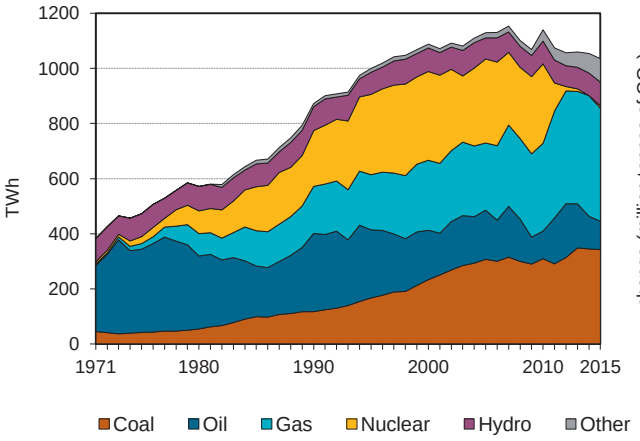


Figure 4. CO_2 from electricity generation: driving factors[1]

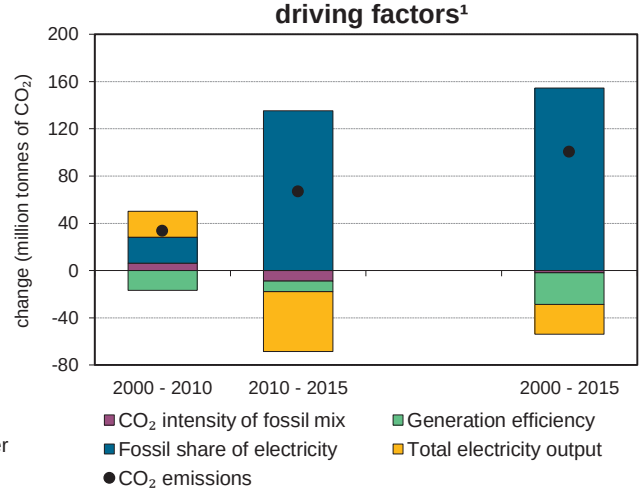


Figure 5. Changes in selected indicators

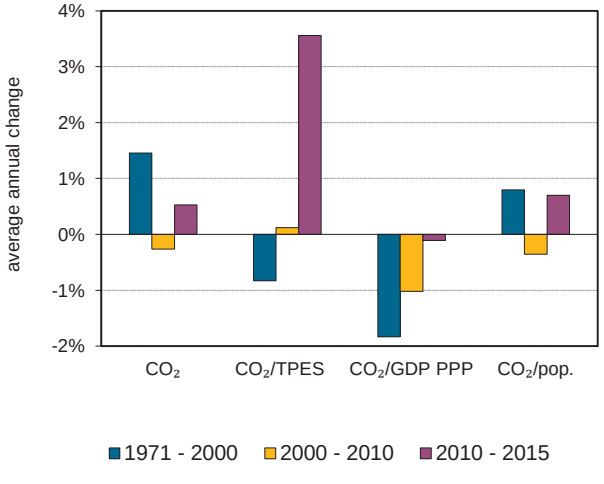
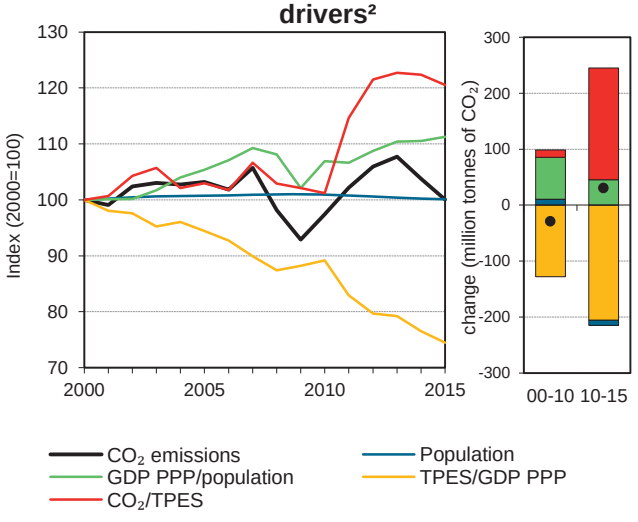


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Japan

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	1042	1 110.0	1 141.2	1 177.7	1 111.8	1 184.4	1 141.6	10%
Share of World CO_2 from fuel combustion	5%	5%	5%	4%	4%	4%	4%	
TPES (PJ)	18363	20 669	21 684	21 732	20 872	18 390	17 994	-2%
GDP (billion 2010 USD)	4682.8	5 063.8	5 348.9	5 672.3	5 700.1	5 914.0	5 986.1	28%
GDP PPP (billion 2010 USD)	3580.1	3 841.2	4 004.8	4 250.0	4 323.6	4 437.0	4 462.3	25%
Population (millions)	123.6	125.4	126.8	127.8	128.0	127.1	127.0	3%
CO_2 / TPES (tCO_2 per TJ)	56.7	53.7	52.6	54.2	53.3	64.4	63.4	12%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.22	0.2	0.2	0.2	0.2	0.2	0.2	-14%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.29	0.3	0.3	0.3	0.3	0.3	0.3	-12%
CO_2 / population (tCO_2 per capita)	8.4	8.8	9.0	9.2	8.7	9.3	9.0	7%
Share of electricity output from fossil fuels	66%	61%	61%	65%	64%	86%	83%	
CO_2 / kWh of electricity (gCO_2/kWh)	454	424	422	448	430	554	540	19%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	107	110	113	107	114	110	10%
Population index	100	101	103	103	104	103	103	3%
GDP PPP per population index	100	106	109	115	117	121	121	21%
Energy intensity index - TPES / GDP PPP	100	105	106	100	94	81	79	-21%
Carbon intensity index - CO_2 / TPES	100	95	93	96	94	114	112	12%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**457.8**	**425.7**	**247.2**	**10.8**	**1 141.6**	**10%**
Electricity and heat generation	315.1	64.2	176.0	4.8	560.0	41%
Other energy industry own use	28.8	19.4	2.7	-	50.9	5%
Manufacturing industries and construction	112.2	59.2	26.1	6.1	203.6	-24%
Transport	0.0	207.6	0.2	-	207.8	4%
of which: road	-	*186.8*	*0.2*	-	*187.0*	5%
Other	1.8	75.4	42.2	-	119.3	-7%
of which: residential	-	*32.1*	*20.3*	-	*52.4*	-8%
of which: services	*1.8*	*40.9*	*21.9*	-	*64.6*	-0%
Memo: international marine bunkers	-	*13.9*	-	-	*13.9*	*-22%*
Memo: international aviation bunkers	-	*19.3*	-	-	*19.3*	*44%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	260.6	155.3	20.1	20.1
Road - oil	186.8	4.9	14.4	34.4
Main activity prod. elec. and heat - gas	161.3	107.6	12.4	46.9
Manufacturing industries - coal	112.2	-20.5	8.6	55.5
Manufacturing industries - oil	59.2	-50.2	4.6	60.1
Unallocated autoproducers - coal	54.5	91.0	4.2	64.3
Non-specified other - oil	43.2	-25.8	3.3	67.6
Main activity prod. elec. and heat - oil	42.9	-68.8	3.3	70.9
Residential - oil	32.1	-19.2	2.5	73.4
Memo: total CO_2 from fuel combustion	*1141.6*	*9.6*	*87.9*	*87.9*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Jordan

Figure 1. CO_2 emissions by fuel

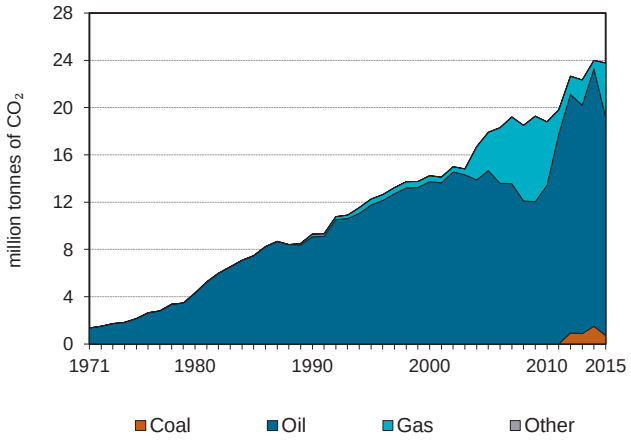


Figure 2. CO_2 emissions by sector

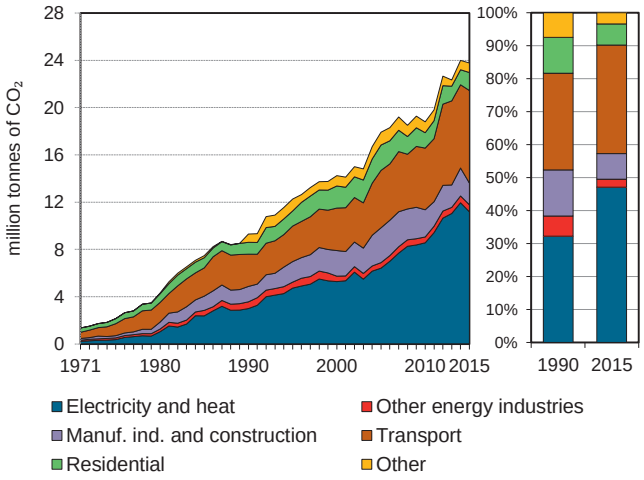


Figure 3. Electricity generation by fuel

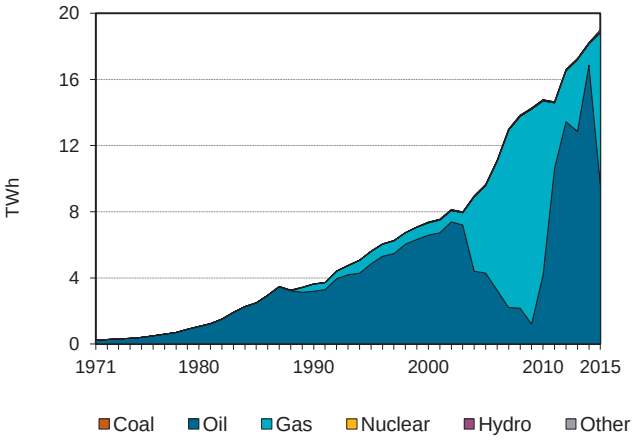


Figure 4. CO_2 from electricity generation: driving factors[1]

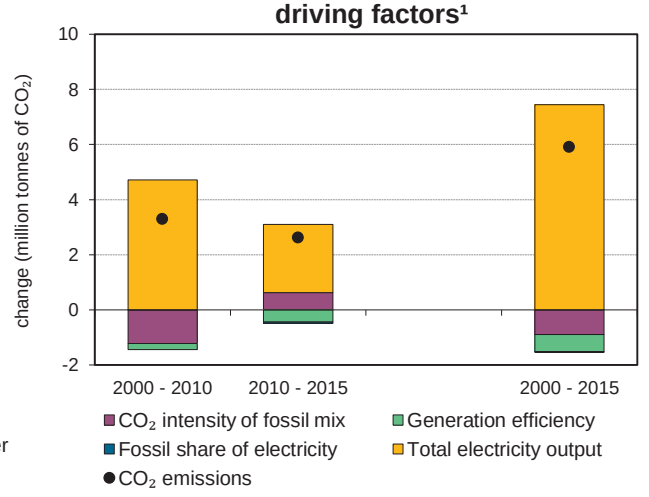


Figure 5. Changes in selected indicators

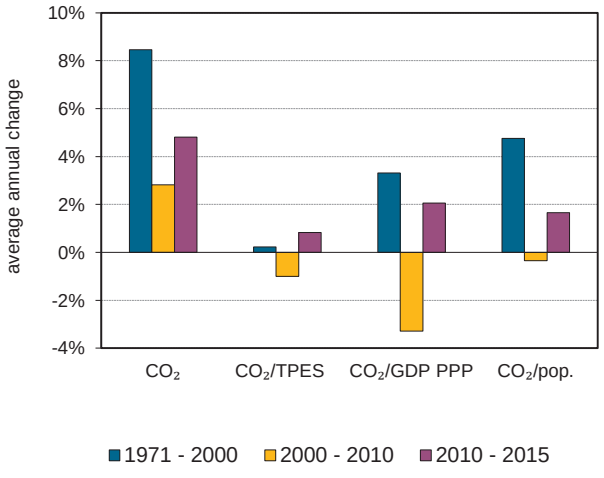
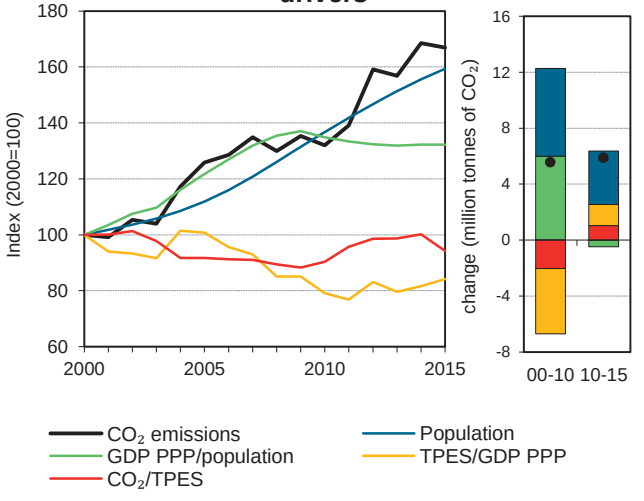


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Jordan

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	9.3	12.3	14.2	17.9	18.8	24.0	23.8	156%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	137	180	204	280	297	342	361	163%
GDP (billion 2010 USD)	8.7	12.2	14.3	19.5	26.4	29.5	30.2	248%
GDP PPP (billion 2010 USD)	21.9	30.9	36.2	49.3	66.7	74.4	76.2	248%
Population (millions)	3.4	4.3	4.8	5.3	6.5	7.4	7.6	126%
CO_2 / TPES (tCO_2 per TJ)	67.9	68.1	69.9	64.1	63.2	70.1	65.9	-3%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	1.07	1.0	1.0	0.9	0.7	0.8	0.8	-26%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.42	0.4	0.4	0.4	0.3	0.3	0.3	-26%
CO_2 / population (tCO_2 per capita)	2.8	2.8	3.0	3.4	2.9	3.2	3.1	13%
Share of electricity output from fossil fuels	100%	100%	99%	99%	100%	100%	99%	
CO_2 / kWh of electricity (gCO_2/kWh)	823	841	715	665	579	656	588	-29%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	132	153	193	202	258	256	156%
Population index	100	129	142	159	194	221	226	126%
GDP PPP per population index	100	110	116	142	157	154	154	54%
Energy intensity index - TPES / GDP PPP	100	93	90	91	71	74	76	-24%
Carbon intensity index - CO_2 / TPES	100	100	103	94	93	103	97	-3%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**0.7**	**18.5**	**4.6**	**-**	**23.8**	**156%**
Electricity and heat generation	-	6.6	4.6	-	11.2	273%
Other energy industry own use	-	0.6	-	-	0.6	5%
Manufacturing industries and construction	0.7	1.1	-	-	1.8	41%
Transport	-	7.8	-	-	7.8	187%
of which: road	-	*7.8*	-	-	*7.8*	191%
Other	-	2.3	-	-	2.3	37%
of which: residential	-	*1.5*	-	-	*1.5*	51%
of which: services	-	*0.3*	-	-	*0.3*	835%
Memo: international marine bunkers	-	*0.0*	-	-	*0.0*	*..*
Memo: international aviation bunkers	-	*0.9*	-	-	*0.9*	*35%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	7.8	190.6	25.3	25.3
Main activity prod. elec. and heat - oil	6.1	149.3	19.8	45.1
Main activity prod. elec. and heat - gas	4.6	+	14.8	59.8
Residential - oil	1.5	51.3	4.9	64.8
Manufacturing industries - oil	1.1	-14.4	3.6	68.4
Non-specified other - oil	0.8	15.8	2.6	71.0
Manufacturing industries - coal	0.7	x	2.3	73.4
Other energy industry own use - oil	0.6	4.6	1.9	75.3
Unallocated autoproducers - oil	0.5	67.2	1.7	77.0
Memo: total CO_2 from fuel combustion	*23.8*	*155.6*	*77.1*	*77.1*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Kazakhstan

Figure 1. CO_2 emissions by fuel

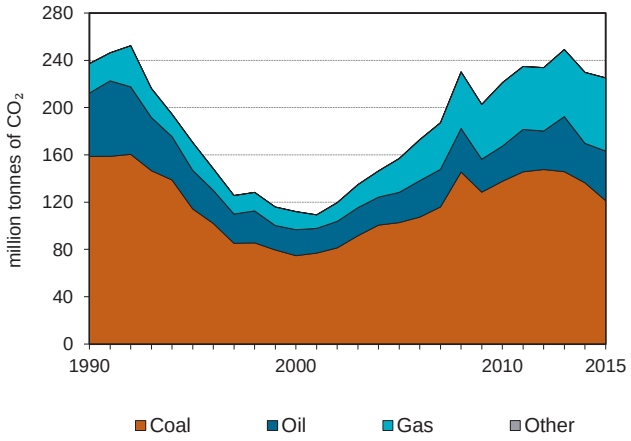


Figure 2. CO_2 emissions by sector

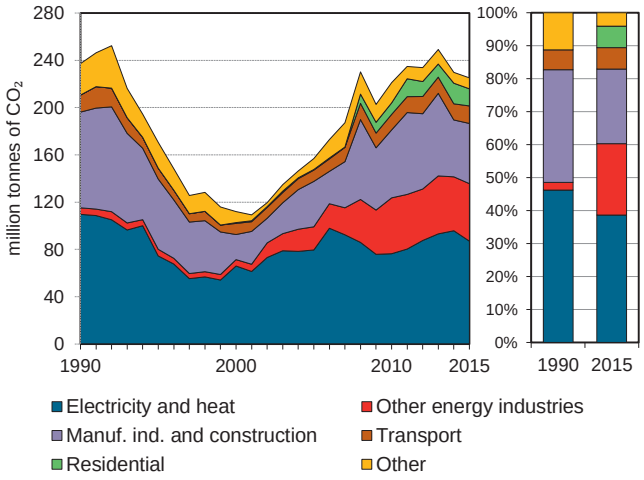


Figure 3. Electricity generation by fuel

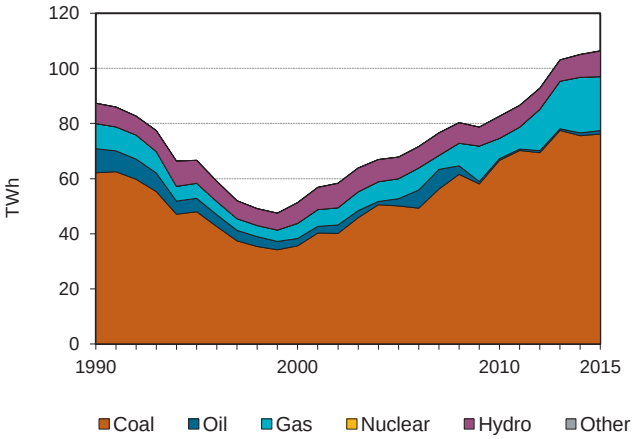


Figure 4. CO_2 from electricity generation: driving factors[1]

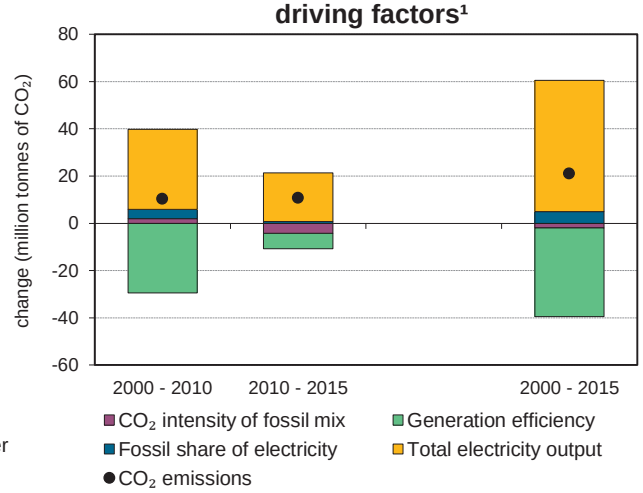


Figure 5. Changes in selected indicators

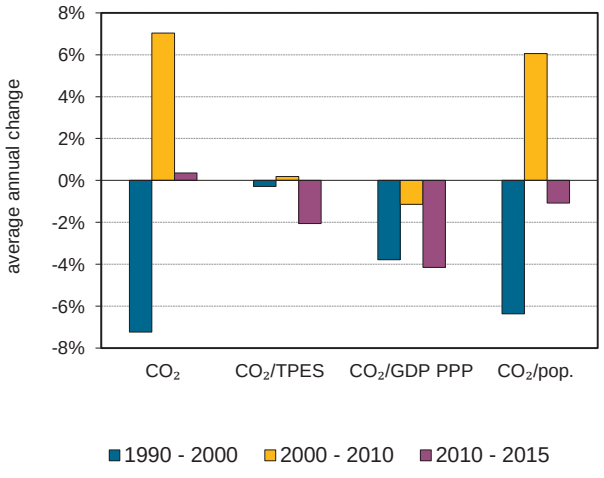
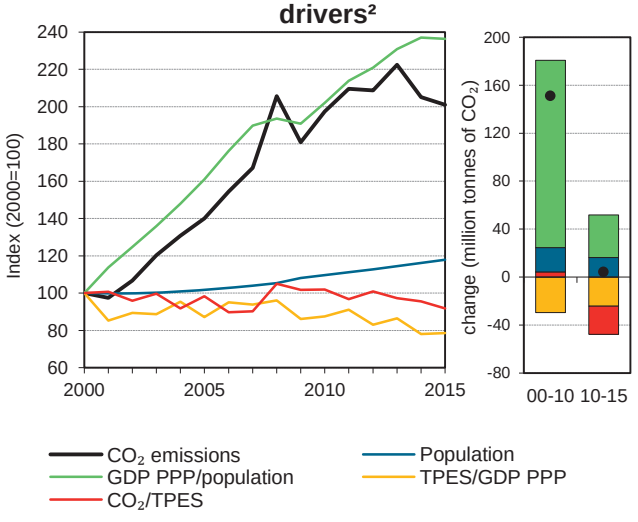


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Kazakhstan

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	237.2	170.5	112.0	156.9	221.1	229.8	225.1	-5%
Share of World CO_2 from fuel combustion	1%	1%	0%	1%	1%	1%	1%	
TPES (PJ)	3075	2 187	1 494	2 130	2 894	3 210	3 270	6%
GDP (billion 2010 USD)	96.3	59.1	66.9	109.5	148.0	184.1	186.3	93%
GDP PPP (billion 2010 USD)	217.9	133.8	151.2	247.7	334.9	416.4	421.4	93%
Population (millions)	16.4	15.8	14.9	15.1	16.3	17.3	17.5	7%
CO_2 / TPES (tCO_2 per TJ)	77.2	78.0	75.0	73.7	76.4	71.6	68.9	-11%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	2.46	2.9	1.7	1.4	1.5	1.2	1.2	-51%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	1.09	1.3	0.7	0.6	0.7	0.6	0.5	-51%
CO_2 / population (tCO_2 per capita)	14.5	10.8	7.5	10.4	13.5	13.3	12.8	-12%
Share of electricity output from fossil fuels	92%	88%	85%	88%	90%	92%	91%	
CO_2 / kWh of electricity (gCO_2/kWh)	621	632	743	608	416	514	416	-33%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	72	47	66	93	97	95	-5%
Population index	100	97	91	93	100	106	107	7%
GDP PPP per population index	100	63	76	123	154	181	180	80%
Energy intensity index - TPES / GDP PPP	100	116	70	61	61	55	55	-45%
Carbon intensity index - CO_2 / TPES	100	101	97	95	99	93	89	-11%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**121.2**	**42.0**	**61.9**	**-**	**225.1**	**-5%**
Electricity and heat generation	74.2	1.4	11.4	-	87.0	-21%
Other energy industry own use	1.1	3.8	43.7	-	48.7	777%
Manufacturing industries and construction	34.6	12.1	4.2	-	50.9	-37%
Transport	0.1	14.7	-	-	14.8	3%
of which: road	-	*13.3*	-	-	*13.3*	10%
Other	11.2	10.0	2.6	-	23.7	-11%
of which: residential	*7.7*	*6.1*	*0.7*	-	*14.5*	x
of which: services	*3.0*	*2.5*	*1.8*	-	*7.4*	+
Memo: international marine bunkers	-	*0.3*	-	-	*0.3*	..
Memo: international aviation bunkers	-	*0.9*	-	-	*0.9*	*-65%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	74.2	-22.3	23.6	23.6
Other energy industry own use - gas	43.7	+	13.9	37.5
Manufacturing industries - coal	34.6	-45.2	11.0	48.5
Road - oil	13.3	9.9	4.2	52.7
Manufacturing industries - oil	12.1	-31.8	3.8	56.6
Main activity prod. elec. and heat - gas	11.4	225.6	3.6	60.2
Residential - coal	7.7	x	2.4	62.6
Residential - oil	6.1	x	1.9	64.6
Manufacturing industries - gas	4.2	x	1.3	65.9
Memo: total CO_2 from fuel combustion	*225.1*	*-5.1*	*71.6*	*71.6*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Kenya

Figure 1. CO_2 emissions by fuel

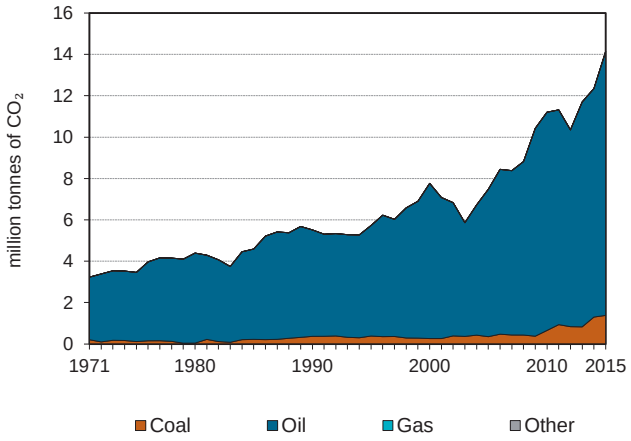


Figure 2. CO_2 emissions by sector

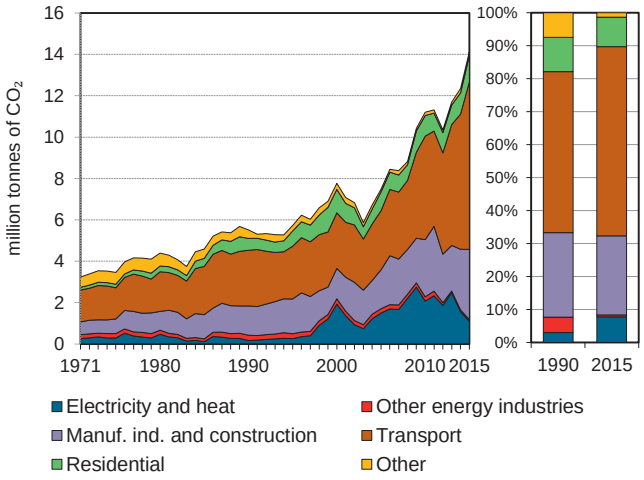


Figure 3. Electricity generation by fuel

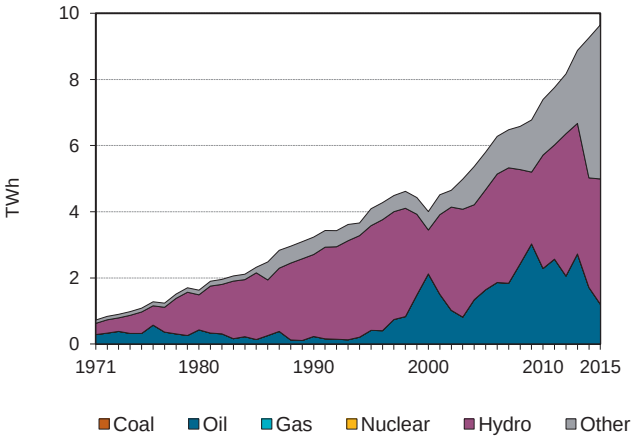


Figure 4. CO_2 from electricity generation: driving factors[1]

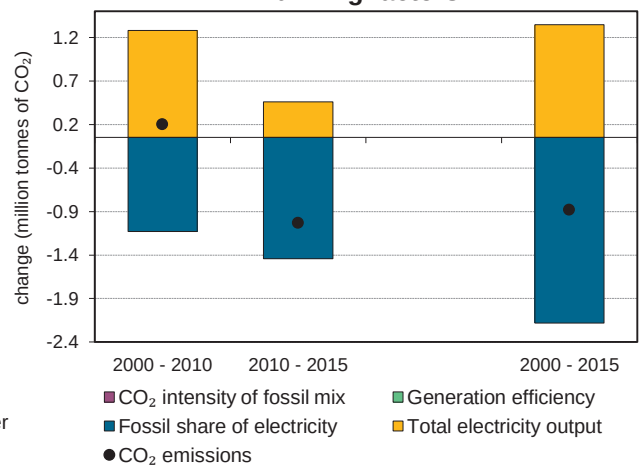


Figure 5. Changes in selected indicators

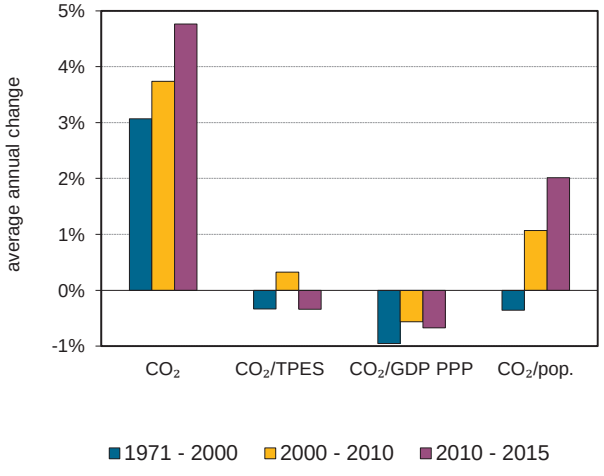
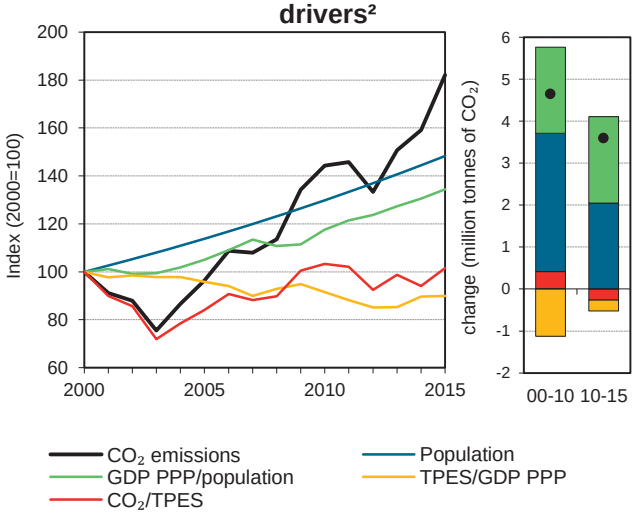


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Kenya

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	5.5	5.7	7.8	7.5	11.2	12.4	14.1	156%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	448	509	586	672	819	992	1 051	134%
GDP (billion 2010 USD)	21.8	23.6	26.2	31.3	40.0	49.4	52.2	140%
GDP PPP (billion 2010 USD)	54.6	59.1	65.7	78.5	100.3	123.9	130.9	140%
Population (millions)	23.5	27.4	31.1	35.3	40.3	44.9	46.1	96%
CO_2 / TPES (tCO_2 per TJ)	12.3	11.2	13.2	11.1	13.7	12.5	13.5	9%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.25	0.2	0.3	0.2	0.3	0.3	0.3	7%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	7%
CO_2 / population (tCO_2 per capita)	0.2	0.2	0.2	0.2	0.3	0.3	0.3	31%
Share of electricity output from fossil fuels	7%	10%	53%	28%	31%	19%	12%	
CO_2 / kWh of electricity (gCO_2/kWh)	51	64	481	258	281	168	114	121%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	104	141	136	203	224	256	156%
Population index	100	117	133	151	172	191	196	96%
GDP PPP per population index	100	93	91	95	107	119	122	22%
Energy intensity index - TPES / GDP PPP	100	105	109	104	99	97	98	-2%
Carbon intensity index - CO_2 / TPES	100	91	108	91	111	101	109	9%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**1.4**	**12.8**	**-**	**-**	**14.1**	**156%**
Electricity and heat generation	-	1.1	-	-	1.1	559%
Other energy industry own use	-	0.1	-	-	0.1	-66%
Manufacturing industries and construction	1.4	2.0	-	-	3.4	140%
Transport	-	8.1	-	-	8.1	201%
of which: road	-	*7.9*	-	-	*7.9*	210%
Other	-	1.5	-	-	1.5	48%
of which: residential	-	*1.3*	-	-	*1.3*	122%
of which: services	-	-	-	-	-	-100%
Memo: international marine bunkers	-	*0.1*	-	-	*0.1*	*-77%*
Memo: international aviation bunkers	-	*2.0*	-	-	*2.0*	*141%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	7.9	210.2	9.9	9.9
Manufacturing industries - oil	2.0	92.0	2.5	12.5
Manufacturing industries - coal	1.4	274.8	1.7	14.2
Residential - oil	1.3	122.2	1.6	15.8
Main activity prod. elec. and heat - oil	1.1	956.3	1.4	17.2
Non-specified other - oil	0.2	-54.8	0.2	17.4
Other transport - oil	0.2	32.3	0.2	17.6
Other energy industry own use - oil	0.1	-65.9	0.1	17.7
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*14.1*	*156.4*	*17.7*	*17.7*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Korea

Figure 1. CO_2 emissions by fuel

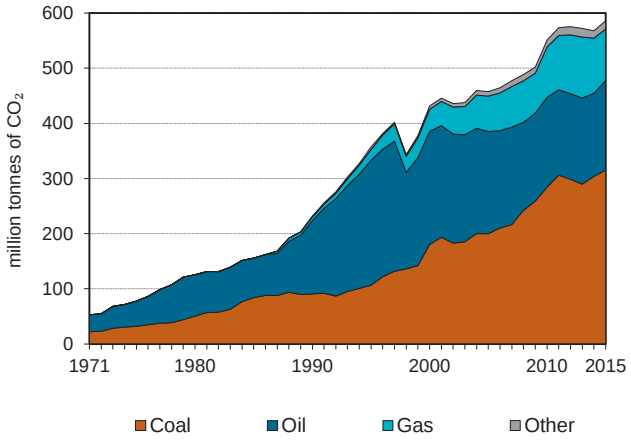


Figure 2. CO_2 emissions by sector

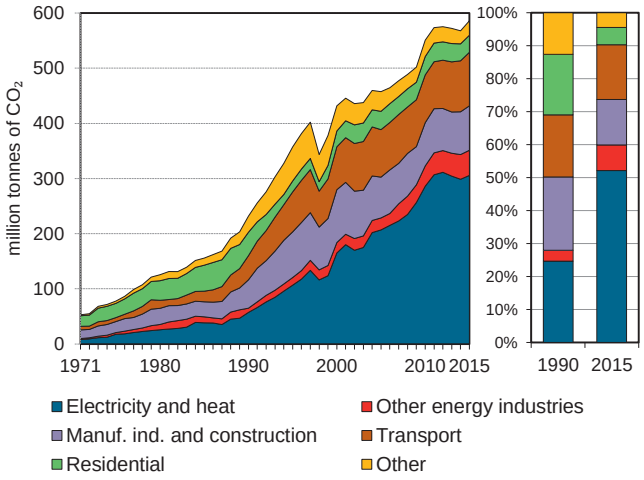


Figure 3. Electricity generation by fuel

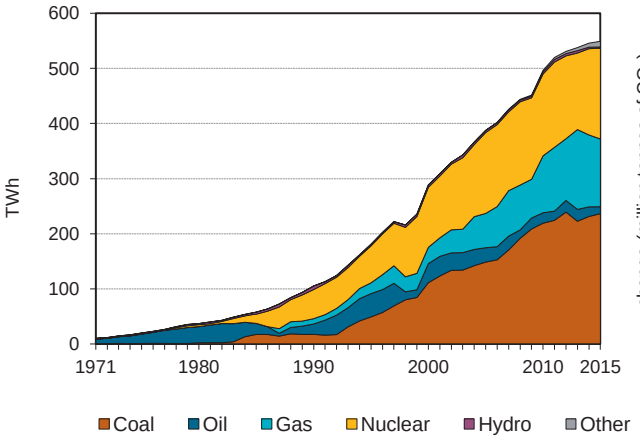


Figure 4. CO_2 from electricity generation: driving factors[1]

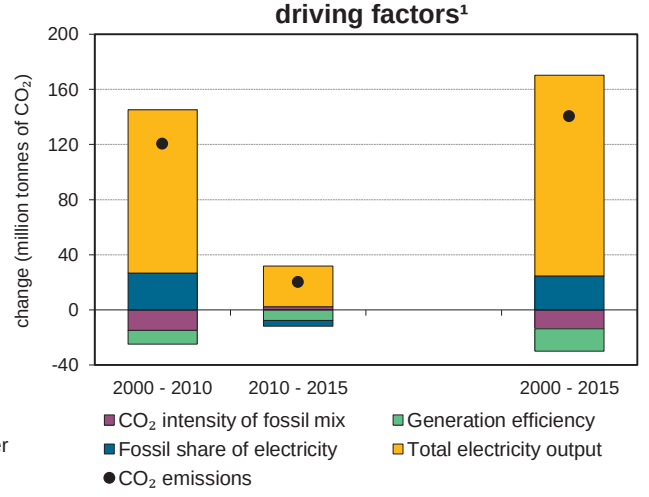


Figure 5. Changes in selected indicators

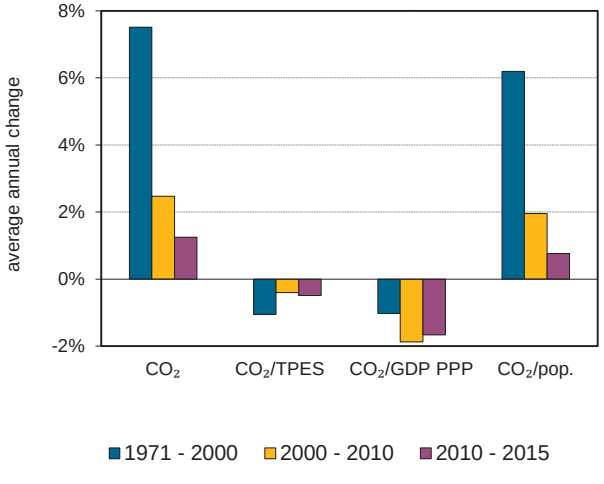
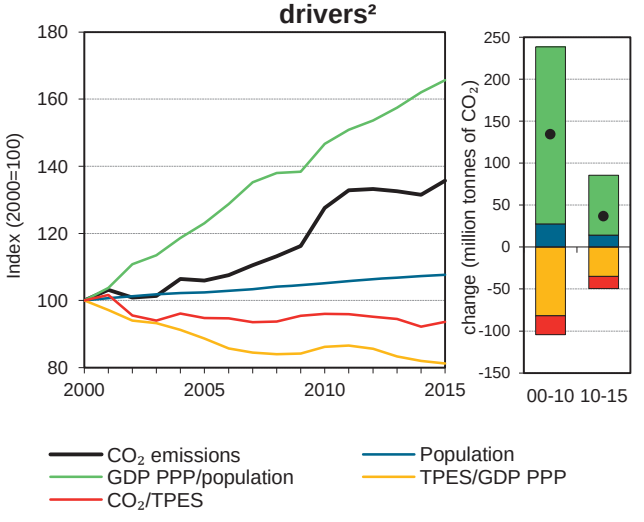


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Korea

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	231.7	357.1	431.7	457.5	550.7	567.8	586.0	153%
Share of World CO_2 from fuel combustion	1%	2%	2%	2%	2%	2%	2%	
TPES (PJ)	3890	6 061	7 878	8 804	10 468	11 239	11 417	193%
GDP (billion 2010 USD)	362.9	543.6	710.0	894.7	1 094.5	1 234.3	1 266.6	249%
GDP PPP (billion 2010 USD)	499.1	747.6	976.5	1 230.5	1 505.3	1 697.6	1 742.0	249%
Population (millions)	42.9	45.1	47.0	48.1	49.4	50.4	50.6	18%
CO_2 / TPES (tCO_2 per TJ)	59.6	58.9	54.8	52.0	52.6	50.5	51.3	-14%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.64	0.7	0.6	0.5	0.5	0.5	0.5	-28%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.46	0.5	0.4	0.4	0.4	0.3	0.3	-28%
CO_2 / population (tCO_2 per capita)	5.4	7.9	9.2	9.5	11.1	11.3	11.6	114%
Share of electricity output from fossil fuels	44%	61%	61%	61%	69%	70%	68%	
CO_2 / kWh of electricity (gCO_2/kWh)	543	573	546	497	546	517	526	-3%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	154	186	197	238	245	253	153%
Population index	100	105	110	112	115	118	118	18%
GDP PPP per population index	100	142	178	220	262	289	296	196%
Energy intensity index - TPES / GDP PPP	100	104	104	92	89	85	84	-16%
Carbon intensity index - CO_2 / TPES	100	99	92	87	88	85	86	-14%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**315.4**	**162.4**	**93.3**	**14.9**	**586.0**	**153%**
Electricity and heat generation	244.5	13.8	45.0	2.2	305.6	434%
Other energy industry own use	26.9	18.6	0.2	-	45.6	499%
Manufacturing industries and construction	41.3	10.7	17.4	11.2	80.6	57%
Transport	-	94.3	2.7	-	97.1	122%
of which: road	-	*89.6*	*2.7*	-	*92.3*	190%
Other	2.7	24.9	28.0	1.5	57.1	-20%
of which: residential	*2.7*	*9.0*	*19.2*	-	*30.9*	-27%
of which: services	-	*7.4*	*8.8*	*1.5*	*17.7*	-17%
Memo: international marine bunkers	-	*30.4*	-	-	*30.4*	*471%*
Memo: international aviation bunkers	-	*13.2*	-	-	*13.2*	+

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	204.5	+	29.3	29.3
Road - oil	89.6	181.3	12.8	42.1
Main activity prod. elec. and heat - gas	43.0	798.1	6.2	48.3
Manufacturing industries - coal	41.3	179.3	5.9	54.2
Unallocated autoproducers - coal	40.0	79.5	5.7	59.9
Other energy industry - coal	26.9	888.2	3.8	63.7
Residential - gas	19.2	+	2.7	66.5
Other energy industry own use - oil	18.6	282.2	2.7	69.2
Manufacturing industries - gas	17.4	+	2.5	71.7
Memo: total CO_2 from fuel combustion	*586.0*	*152.9*	*83.9*	*83.9*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Kosovo [1]

Figure 1. CO_2 emissions by fuel

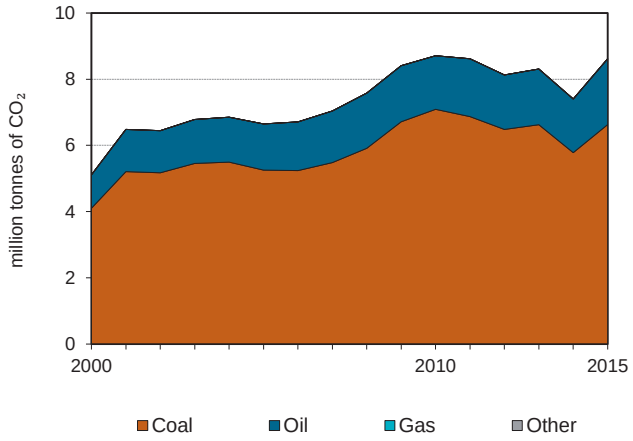


Figure 2. CO_2 emissions by sector

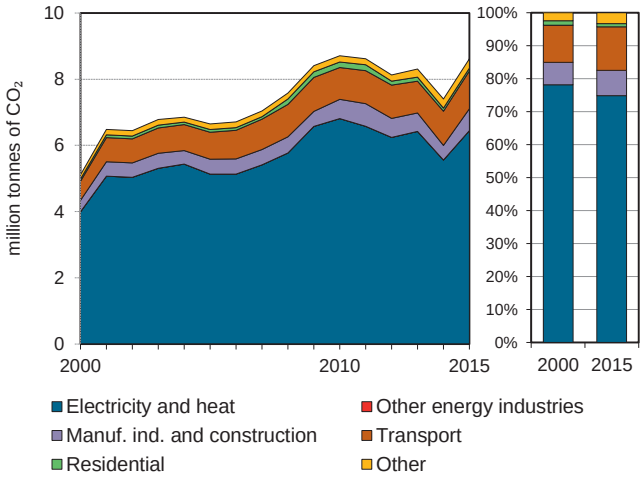


Figure 3. Electricity generation by fuel

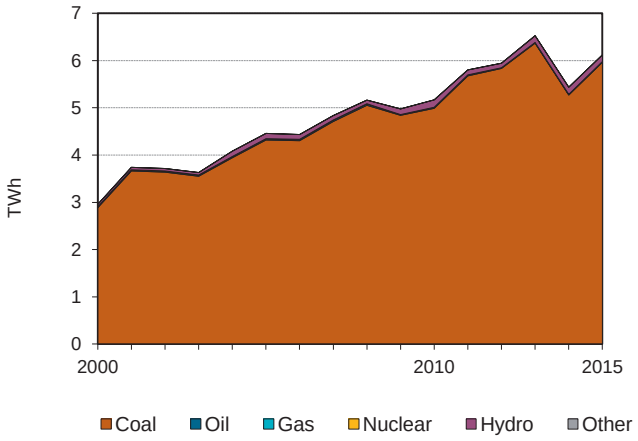


Figure 4. CO_2 from electricity generation: driving factors[2]

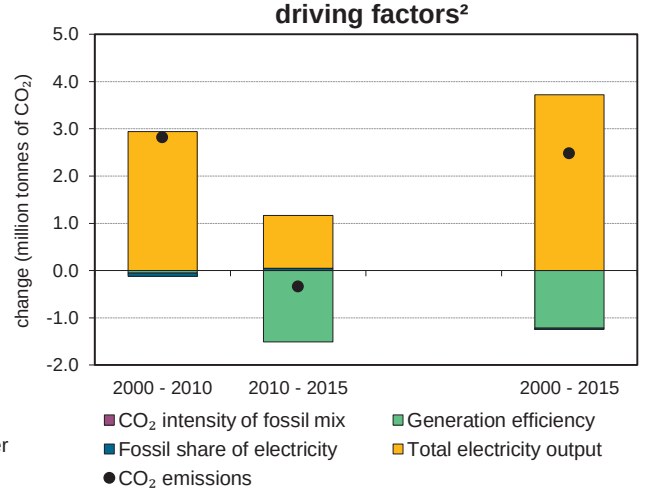


Figure 5. Changes in selected indicators

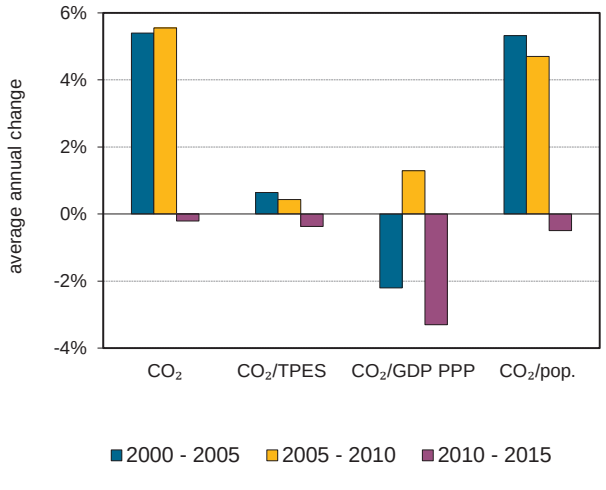
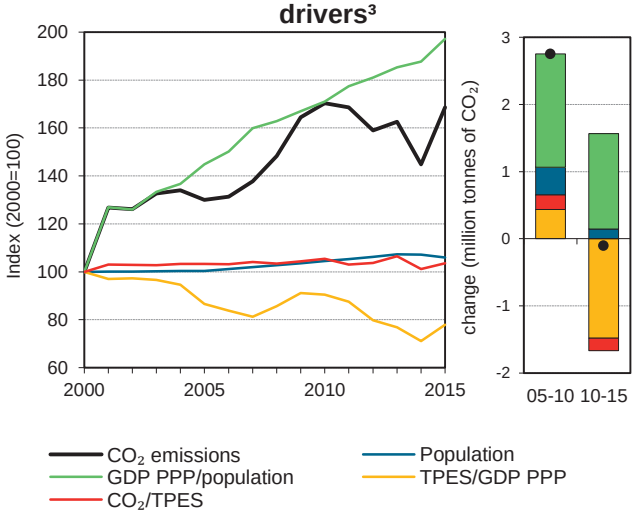


Figure 6. Total CO_2 emissions and drivers[3]



1. Prior to 2000, data for Kosovo were included in Serbia.
2. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
3. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Kosovo [1]

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 00-15
CO_2 fuel combustion ($MtCO_2$)	..	..	5.1	6.6	8.7	7.4	8.6	69%
Share of World CO_2 from fuel combustion	..	..	0%	0%	0%	0%	0%	
TPES (PJ)	..	..	65	81	104	93	105	63%
GDP (billion 2010 USD)	..	..	3.3	4.7	5.8	6.6	6.8	109%
GDP PPP (billion 2010 USD)	..	..	7.7	11.2	13.8	15.5	16.1	109%
Population (millions)	..	..	1.7	1.7	1.8	1.8	1.8	6%
CO_2 / TPES (tCO_2 per TJ)	..	..	79.1	81.6	83.4	80.0	81.8	4%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	..	..	1.6	1.4	1.5	1.1	1.3	-19%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	..	..	0.7	0.6	0.6	0.5	0.5	-19%
CO_2 / population (tCO_2 per capita)	..	..	3.0	3.9	4.9	4.1	4.8	59%
Share of electricity output from fossil fuels	..	..	98%	97%	97%	97%	98%	
CO_2 / kWh of electricity (gCO_2/kWh)	..	..	1342	1144	1314	1019	1053	-22%
CO_2 emissions and drivers - Kaya decomposition (2000=100) [2]								
CO_2 emissions index	..	..	100	130	170	145	169	69%
Population index	..	..	100	100	104	107	106	6%
GDP PPP per population index	..	..	100	145	171	188	197	97%
Energy intensity index - TPES / GDP PPP	..	..	100	87	90	71	78	-22%
Carbon intensity index - CO_2 / TPES	..	..	100	103	105	101	104	4%

1. Prior to 2000, data for Kosovo were included in Serbia. 2. Please see the chapter *Indicator sources and methods* in Part I for methodological notes.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [3]	Total	%change 00-15
CO_2 fuel combustion	**6.6**	**2.0**	**-**	**-**	**8.6**	**69%**
Electricity and heat generation	6.4	0.0	-	-	6.4	61%
Other energy industry own use	-	-	-	-	-	-
Manufacturing industries and construction	0.1	0.6	-	-	0.7	91%
Transport	-	1.1	-	-	1.1	98%
of which: road	-	*1.1*	-	-	*1.1*	98%
Other	0.1	0.2	-	-	0.4	89%
of which: residential	*0.0*	*0.0*	-	-	*0.1*	24%
of which: services	*0.1*	*0.2*	-	-	*0.2*	153%
Memo: international marine bunkers	-	-	-	-	-	-
Memo: international aviation bunkers	-	*0.0*	-	-	*0.0*	*x*

3. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 00-15	Level assessment[4] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	6.4	62.9	..	..
Road - oil	1.1	98.0	..	..
Manufacturing industries - oil	0.6	144.7	..	..
Non-specified other - oil	0.2	118.2	..	..
Non-specified other sectors - coal	0.1	142.9	..	..
Manufacturing industries - coal	0.1	-28.4	..	..
Residential - coal	0.0	200.0	..	..
Residential - oil	0.0	-22.4	..	..
Main activity prod. elec. and heat - oil	0.0	-59.9	..	..
Memo: total CO_2 from fuel combustion	*8.6*	*68.6*	..	..

4. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Kuwait

Figure 1. CO_2 emissions by fuel

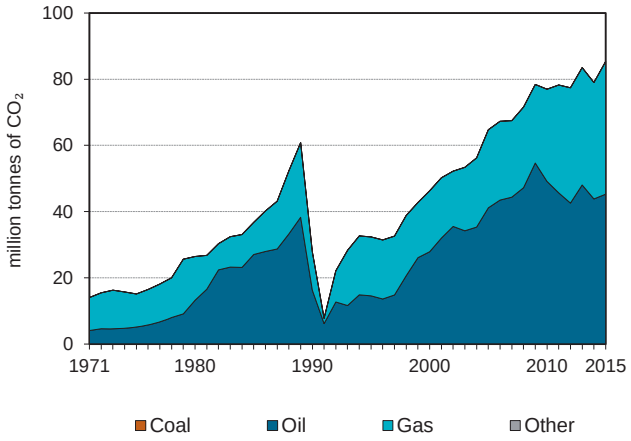


Figure 2. CO_2 emissions by sector

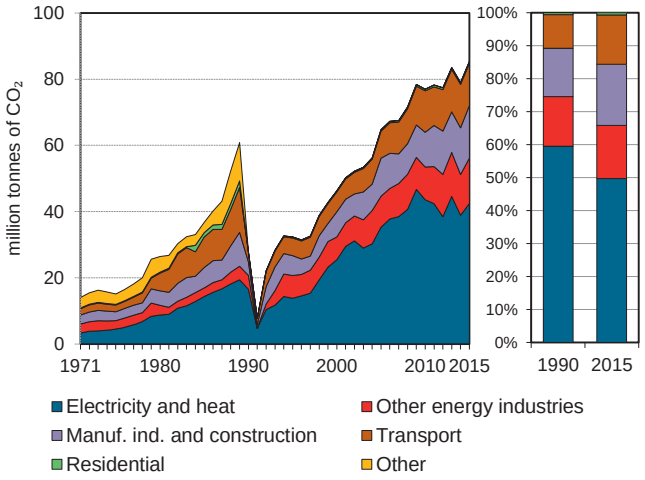


Figure 3. Electricity generation by fuel

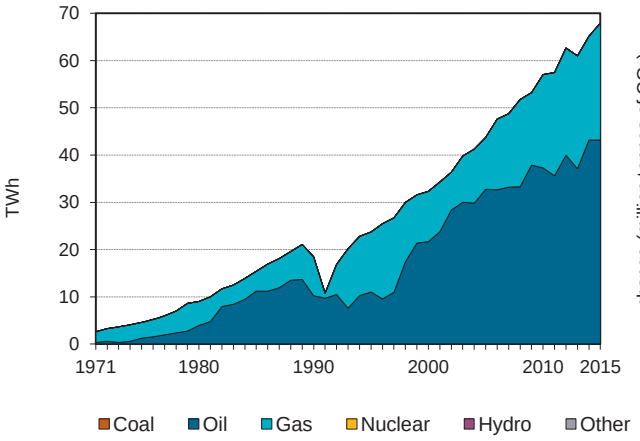


Figure 4. CO_2 from electricity generation: driving factors[1]

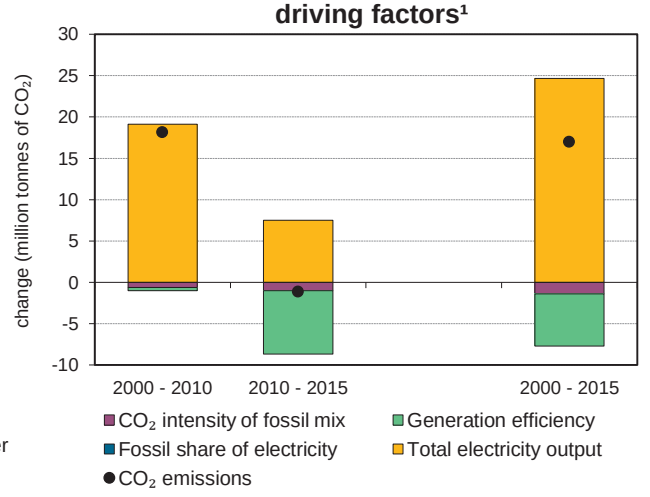


Figure 5. Changes in selected indicators

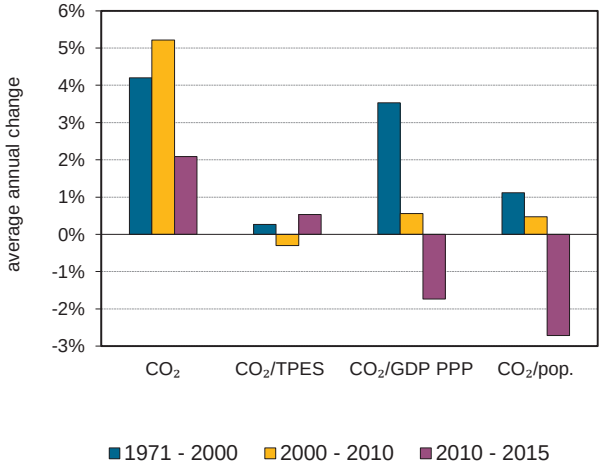
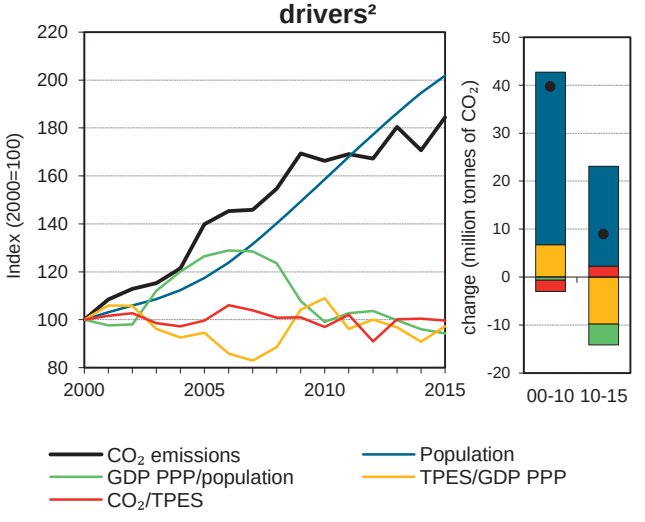


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Kuwait

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	27.8	32.3	46.3	64.7	77.0	79.0	85.4	207%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	381	619	784	1 100	1 343	1 331	1 451	280%
GDP (billion 2010 USD)	40.7	66.8	73.4	108.9	115.4	137.1	139.7	244%
GDP PPP (billion 2010 USD)	77.8	127.9	140.5	208.5	220.9	262.5	267.3	244%
Population (millions)	2.1	1.6	1.9	2.3	3.1	3.8	3.9	89%
CO_2 / TPES (tCO_2 per TJ)	72.9	52.2	59.1	58.8	57.3	59.4	58.8	-19%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.68	0.5	0.6	0.6	0.7	0.6	0.6	-11%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.36	0.3	0.3	0.3	0.3	0.3	0.3	-11%
CO_2 / population (tCO_2 per capita)	13.5	19.8	24.0	28.6	25.2	21.1	21.9	62%
Share of electricity output from fossil fuels	100%	100%	100%	100%	100%	100%	100%	
CO_2 / kWh of electricity (gCO_2/kWh)	895	582	788	807	764	597	625	-30%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	116	167	233	277	284	307	207%
Population index	100	80	94	110	149	182	189	89%
GDP PPP per population index	100	207	193	244	191	185	182	82%
Energy intensity index - TPES / GDP PPP	100	99	114	108	124	103	111	11%
Carbon intensity index - CO_2 / TPES	100	72	81	81	79	81	81	-19%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**45.3**	**40.1**	**-**	**85.4**	**207%**
Electricity and heat generation	-	28.2	14.3	-	42.4	157%
Other energy industry own use	-	1.1	12.6	-	13.7	227%
Manufacturing industries and construction	-	2.7	13.2	-	15.9	292%
Transport	-	12.7	-	-	12.7	347%
of which: road	-	*12.7*	-	-	*12.7*	347%
Other	-	0.6	-	-	0.6	260%
of which: residential	-	*0.6*	-	-	*0.6*	260%
of which: services	-	-	-	-	-	-
Memo: international marine bunkers	-	*4.4*	-	-	*4.4*	*678%*
Memo: international aviation bunkers	-	*2.2*	-	-	*2.2*	*326%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - oil	28.2	127.4	22.9	22.9
Main activity prod. elec. and heat - gas	14.3	243.3	11.6	34.6
Manufacturing industries - gas	13.2	248.7	10.8	45.3
Road - oil	12.7	347.4	10.4	55.7
Other energy industry own use - gas	12.6	249.0	10.3	65.9
Manufacturing industries - oil	2.7	908.4	2.2	68.1
Other energy industry own use - oil	1.1	91.0	0.9	69.0
Residential - oil	0.6	259.9	0.5	69.5
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*85.4*	*207.1*	*69.5*	*69.5*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Kyrgyzstan

Figure 1. CO_2 emissions by fuel

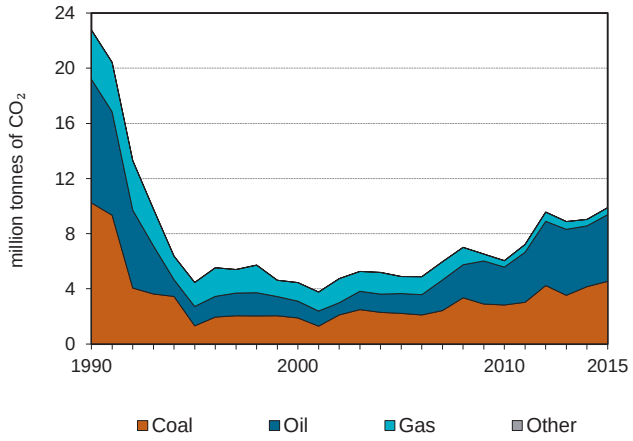


Figure 2. CO_2 emissions by sector

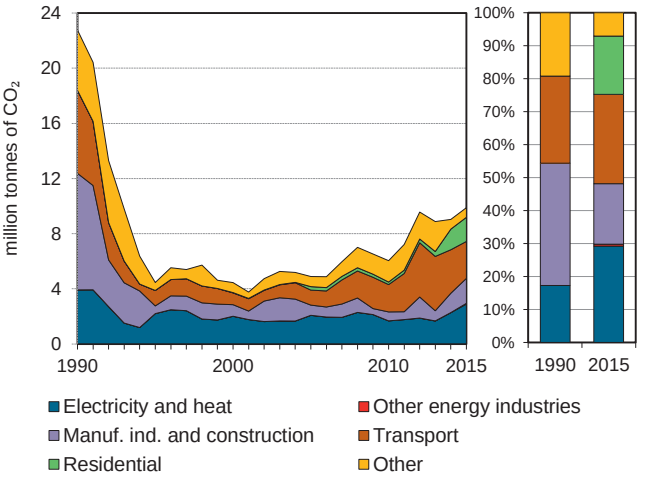


Figure 3. Electricity generation by fuel

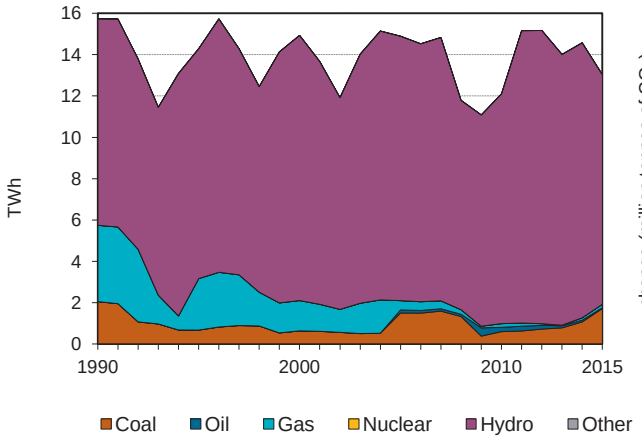


Figure 4. CO_2 from electricity generation: driving factors[1]

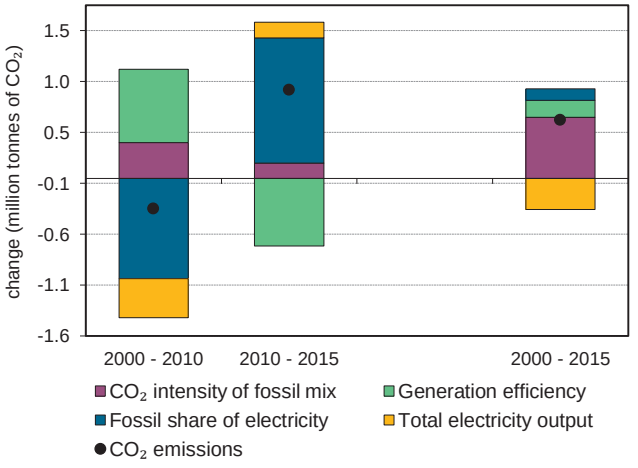


Figure 5. Changes in selected indicators

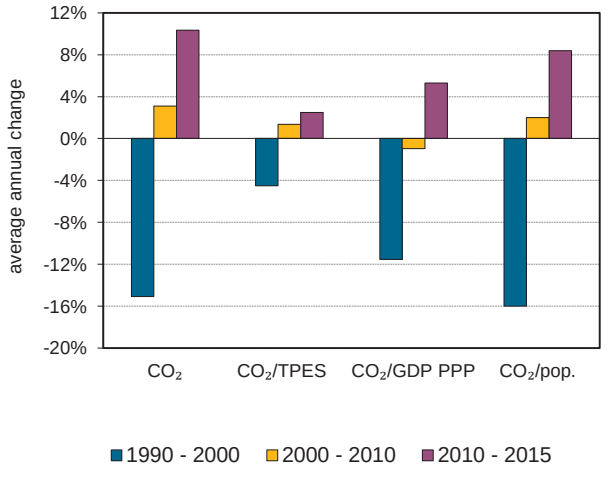
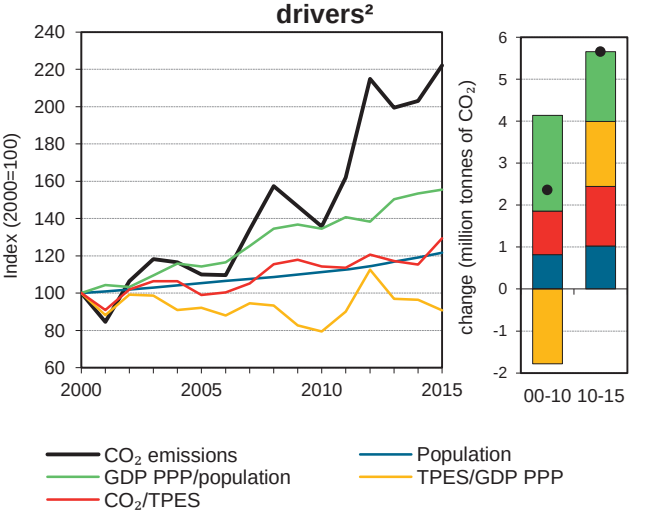


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Kyrgyzstan

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	22.8	4.5	4.5	4.9	6.0	9.0	9.9	-57%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	313	100	97	108	115	171	167	-47%
GDP (billion 2010 USD)	4.8	2.4	3.2	3.9	4.8	5.9	6.1	26%
GDP PPP (billion 2010 USD)	15	7.6	10.0	12.0	14.9	18.2	18.8	26%
Population (millions)	4.4	4.6	4.9	5.2	5.4	5.8	6.0	36%
CO_2 / TPES (tCO_2 per TJ)	72.6	44.7	45.8	45.4	52.4	52.8	59.3	-18%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	4.73	1.8	1.4	1.3	1.3	1.5	1.6	-66%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	1.52	0.6	0.4	0.4	0.4	0.5	0.5	-66%
CO_2 / population (tCO_2 per capita)	5.2	1.0	0.9	0.9	1.1	1.5	1.7	-68%
Share of electricity output from fossil fuels	37%	22%	14%	14%	8%	9%	15%	
CO_2 / kWh of electricity (gCO_2/kWh)	167	100	78	55	37	49	92	-45%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	20	20	21	27	40	43	-57%
Population index	100	104	112	118	124	133	136	36%
GDP PPP per population index	100	49	60	68	80	92	93	-7%
Energy intensity index - TPES / GDP PPP	100	63	47	43	37	45	42	-58%
Carbon intensity index - CO_2 / TPES	100	61	63	63	72	73	82	-18%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**4.5**	**4.8**	**0.5**	**-**	**9.9**	**-57%**
Electricity and heat generation	2.6	0.1	0.2	-	2.9	-26%
Other energy industry own use	-	0.1	0.0	-	0.1	x
Manufacturing industries and construction	0.8	0.9	0.0	-	1.8	-79%
Transport	-	2.7	-	-	2.7	-56%
of which: road	-	*2.7*	-	-	*2.7*	-56%
Other	1.1	1.1	0.2	-	2.4	-44%
of which: residential	*0.9*	*0.7*	*0.2*	-	*1.7*	x
of which: services	-	*0.1*	-	-	*0.1*	x
Memo: international marine bunkers	-	-	-	-	-	-
Memo: international aviation bunkers	-	*0.3*	-	-	*0.3*	*20%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	2.7	-55.7	14.3	14.3
Main activity prod. elec. and heat - coal	2.6	43.6	13.7	28.1
Manufacturing industries - oil	0.9	x	5.1	33.1
Residential - coal	0.9	x	4.7	37.9
Manufacturing industries - coal	0.8	-90.3	4.4	42.3
Residential - oil	0.7	x	3.6	45.9
Non-specified other - oil	0.4	-86.0	2.2	48.1
Non-specified other sectors - coal	0.3	x	1.4	49.5
Residential - gas	0.2	x	1.1	50.5
Memo: total CO_2 from fuel combustion	*9.9*	*-56.6*	*53.1*	*53.1*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Latvia

Figure 1. CO_2 emissions by fuel

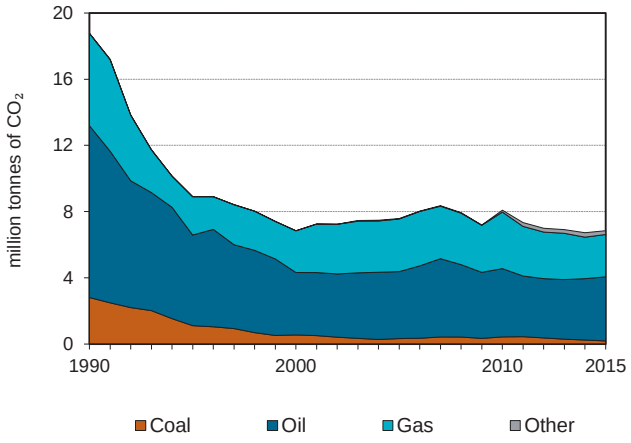


Figure 2. CO_2 emissions by sector

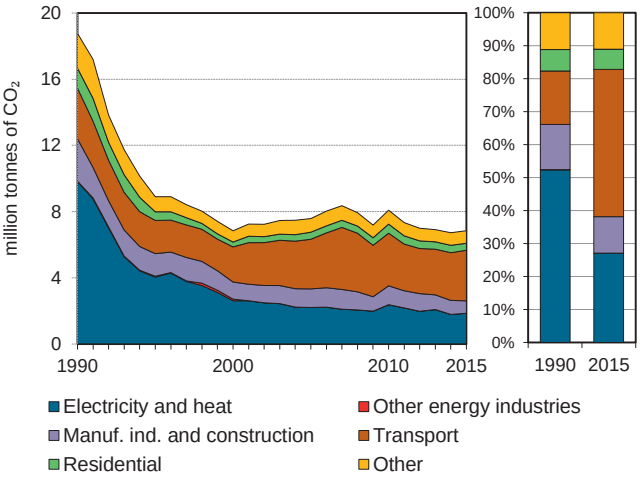


Figure 3. Electricity generation by fuel

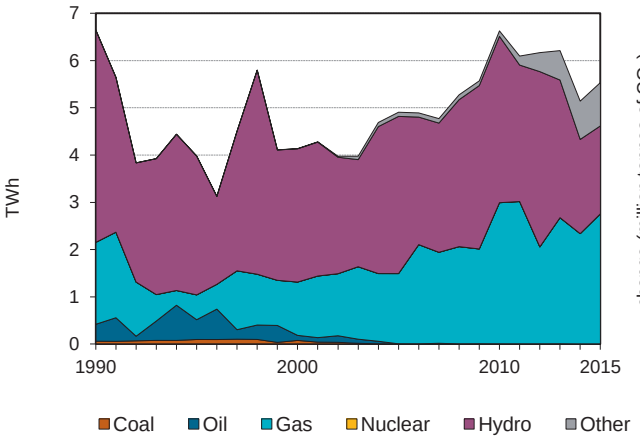


Figure 4. CO_2 from electricity generation: driving factors[1]

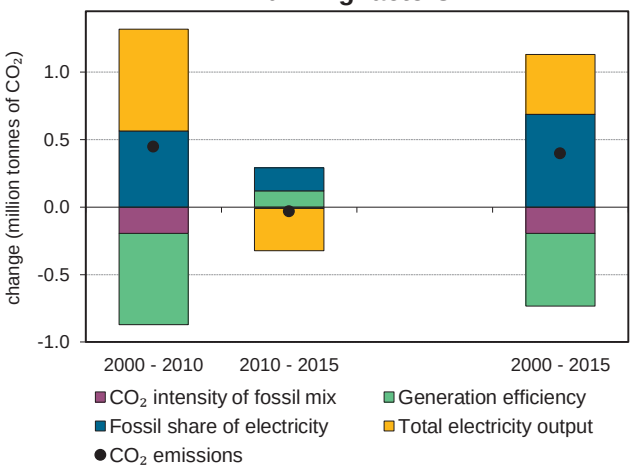


Figure 5. Changes in selected indicators

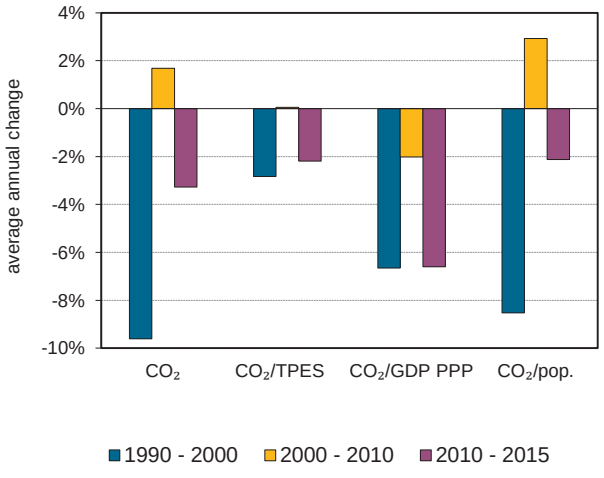
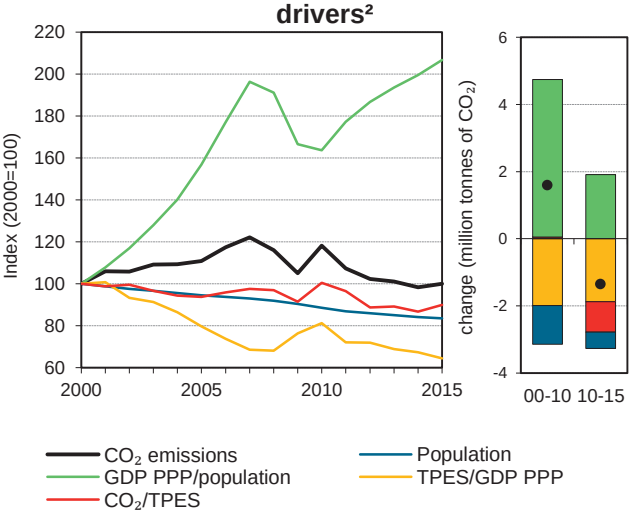


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Latvia

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	18.8	8.9	6.8	7.6	8.1	6.7	6.8	-64%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	330	192	160	190	189	182	178	-46%
GDP (billion 2010 USD)	..	12.8	16.4	24.3	23.8	27.6	28.3	..
GDP PPP (billion 2010 USD)	35.1	19.8	25.5	37.8	36.9	42.8	44.0	25%
Population (millions)	2.7	2.5	2.4	2.2	2.1	2.0	2.0	-26%
CO_2 / TPES (tCO_2 per TJ)	56.8	46.2	42.6	40.0	42.8	37.0	38.3	-33%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	..	0.7	0.4	0.3	0.3	0.2	0.2	..
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.54	0.4	0.3	0.2	0.2	0.2	0.2	-71%
CO_2 / population (tCO_2 per capita)	7.1	3.6	2.9	3.4	3.9	3.4	3.5	-51%
Share of electricity output from fossil fuels	32%	26%	32%	30%	45%	45%	50%	
CO_2 / kWh of electricity (gCO_2/kWh)	115	132	134	86	118	128	145	26%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	47	36	40	43	36	36	-64%
Population index	100	93	89	84	79	75	74	-26%
GDP PPP per population index	100	61	82	128	134	163	169	69%
Energy intensity index - TPES / GDP PPP	100	103	67	53	54	45	43	-57%
Carbon intensity index - CO_2 / TPES	100	81	75	70	75	65	67	-33%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**0.2**	**3.9**	**2.6**	**0.2**	**6.8**	**-64%**
Electricity and heat generation	0.0	0.0	1.8	-	1.9	-81%
Other energy industry own use	-	-	-	-	-	-100%
Manufacturing industries and construction	0.1	0.1	0.3	0.2	0.8	-71%
Transport	-	3.1	-	-	3.1	-0%
of which: road	-	*2.8*	-	-	*2.8*	21%
Other	0.1	0.6	0.5	-	1.2	-64%
of which: residential	*0.0*	*0.1*	*0.2*	-	*0.4*	-65%
of which: services	*0.0*	*0.2*	*0.2*	-	*0.4*	-71%
Memo: international marine bunkers	-	*0.8*	-	-	*0.8*	*-46%*
Memo: international aviation bunkers	-	*0.3*	-	-	*0.3*	*46%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	2.8	21.8	24.8	24.8
Main activity prod. elec. and heat - gas	1.8	-36.1	15.3	40.1
Non-specified other - oil	0.5	-62.1	4.4	44.5
Manufacturing industries - gas	0.3	-72.5	2.5	47.0
Residential - gas	0.2	2.6	2.0	49.0
Non-specified other - gas	0.2	-24.5	2.0	51.0
Manufacturing industries -other	0.2	x	2.0	53.0
Other transport - oil	0.2	-66.9	1.9	54.9
Manufacturing industries - oil	0.1	-89.6	1.3	56.2
Memo: total CO_2 from fuel combustion	*6.8*	*-63.5*	*59.8*	*59.8*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Lebanon

Figure 1. CO_2 emissions by fuel

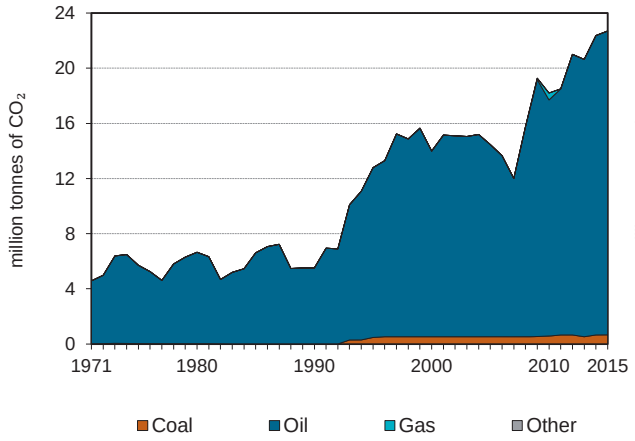


Figure 2. CO_2 emissions by sector

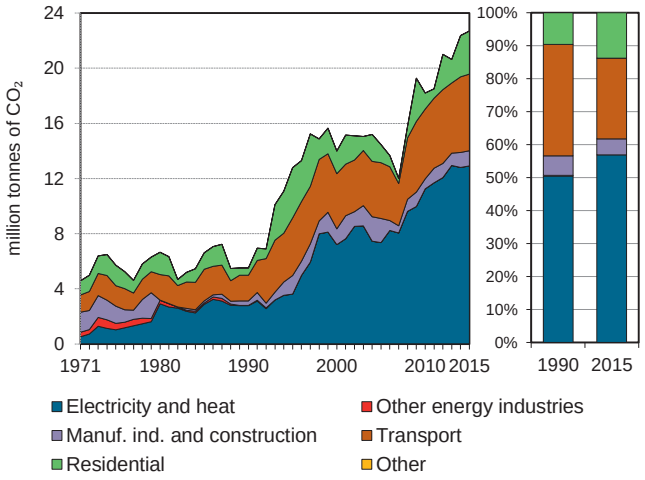


Figure 3. Electricity generation by fuel

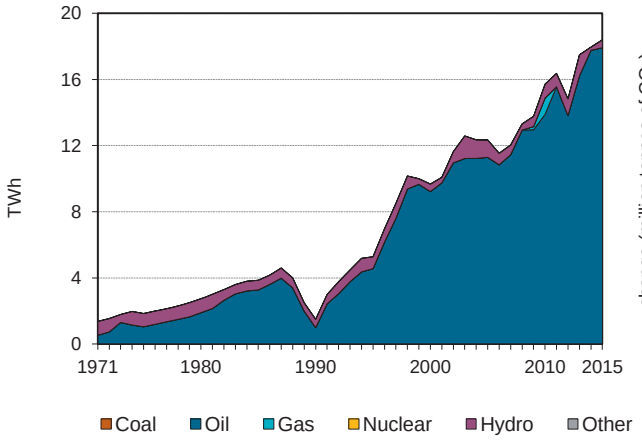


Figure 4. CO_2 from electricity generation: driving factors[1]

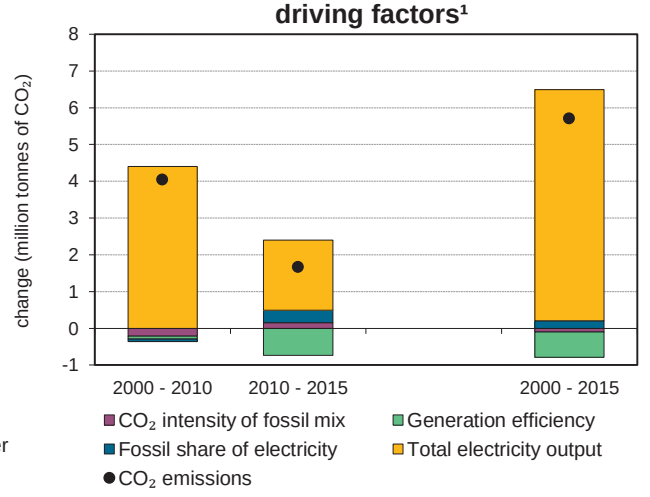


Figure 5. Changes in selected indicators

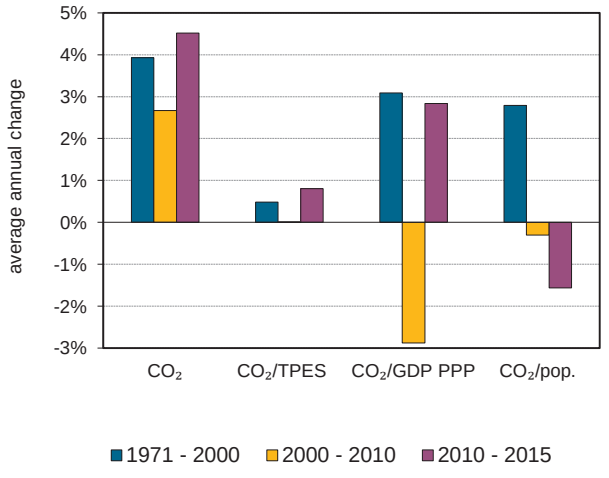
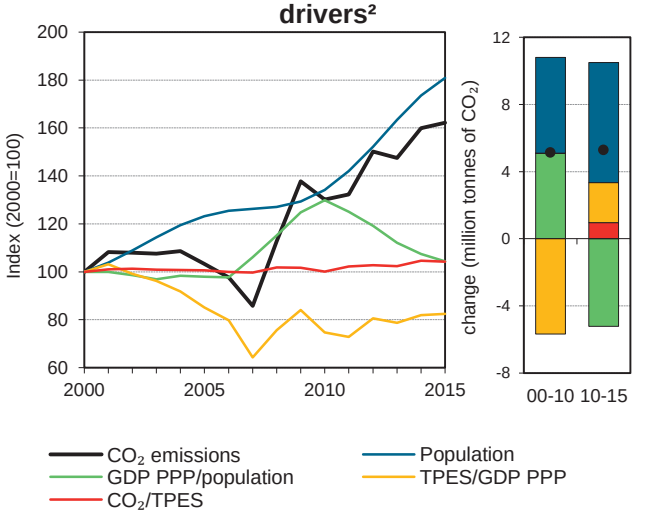


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Lebanon

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	5.5	12.8	14.0	14.5	18.2	22.4	22.7	312%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	82	185	205	211	267	314	320	291%
GDP (billion 2010 USD)	11.4	20.3	21.8	26.3	38.0	40.7	41.2	260%
GDP PPP (billion 2010 USD)	20.8	37.0	39.7	47.9	69.2	74.1	75.0	260%
Population (millions)	2.7	3.0	3.2	4.0	4.3	5.6	5.9	116%
CO_2 / TPES (tCO_2 per TJ)	67.4	69.3	68.1	68.5	68.2	71.3	70.9	5%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.48	0.6	0.6	0.5	0.5	0.5	0.6	14%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.26	0.3	0.4	0.3	0.3	0.3	0.3	14%
CO_2 / population (tCO_2 per capita)	2	4.2	4.3	3.6	4.2	4.0	3.9	90%
Share of electricity output from fossil fuels	67%	86%	95%	92%	95%	99%	97%	
CO_2 / kWh of electricity (gCO_2/kWh)	1854	685	745	596	716	713	702	-62%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	232	254	262	330	406	412	312%
Population index	100	112	120	148	160	208	216	116%
GDP PPP per population index	100	158	159	156	207	171	167	67%
Energy intensity index - TPES / GDP PPP	100	127	132	112	98	108	109	9%
Carbon intensity index - CO_2 / TPES	100	103	101	102	101	106	105	5%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**0.7**	**22.0**	**-**	**-**	**22.7**	**312%**
Electricity and heat generation	-	12.9	-	-	12.9	364%
Other energy industry own use	-	-	-	-	-	-100%
Manufacturing industries and construction	0.7	0.4	-	-	1.1	237%
Transport	-	5.6	-	-	5.6	198%
of which: road	-	*5.6*	-	-	*5.6*	198%
Other	-	3.1	-	-	3.1	492%
of which: residential	-	*3.1*	-	-	*3.1*	492%
of which: services	-	-	-	-	-	-
Memo: international marine bunkers	-	*0.1*	-	-	*0.1*	..
Memo: international aviation bunkers	-	*0.7*	-	-	*0.7*	*364%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - oil	8.7	211.9	30.4	30.4
Road - oil	5.6	198.4	19.5	49.8
Unallocated autoproducers - oil	4.2	x	14.8	64.7
Residential - oil	3.1	492.5	10.9	75.6
Manufacturing industries - coal	0.7	x	2.3	77.9
Manufacturing industries - oil	0.4	34.3	1.5	79.5
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*22.7*	*311.7*	*79.5*	*79.5*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Libya

Figure 1. CO_2 emissions by fuel

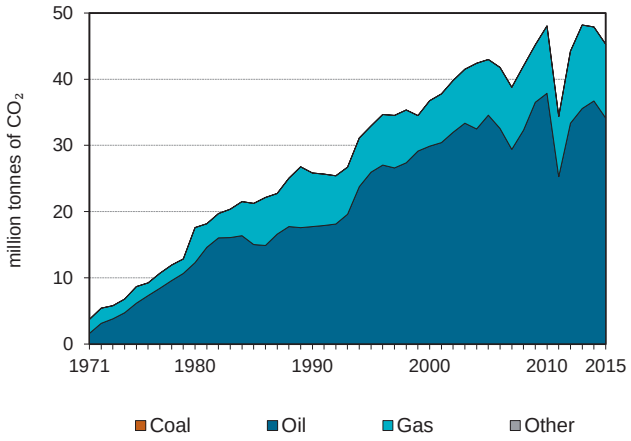


Figure 2. CO_2 emissions by sector

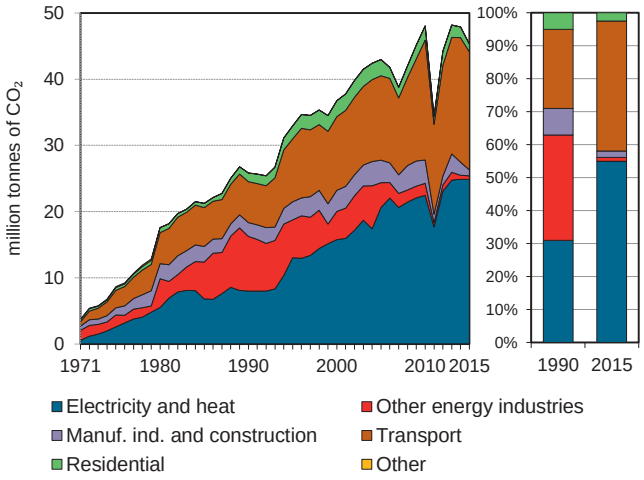


Figure 3. Electricity generation by fuel

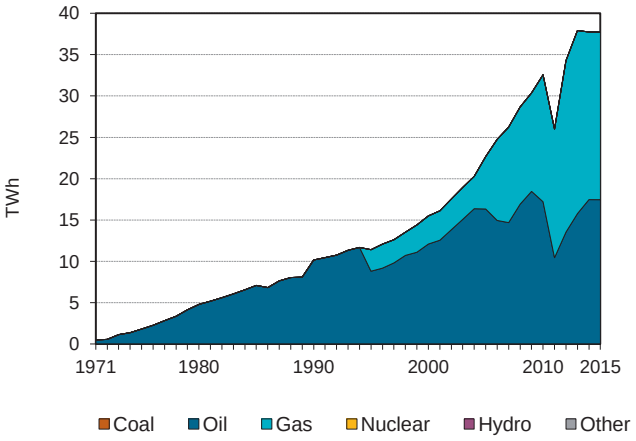


Figure 4. CO_2 from electricity generation: driving factors[1]

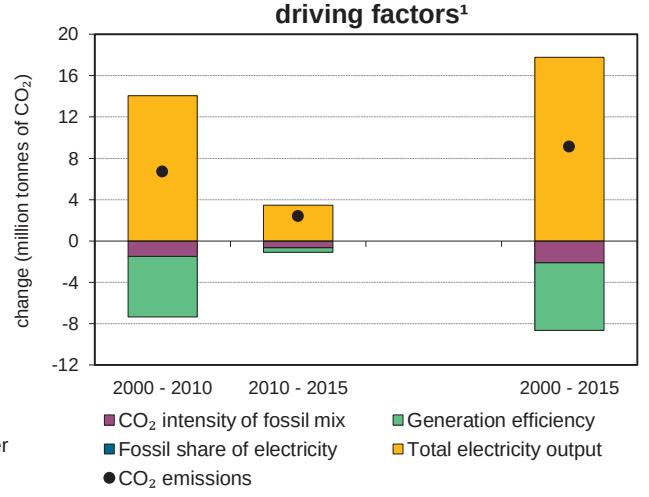


Figure 5. Changes in selected indicators

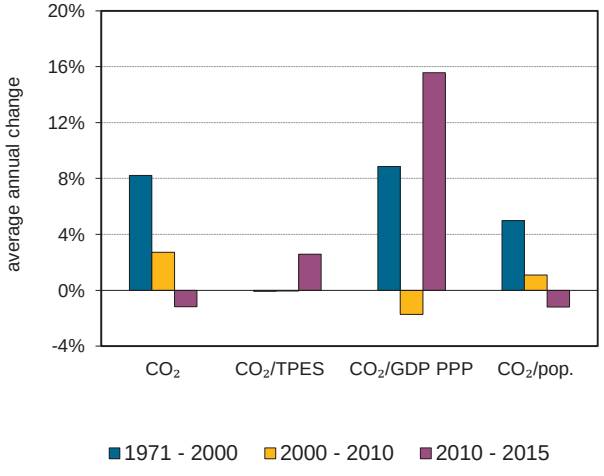
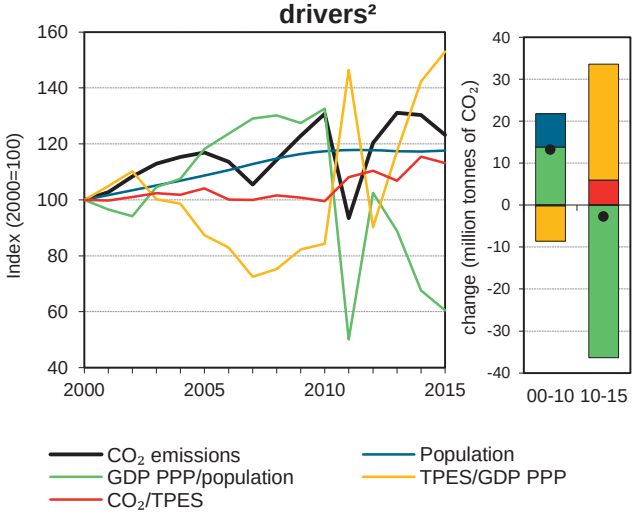


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Libya

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	25.8	32.9	36.8	43.0	48.1	47.9	45.3	75%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	468	586	663	744	870	748	722	54%
GDP (billion 2010 USD)	46.9	45.4	48.0	61.7	74.8	38.1	34.2	-27%
GDP PPP (billion 2010 USD)	112.4	108.7	115.0	147.8	179.1	91.3	81.9	-27%
Population (millions)	4.4	4.9	5.3	5.8	6.3	6.3	6.3	43%
CO_2 / TPES (tCO_2 per TJ)	55.3	56.3	55.5	57.8	55.2	64.0	62.7	14%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.55	0.7	0.8	0.7	0.6	1.3	1.3	141%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.23	0.3	0.3	0.3	0.3	0.5	0.6	140%
CO_2 / population (tCO_2 per capita)	5.9	6.8	6.9	7.4	7.7	7.7	7.2	23%
Share of electricity output from fossil fuels	100%	100%	100%	100%	100%	100%	100%	
CO_2 / kWh of electricity (gCO_2/kWh)	787	1142	1017	910	690	660	660	-16%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	128	142	166	186	185	175	75%
Population index	100	111	121	132	142	142	143	43%
GDP PPP per population index	100	87	84	100	112	57	51	-49%
Energy intensity index - TPES / GDP PPP	100	130	138	121	117	197	212	112%
Carbon intensity index - CO_2 / TPES	100	102	100	105	100	116	114	14%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**34.2**	**11.1**	**-**	**45.3**	**75%**
Electricity and heat generation	-	14.0	10.9	-	24.9	211%
Other energy industry own use	-	0.4	0.1	-	0.5	-94%
Manufacturing industries and construction	-	0.8	0.1	-	0.9	-57%
Transport	-	17.8	-	-	17.8	188%
of which: road	-	*17.8*	-	-	*17.8*	189%
Other	-	1.2	-	-	1.2	-11%
of which: residential	-	*1.2*	-	-	*1.2*	-11%
of which: services	-	-	-	-	-	-
Memo: international marine bunkers	-	*0.3*	-	-	*0.3*	*4%*
Memo: international aviation bunkers	-	*0.2*	-	-	*0.2*	*-69%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	17.8	188.6	27.1	27.1
Main activity prod. elec. and heat - oil	14.0	74.5	21.2	48.3
Main activity prod. elec. and heat - gas	10.9	x	16.6	64.9
Residential - oil	1.2	-11.4	1.8	66.7
Manufacturing industries - oil	0.8	68.7	1.2	67.9
Other energy industry own use - oil	0.4	-76.4	0.6	68.5
Other energy industry own use - gas	0.1	-98.2	0.2	68.7
Manufacturing industries - gas	0.1	-93.3	0.2	68.8
Other transport - oil	0.0	-0.0	0.0	68.8
Memo: total CO_2 from fuel combustion	*45.3*	*75.4*	*68.8*	*68.8*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Lithuania

Figure 1. CO_2 emissions by fuel

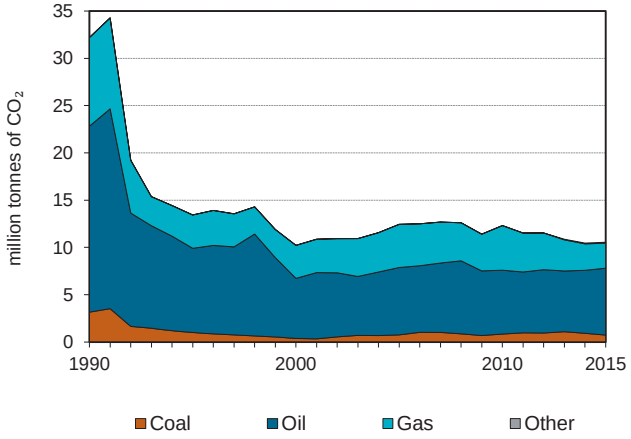


Figure 2. CO_2 emissions by sector

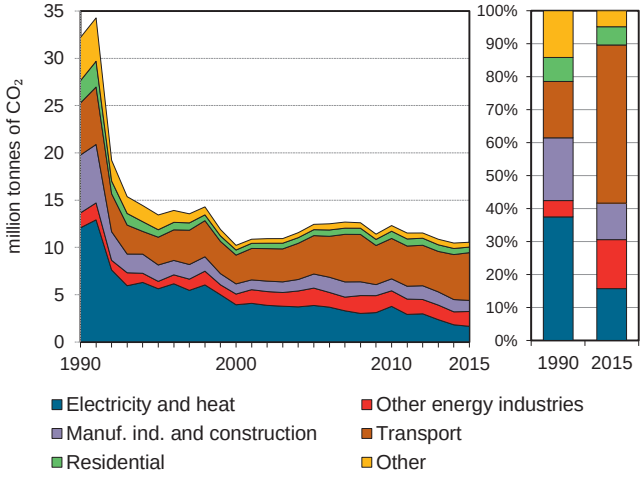


Figure 3. Electricity generation by fuel

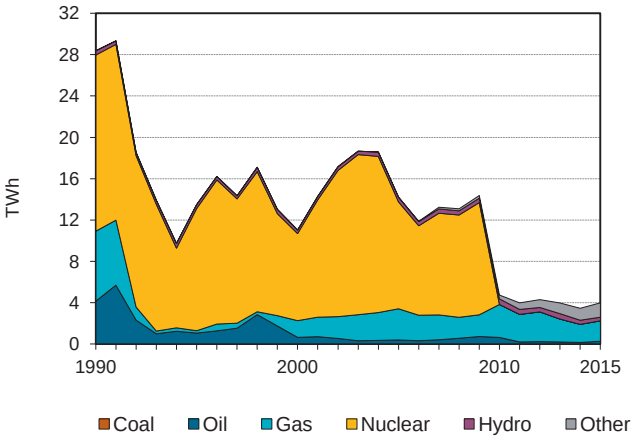


Figure 4. CO_2 from electricity generation: driving factors[1]

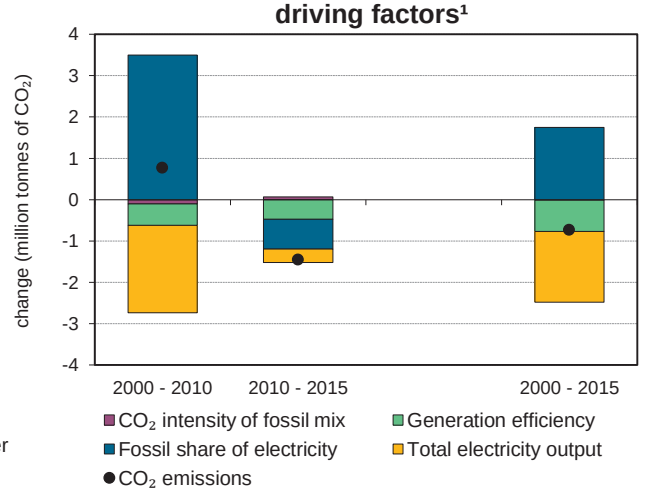


Figure 5. Changes in selected indicators

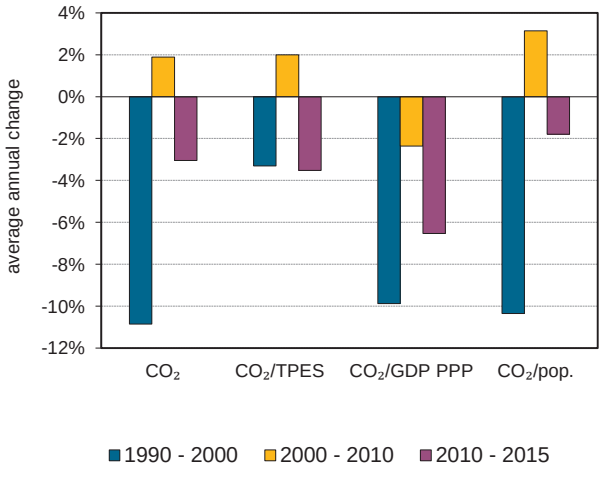
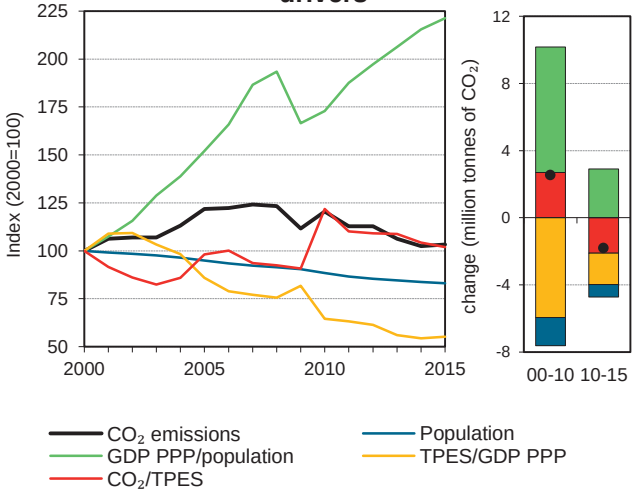


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Lithuania

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	32.2	13.4	10.2	12.4	12.3	10.5	10.5	-67%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	673	365	299	370	295	293	302	-55%
GDP (billion 2010 USD)	27.1	19.3	24.3	35.0	37.1	43.8	44.6	65%
GDP PPP (billion 2010 USD)	45.3	32.4	40.7	58.7	62.2	73.4	74.7	65%
Population (millions)	3.7	3.6	3.5	3.3	3.1	2.9	2.9	-21%
CO_2 / TPES (tCO_2 per TJ)	47.9	36.8	34.2	33.6	41.7	35.7	34.9	-27%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	1.19	0.7	0.4	0.4	0.3	0.2	0.2	-80%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.71	0.4	0.3	0.2	0.2	0.1	0.1	-80%
CO_2 / population (tCO_2 per capita)	8.7	3.7	2.9	3.7	4.0	3.6	3.6	-58%
Share of electricity output from fossil fuels	39%	10%	21%	25%	82%	59%	61%	
CO_2 / kWh of electricity (gCO_2/kWh)	159	65	99	101	340	184	186	17%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	42	32	39	38	32	33	-67%
Population index	100	98	95	90	84	79	79	-21%
GDP PPP per population index	100	73	95	144	164	204	210	110%
Energy intensity index - TPES / GDP PPP	100	76	49	43	32	27	27	-73%
Carbon intensity index - CO_2 / TPES	100	77	71	70	87	75	73	-27%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**0.7**	**7.1**	**2.6**	**0.1**	**10.5**	**-67%**
Electricity and heat generation	0.0	0.2	1.4	0.1	1.7	-86%
Other energy industry own use	-	1.5	0.1	-	1.6	-1%
Manufacturing industries and construction	0.4	0.1	0.7	-	1.2	-81%
Transport	-	5.0	0.1	-	5.1	-8%
of which: road	-	*4.8*	*0.0*	-	*4.8*	-6%
Other	0.3	0.3	0.5	-	1.1	-84%
of which: residential	*0.2*	*0.1*	*0.3*	-	*0.6*	-75%
of which: services	*0.1*	*0.0*	*0.1*	-	*0.3*	-91%
Memo: international marine bunkers	-	*0.2*	-	-	*0.2*	*-20%*
Memo: international aviation bunkers	-	*0.2*	-	-	*0.2*	*-40%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	4.8	-6.7	23.7	23.7
Other energy industry own use - oil	1.5	-5.2	7.4	31.1
Main activity prod. elec. and heat - gas	1.2	-77.5	6.0	37.1
Manufacturing industries - gas	0.7	-67.9	3.3	40.4
Manufacturing industries - coal	0.4	105.5	1.9	42.3
Residential - gas	0.3	-44.4	1.4	43.7
Non-specified other - gas	0.2	-78.2	1.0	44.7
Other transport - oil	0.2	-48.3	1.0	45.7
Residential - coal	0.2	-86.9	0.9	46.6
Memo: total CO_2 from fuel combustion	*10.5*	*-67.3*	*52.1*	*52.1*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Luxembourg

Figure 1. CO_2 emissions by fuel

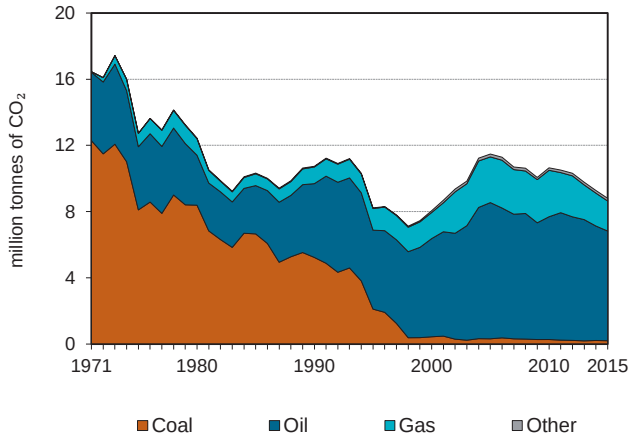


Figure 2. CO_2 emissions by sector

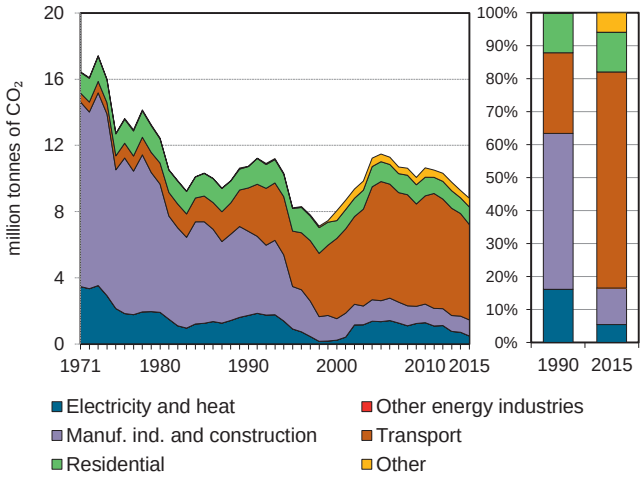


Figure 3. Electricity generation by fuel

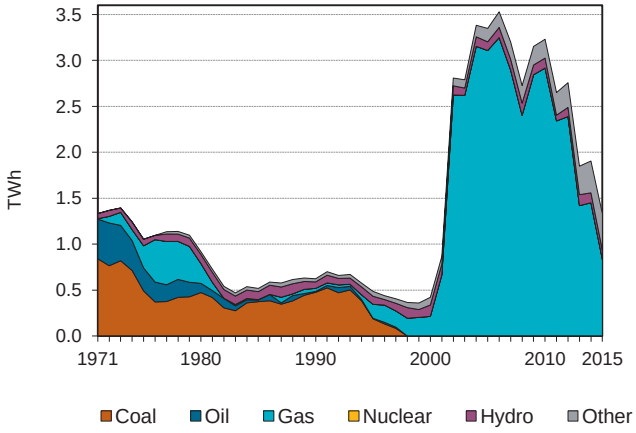


Figure 4. CO_2 from electricity generation: driving factors[1]

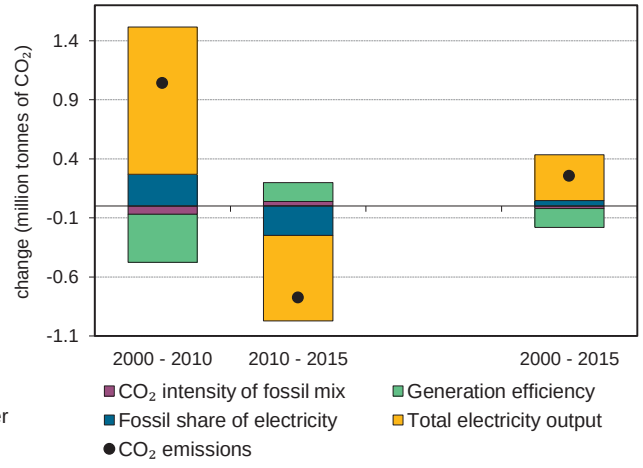


Figure 5. Changes in selected indicators

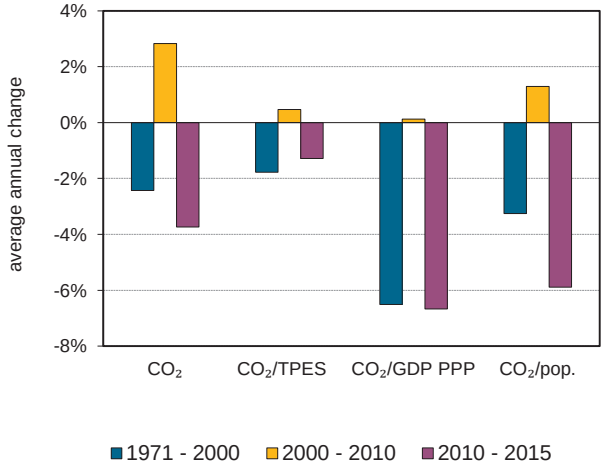
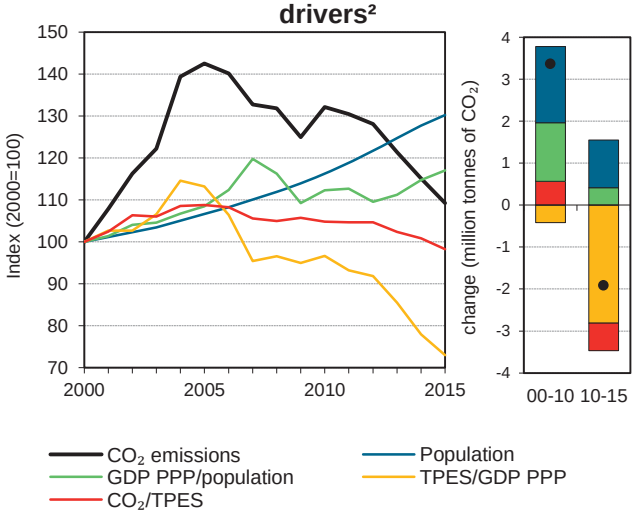


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Luxembourg

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	10.7	8.2	8.1	11.5	10.6	9.3	8.8	-18%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	142	132	140	184	177	160	156	10%
GDP (billion 2010 USD)	24.1	30.6	40.8	47.2	53.2	59.7	62.1	158%
GDP PPP (billion 2010 USD)	19.7	25.0	33.3	38.5	43.5	48.8	50.8	158%
Population (millions)	0.4	0.4	0.4	0.5	0.5	0.6	0.6	49%
CO_2 / TPES (tCO_2 per TJ)	75.7	62.4	57.4	62.5	60.2	57.9	56.4	-25%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.45	0.3	0.2	0.2	0.2	0.2	0.1	-68%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.54	0.3	0.2	0.3	0.2	0.2	0.2	-68%
CO_2 / population (tCO_2 per capita)	28.1	20.1	18.4	24.6	21.0	16.6	15.5	-45%
Share of electricity output from fossil fuels	87%	78%	59%	94%	92%	79%	68%	
CO_2 / kWh of electricity (gCO_2/kWh)	..	..	467	345	341	306	281	..
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	77	75	107	99	86	82	-18%
Population index	100	107	114	122	133	146	149	49%
GDP PPP per population index	100	118	148	160	166	170	173	73%
Energy intensity index - TPES / GDP PPP	100	73	58	66	56	46	43	-57%
Carbon intensity index - CO_2 / TPES	100	82	76	83	80	77	75	-25%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**0.2**	**6.6**	**1.8**	**0.2**	**8.8**	**-18%**
Electricity and heat generation	-	0.0	0.4	0.1	0.5	-72%
Other energy industry own use	-	-	-	-	-	-
Manufacturing industries and construction	0.2	0.0	0.7	0.1	1.0	-81%
Transport	-	5.8	-	-	5.8	120%
of which: road	-	*5.7*	-	-	*5.7*	119%
Other	0.0	0.8	0.8	-	1.6	21%
of which: residential	*0.0*	*0.5*	*0.5*	-	*1.1*	-18%
of which: services	-	*0.2*	*0.2*	-	*0.5*	x
Memo: international marine bunkers	-	-	-	-	-	-
Memo: international aviation bunkers	-	*1.4*	-	-	*1.4*	*248%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	5.7	119.3	55.7	55.7
Manufacturing industries - gas	0.7	0.3	6.4	62.1
Residential - gas	0.5	60.1	5.1	67.2
Residential - oil	0.5	-43.9	5.1	72.3
Main activity prod. elec. and heat - gas	0.4	x	3.4	75.7
Non-specified other - oil	0.3	+	2.9	78.6
Non-specified other - gas	0.2	x	2.2	80.8
Manufacturing industries - coal	0.2	-94.6	1.9	82.7
Manufacturing industries -other	0.1	x	0.8	83.5
Memo: total CO_2 from fuel combustion	*8.8*	*-18.0*	*85.3*	*85.3*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Malaysia

Figure 1. CO_2 emissions by fuel

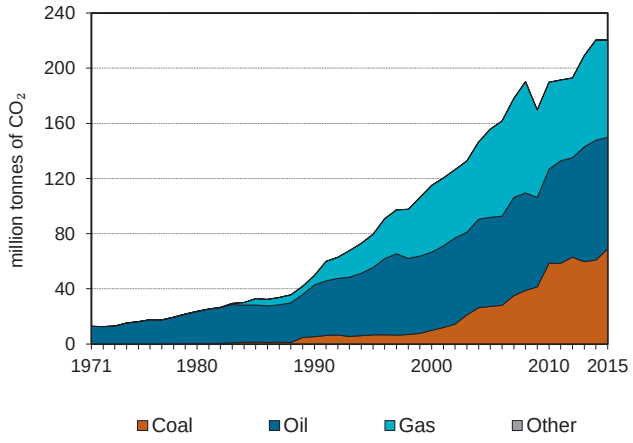


Figure 2. CO_2 emissions by sector

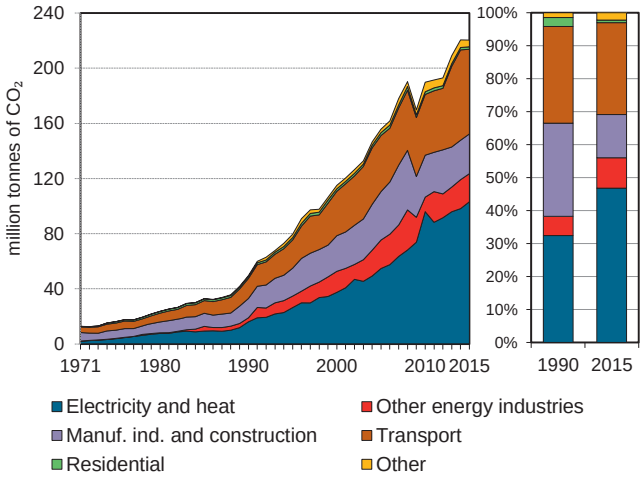


Figure 3. Electricity generation by fuel

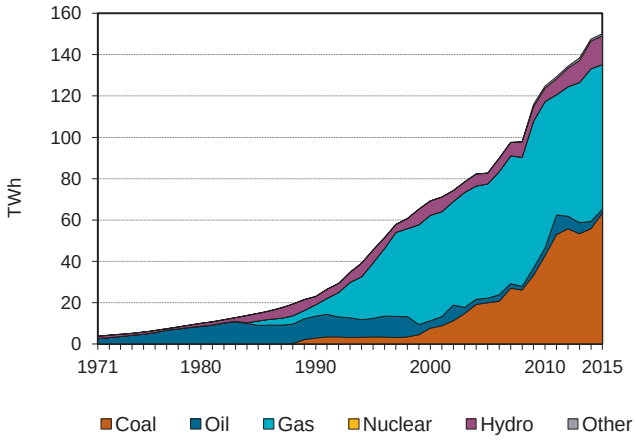


Figure 4. CO_2 from electricity generation: driving factors[1]

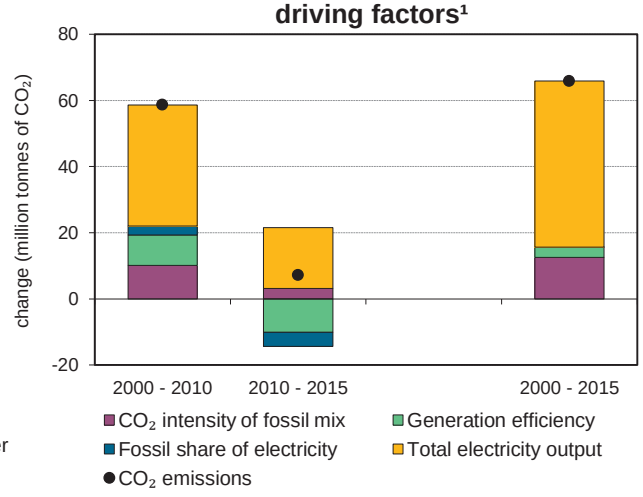


Figure 5. Changes in selected indicators

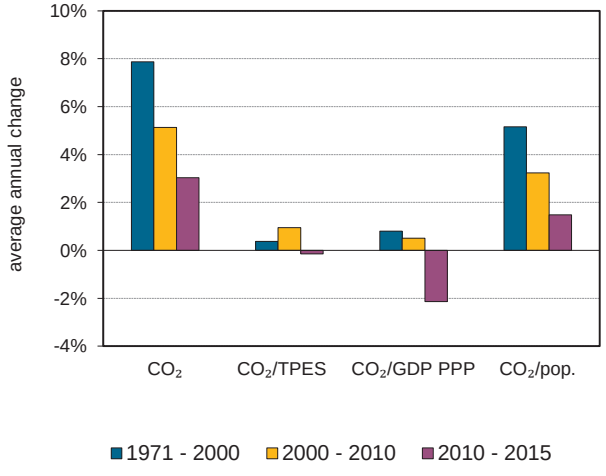
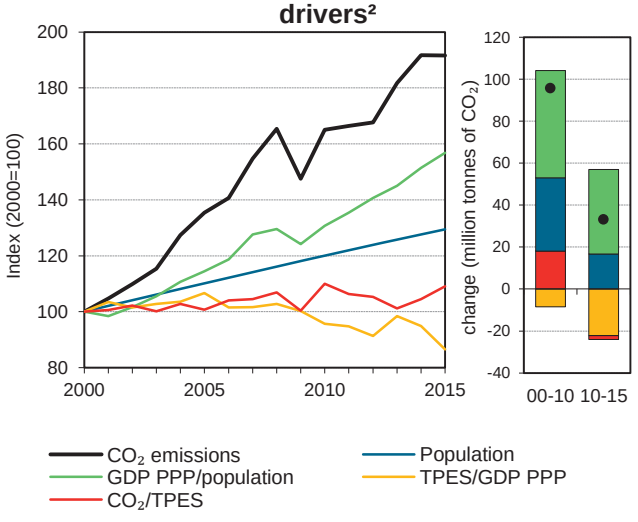


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Malaysia

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	49.6	79.6	115.0	155.8	189.8	220.5	220.4	344%
Share of World CO_2 from fuel combustion	0%	0%	1%	1%	1%	1%	1%	
TPES (PJ)	914	1 447	2 047	2 752	3 072	3 756	3 595	293%
GDP (billion 2010 USD)	81.8	128.6	162.5	204.9	255.0	314.3	330.0	303%
GDP PPP (billion 2010 USD)	186.5	293.2	370.5	467.0	581.4	716.6	752.2	303%
Population (millions)	18.2	20.7	23.4	25.8	28.1	29.9	30.3	67%
CO_2 / TPES (tCO_2 per TJ)	54.3	55.0	56.2	56.6	61.8	58.7	61.3	13%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.61	0.6	0.7	0.8	0.7	0.7	0.7	10%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.27	0.3	0.3	0.3	0.3	0.3	0.3	10%
CO_2 / population (tCO_2 per capita)	2.7	3.8	4.9	6.0	6.8	7.4	7.3	167%
Share of electricity output from fossil fuels	83%	86%	90%	94%	94%	90%	90%	
CO_2 / kWh of electricity (gCO_2/kWh)	699	580	541	662	769	666	687	-2%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	160	232	314	383	445	444	344%
Population index	100	114	129	142	154	164	167	67%
GDP PPP per population index	100	138	154	177	202	234	242	142%
Energy intensity index - TPES / GDP PPP	100	101	113	120	108	107	97	-3%
Carbon intensity index - CO_2 / TPES	100	101	104	104	114	108	113	13%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**68.9**	**80.9**	**70.5**	**-**	**220.4**	**344%**
Electricity and heat generation	61.9	1.4	39.9	-	103.1	541%
Other energy industry own use	-	1.7	18.7	-	20.4	604%
Manufacturing industries and construction	7.0	10.5	11.3	-	28.8	106%
Transport	-	60.8	0.6	-	61.4	322%
of which: road	-	*58.3*	*0.6*	-	*59.0*	320%
Other	-	6.6	0.1	-	6.7	225%
of which: residential	-	*1.8*	*0.0*	-	*1.8*	32%
of which: services	-	*2.1*	*0.1*	-	*2.2*	212%
Memo: international marine bunkers	-	*1.1*	-	-	*1.1*	*281%*
Memo: international aviation bunkers	-	*7.5*	-	-	*7.5*	*398%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	61.9	+	3.6	3.6
Road - oil	58.3	315.4	3.4	7.0
Main activity prod. elec. and heat - gas	35.8	+	2.1	9.1
Other energy industry own use - gas	18.7	667.6	1.1	10.2
Manufacturing industries - gas	11.3	910.0	0.7	10.9
Manufacturing industries - oil	10.5	-3.4	0.6	11.5
Manufacturing industries - coal	7.0	246.6	0.4	11.9
Non-specified other - oil	4.8	598.1	0.3	12.2
Unallocated autoproducers - gas	4.1	x	0.2	12.4
Memo: total CO_2 from fuel combustion	*220.4*	*344.5*	*12.9*	*12.9*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Malta

Figure 1. CO_2 emissions by fuel

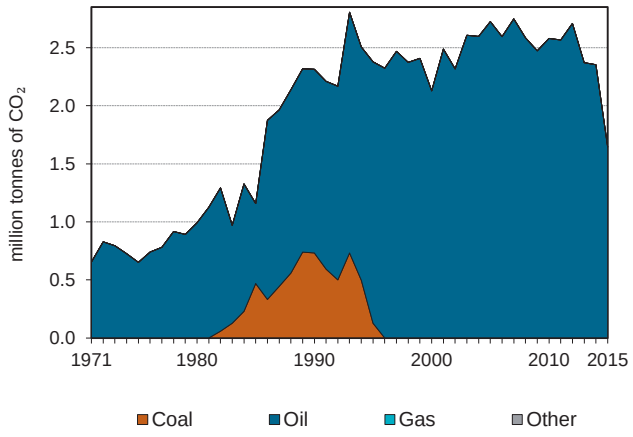


Figure 2. CO_2 emissions by sector

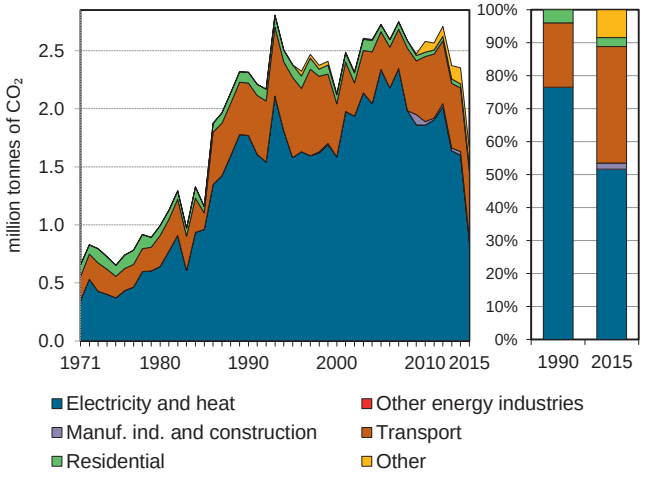


Figure 3. Electricity generation by fuel

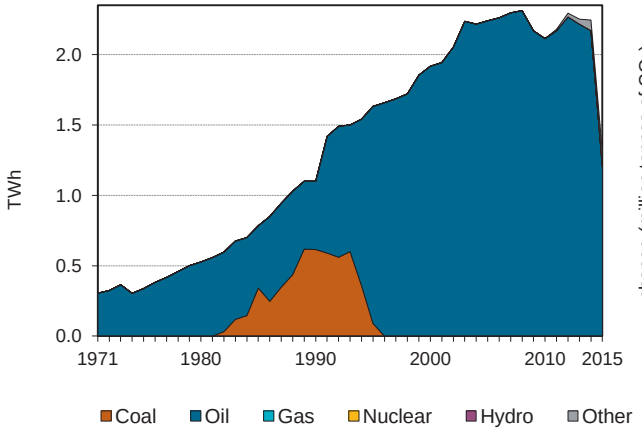


Figure 4. CO_2 from electricity generation: driving factors[1]

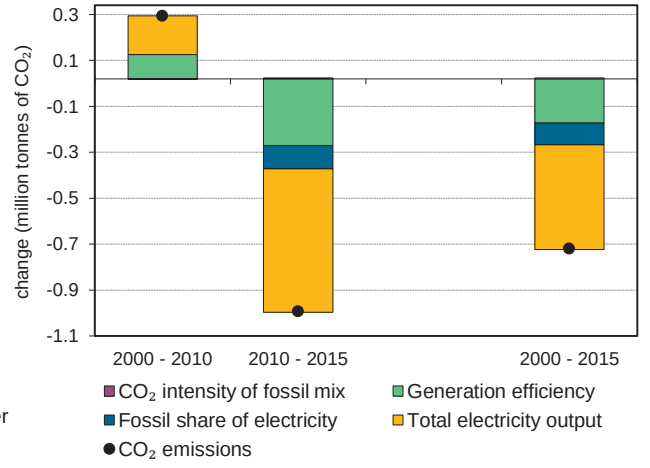


Figure 5. Changes in selected indicators

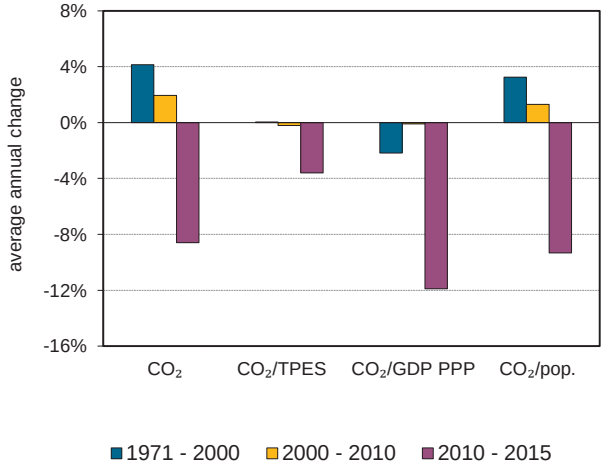
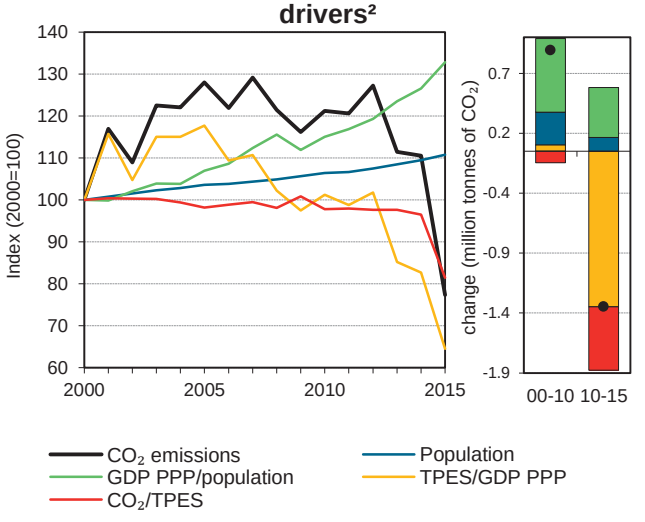


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Malta

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	2.3	2.4	2.1	2.7	2.6	2.4	1.6	-29%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	29	30	28	37	35	32	27	-8%
GDP (billion 2010 USD)	4.3	5.6	7.1	7.9	8.7	9.9	10.5	147%
GDP PPP (billion 2010 USD)	5.4	7.0	9.0	10.0	11.1	12.5	13.3	147%
Population (millions)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	22%
CO_2 / TPES (tCO_2 per TJ)	79.6	80.1	75.3	73.9	73.6	72.6	61.3	-23%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.54	0.4	0.3	0.3	0.3	0.2	0.2	-71%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.43	0.3	0.2	0.3	0.2	0.2	0.1	-71%
CO_2 / population (tCO_2 per capita)	6.5	6.3	5.5	6.7	6.2	5.5	3.8	-42%
Share of electricity output from fossil fuels	100%	100%	100%	100%	100%	97%	92%	
CO_2 / kWh of electricity (gCO_2/kWh)	1609	968	827	1044	879	713	652	-60%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	103	92	118	111	102	71	-29%
Population index	100	106	110	114	117	121	122	22%
GDP PPP per population index	100	123	152	163	175	193	202	102%
Energy intensity index - TPES / GDP PPP	100	78	58	68	59	48	37	-63%
Carbon intensity index - CO_2 / TPES	100	101	95	93	93	91	77	-23%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**1.6**	**-**	**-**	**1.6**	**-29%**
Electricity and heat generation	-	0.8	-	-	0.8	-52%
Other energy industry own use	-	-	-	-	-	-
Manufacturing industries and construction	-	0.0	-	-	0.0	x
Transport	-	0.6	-	-	0.6	29%
of which: road	-	*0.5*	-	-	*0.5*	18%
Other	-	0.2	-	-	0.2	98%
of which: residential	-	*0.0*	-	-	*0.0*	-53%
of which: services	-	*0.1*	-	-	*0.1*	x
Memo: international marine bunkers	-	*4.9*	-	-	*4.9*	+
Memo: international aviation bunkers	-	*0.3*	-	-	*0.3*	*60%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - oil	0.8	-18.2	40.1	40.1
Road - oil	0.5	18.0	25.1	65.2
Non-specified other - oil	0.1	x	6.6	71.8
Other transport - oil	0.1	x	2.4	74.2
Residential - oil	0.0	-52.6	2.1	76.3
Manufacturing industries - oil	0.0	x	1.5	77.7
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*1.6*	*-28.9*	*77.7*	*77.7*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Mauritius

Figure 1. CO_2 emissions by fuel

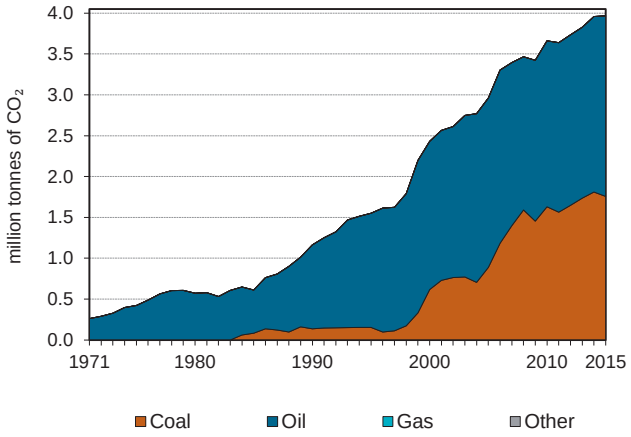


Figure 2. CO_2 emissions by sector

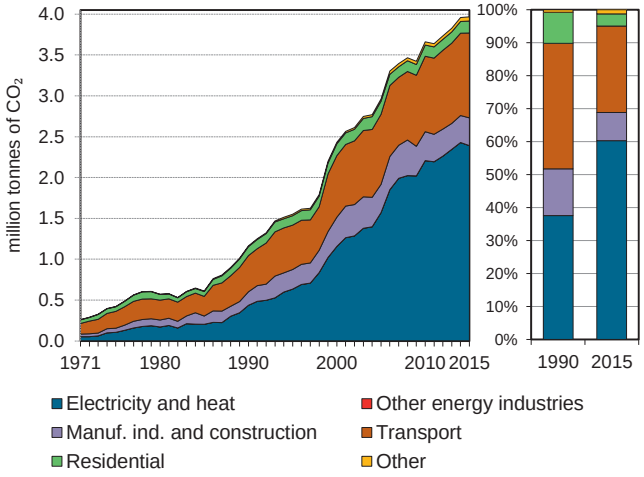


Figure 3. Electricity generation by fuel

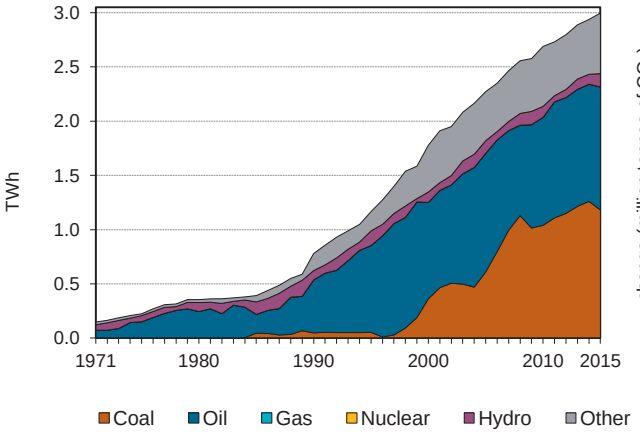


Figure 4. CO_2 from electricity generation: driving factors[1]

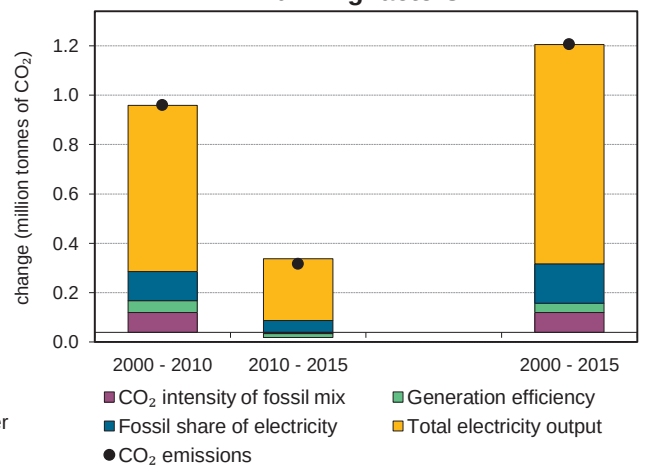


Figure 5. Changes in selected indicators

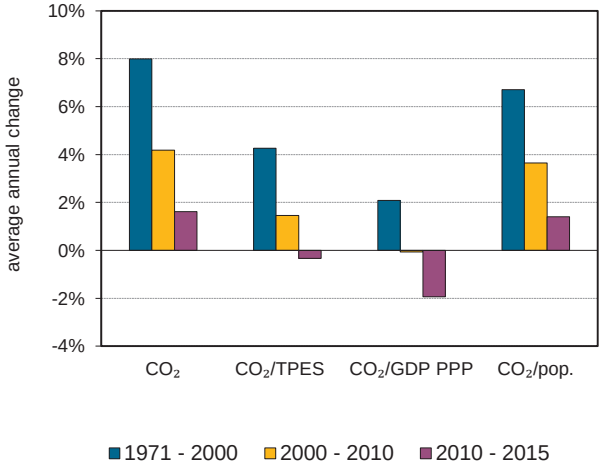
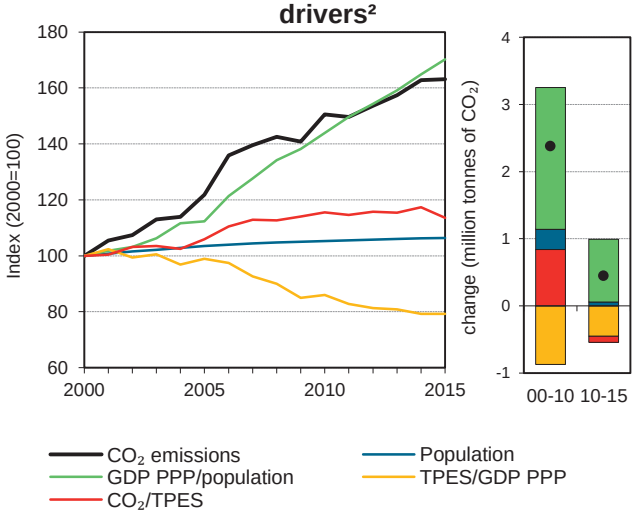


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Mauritius

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	1.2	1.6	2.4	3.0	3.7	4.0	4.0	241%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	28	33	42	49	55	59	61	118%
GDP (billion 2010 USD)	3.9	5.0	6.6	7.7	10.0	11.6	12.0	205%
GDP PPP (billion 2010 USD)	7.5	9.5	12.6	14.7	19.1	22.1	22.8	205%
Population (millions)	1.1	1.1	1.2	1.2	1.3	1.3	1.3	19%
CO_2 / TPES (tCO_2 per TJ)	41.7	47.3	57.5	60.9	66.4	67.5	65.3	57%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.3	0.3	0.4	0.4	0.4	0.3	0.3	12%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.16	0.2	0.2	0.2	0.2	0.2	0.2	12%
CO_2 / population (tCO_2 per capita)	1.1	1.4	2.0	2.4	2.9	3.1	3.1	186%
Share of electricity output from fossil fuels	69%	73%	70%	75%	76%	80%	77%	
CO_2 / kWh of electricity (gCO_2/kWh)	560	544	651	691	821	827	798	42%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	133	209	254	315	340	341	241%
Population index	100	106	112	116	118	119	119	19%
GDP PPP per population index	100	120	150	169	216	247	255	155%
Energy intensity index - TPES / GDP PPP	100	92	90	89	78	71	72	-28%
Carbon intensity index - CO_2 / TPES	100	114	138	146	159	162	157	57%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**1.8**	**2.2**	**-**	**-**	**4.0**	**241%**
Electricity and heat generation	1.7	0.7	-	-	2.4	447%
Other energy industry own use	-	-	-	-	-	-
Manufacturing industries and construction	0.1	0.3	-	-	0.3	106%
Transport	-	1.0	-	-	1.0	135%
of which: road	-	*1.0*	-	-	*1.0*	965%
Other	-	0.2	-	-	0.2	66%
of which: residential	-	*0.1*	-	-	*0.1*	33%
of which: services	-	*0.0*	-	-	*0.0*	650%
Memo: international marine bunkers	-	*0.9*	-	-	*0.9*	*368%*
Memo: international aviation bunkers	-	*0.8*	-	-	*0.8*	*284%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Unallocated autoproducers - coal	1.7	+	36.2	36.2
Road - oil	1.0	964.9	21.5	57.7
Main activity prod. elec. and heat - oil	0.7	106.8	15.6	73.4
Manufacturing industries - oil	0.3	116.7	5.5	78.8
Residential - oil	0.1	33.0	3.2	82.0
Manufacturing industries - coal	0.1	80.0	1.9	83.9
Non-specified other - oil	0.1	457.8	1.1	85.0
Other transport - oil	0.0	-86.6	1.0	86.0
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*4.0*	*240.9*	*86.0*	*86.0*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Mexico

Figure 1. CO_2 emissions by fuel

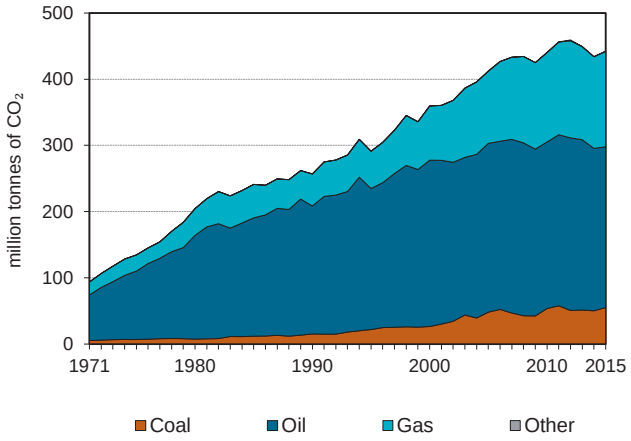


Figure 2. CO_2 emissions by sector

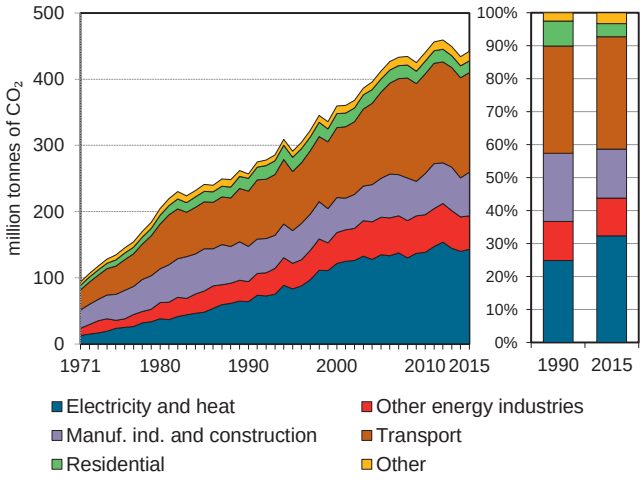


Figure 3. Electricity generation by fuel

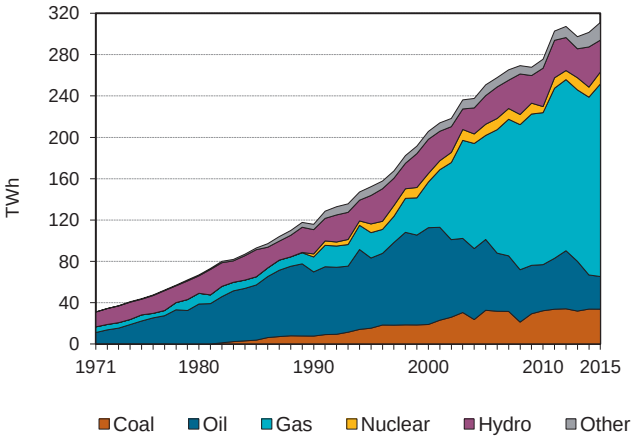


Figure 4. CO_2 from electricity generation: driving factors[1]

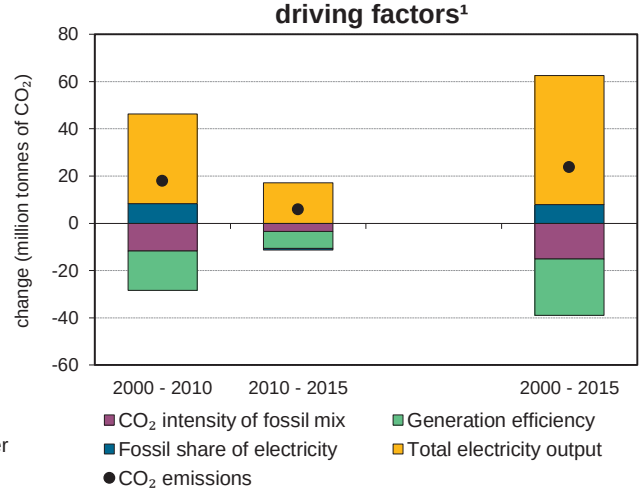


Figure 5. Changes in selected indicators

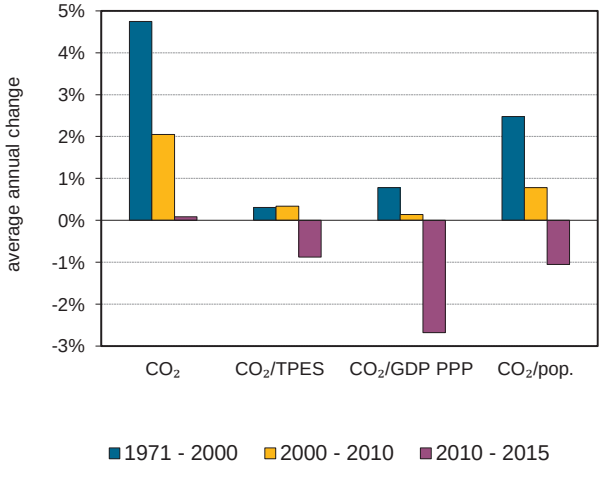
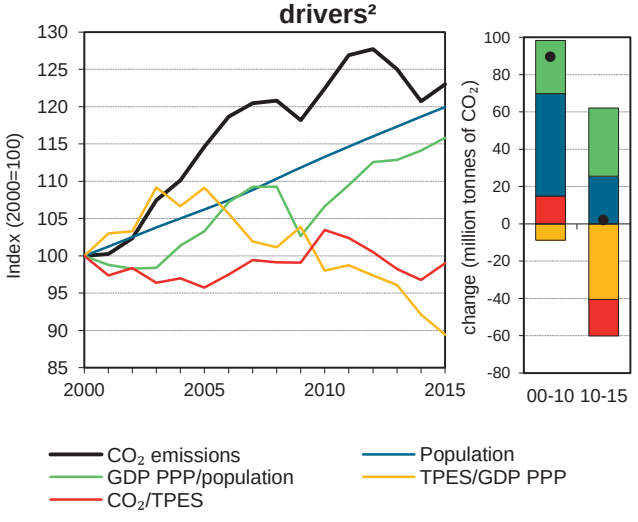


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Mexico

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	256.9	291.2	359.6	412.3	440.3	434.1	442.3	72%
Share of World CO_2 from fuel combustion	1%	1%	2%	2%	1%	1%	1%	
TPES (PJ)	5178	5 517	6 314	7 560	7 474	7 878	7 845	51%
GDP (billion 2010 USD)	617.9	666.6	869.3	953.7	1 049.9	1 177.0	1 207.7	95%
GDP PPP (billion 2010 USD)	1018.2	1 098.4	1 432.5	1 571.7	1 730.2	1 939.6	1 990.2	95%
Population (millions)	87.1	94.5	100.9	107.2	114.3	119.7	121.0	39%
CO_2 / TPES (tCO_2 per TJ)	49.6	52.8	57.0	54.5	58.9	55.1	56.4	14%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.42	0.4	0.4	0.4	0.4	0.4	0.4	-12%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.25	0.3	0.3	0.3	0.3	0.2	0.2	-12%
CO_2 / population (tCO_2 per capita)	3	3.1	3.6	3.8	3.9	3.6	3.7	24%
Share of electricity output from fossil fuels	73%	71%	76%	80%	81%	79%	81%	
CO_2 / kWh of electricity (gCO_2/kWh)	552	547	591	538	502	464	460	-17%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	113	140	160	171	169	172	72%
Population index	100	109	116	123	131	137	139	39%
GDP PPP per population index	100	99	121	125	129	139	141	41%
Energy intensity index - TPES / GDP PPP	100	99	87	95	85	80	78	-22%
Carbon intensity index - CO_2 / TPES	100	106	115	110	119	111	114	14%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**55.0**	**243.0**	**144.2**	**0.1**	**442.3**	**72%**
Electricity and heat generation	36.4	25.3	81.2	0.1	143.0	124%
Other energy industry own use	3.8	15.4	31.4	-	50.5	67%
Manufacturing industries and construction	14.8	22.1	29.1	-	66.0	24%
Transport	-	150.4	0.0	-	150.5	80%
of which: road	-	*145.9*	*0.0*	-	*145.9*	82%
Other	-	29.8	2.4	-	32.3	25%
of which: residential	-	*15.9*	*1.8*	-	*17.7*	-8%
of which: services	-	*4.3*	*0.6*	-	*4.9*	239%
Memo: international marine bunkers	-	*2.6*	-	-	*2.6*	..
Memo: international aviation bunkers	-	*10.3*	-	-	*10.3*	*95%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	145.9	82.1	19.2	19.2
Main activity prod. elec. and heat - gas	62.3	673.1	8.2	27.5
Main activity prod. elec. and heat - coal	34.9	403.1	4.6	32.1
Other energy industry own use - gas	31.4	141.7	4.1	36.2
Manufacturing industries - gas	29.1	14.5	3.8	40.1
Manufacturing industries - oil	22.1	-7.0	2.9	43.0
Main activity prod. elec. and heat - oil	19.3	-60.5	2.6	45.5
Unallocated autoproducers - gas	18.9	x	2.5	48.0
Residential - oil	15.9	-8.7	2.1	50.1
Memo: total CO_2 from fuel combustion	*442.3*	*72.2*	*58.4*	*58.4*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Republic of Moldova

Figure 1. CO_2 emissions by fuel

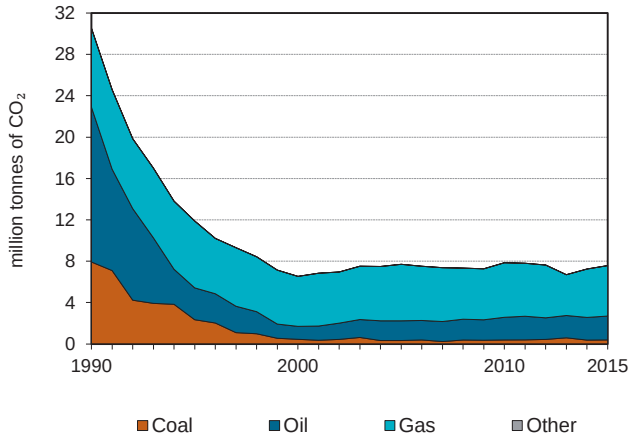


Figure 2. CO_2 emissions by sector

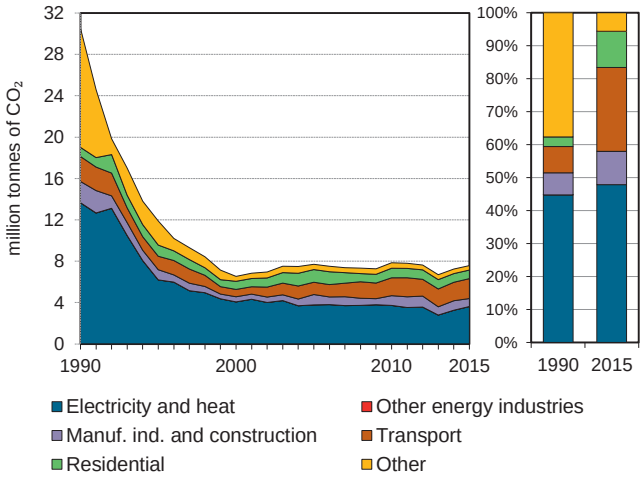


Figure 3. Electricity generation by fuel

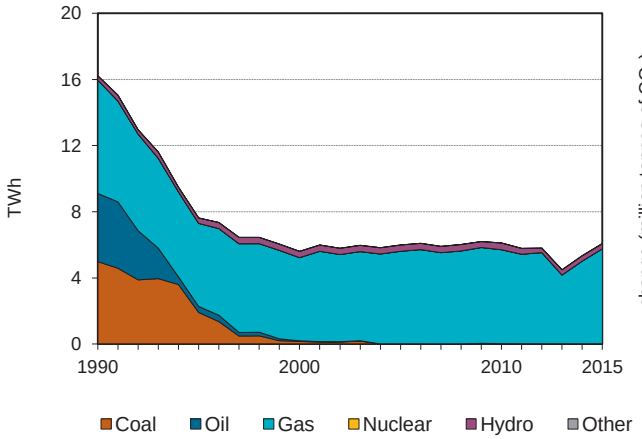


Figure 4. CO_2 from electricity generation: driving factors[1]

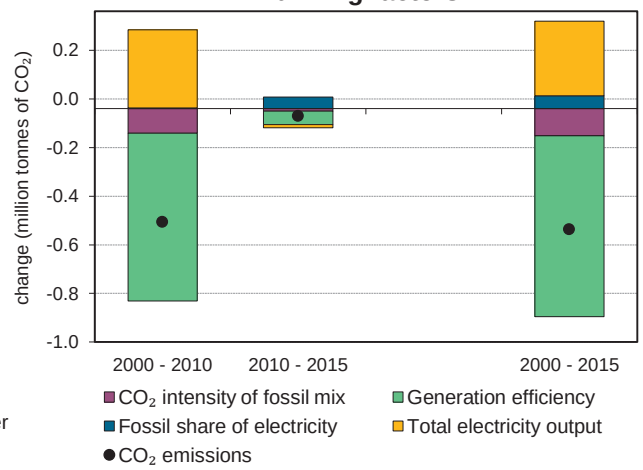


Figure 5. Changes in selected indicators

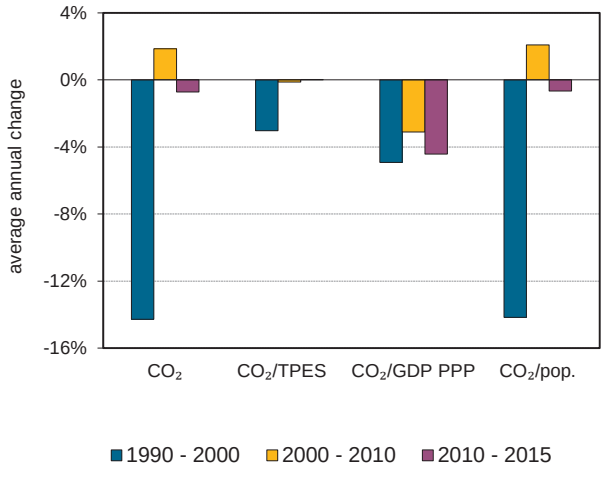
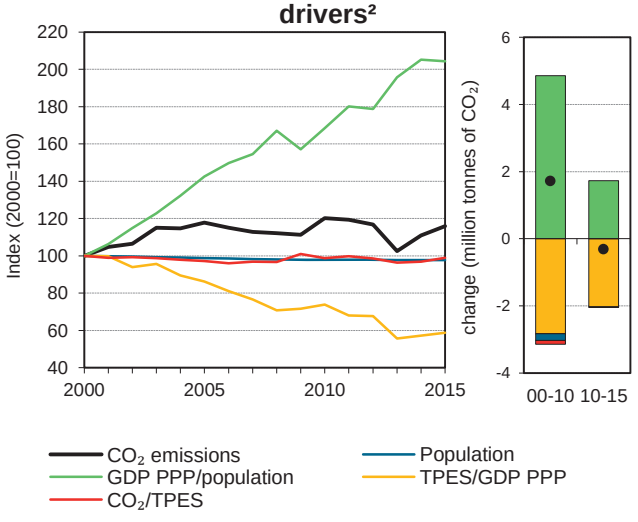


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Republic of Moldova

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	30.5	11.9	6.5	7.7	7.9	7.2	7.6	-75%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	414	198	121	146	147	138	142	-66%
GDP (billion 2010 USD)	9.9	4.0	3.5	5.0	5.8	7.1	7.0	-29%
GDP PPP (billion 2010 USD)	23.4	9.4	8.3	11.7	13.7	16.7	16.6	-29%
Population (millions)	3.7	3.7	3.6	3.6	3.6	3.6	3.6	-4%
CO_2 / TPES (tCO_2 per TJ)	73.7	60.2	54.1	52.6	53.5	52.4	53.5	-27%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	3.09	3.0	1.9	1.6	1.4	1.0	1.1	-65%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	1.3	1.3	0.8	0.7	0.6	0.4	0.5	-65%
CO_2 / population (tCO_2 per capita)	8.3	3.2	1.8	2.1	2.2	2.0	2.1	-74%
Share of electricity output from fossil fuels	98%	96%	93%	94%	93%	94%	95%	
CO_2 / kWh of electricity (gCO_2/kWh)	732	720	646	490	488	492	497	-32%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	39	21	25	26	24	25	-75%
Population index	100	99	98	97	96	96	96	-4%
GDP PPP per population index	100	40	36	51	61	74	74	-26%
Energy intensity index - TPES / GDP PPP	100	119	82	71	61	47	48	-52%
Carbon intensity index - CO_2 / TPES	100	82	73	71	73	71	73	-27%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**0.4**	**2.3**	**4.9**	**-**	**7.6**	**-75%**
Electricity and heat generation	0.0	0.0	3.6	-	3.6	-73%
Other energy industry own use	-	-	-	-	-	-100%
Manufacturing industries and construction	0.2	0.0	0.6	-	0.8	-62%
Transport	-	1.9	0.0	-	1.9	-20%
of which: road	-	*1.9*	*0.0*	-	*1.9*	-21%
Other	0.2	0.3	0.7	-	1.3	-90%
of which: residential	*0.2*	*0.2*	*0.5*	-	*0.8*	-6%
of which: services	*0.1*	*0.0*	*0.2*	-	*0.3*	+
Memo: international marine bunkers	-	-	-	-	-	-
Memo: international aviation bunkers	-	*0.1*	-	-	*0.1*	*-67%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - gas	3.5	-34.5	33.0	33.0
Road - oil	1.9	-20.4	17.8	50.8
Manufacturing industries - gas	0.6	-53.0	5.5	56.3
Residential - gas	0.5	-2.8	4.7	61.0
Non-specified other - gas	0.2	-65.0	1.7	62.8
Residential - oil	0.2	-52.8	1.6	64.4
Non-specified other - oil	0.2	-98.0	1.6	66.0
Residential - coal	0.2	x	1.5	67.5
Manufacturing industries - coal	0.2	-80.9	1.5	69.0
Memo: total CO_2 from fuel combustion	*7.6*	*-75.2*	*71.6*	*71.6*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Mongolia [1]

Figure 1. CO_2 emissions by fuel

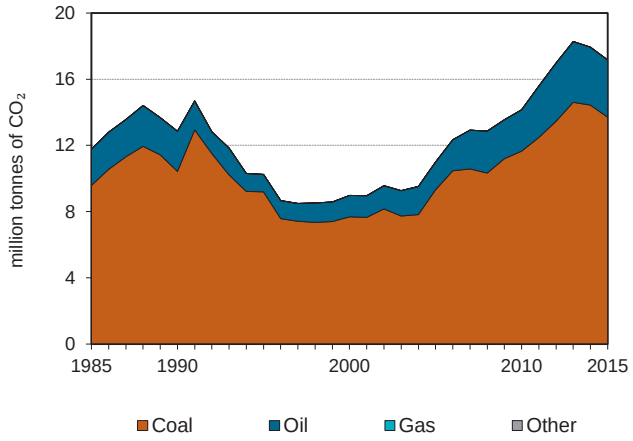


Figure 2. CO_2 emissions by sector

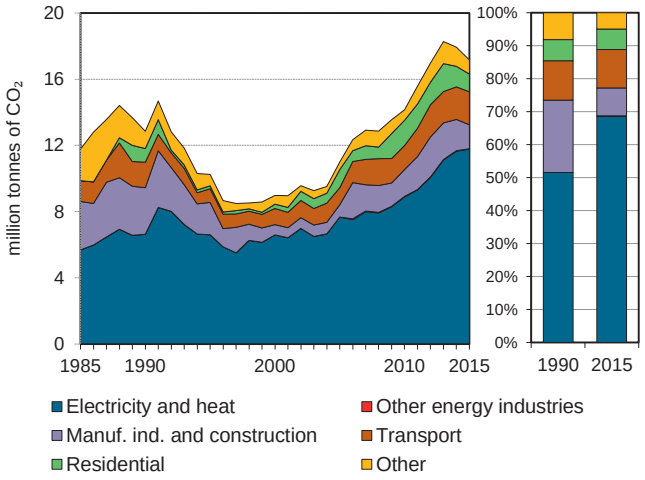


Figure 3. Electricity generation by fuel

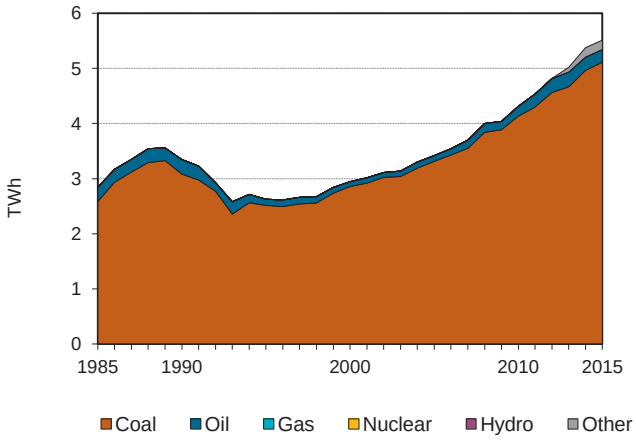


Figure 4. CO_2 from electricity generation: driving factors[2]

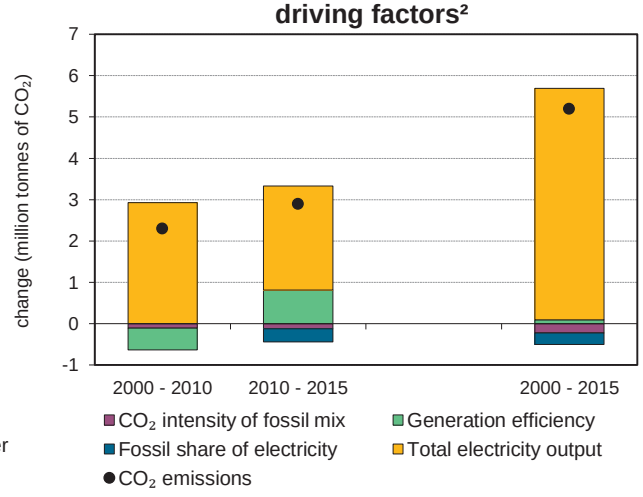


Figure 5. Changes in selected indicators

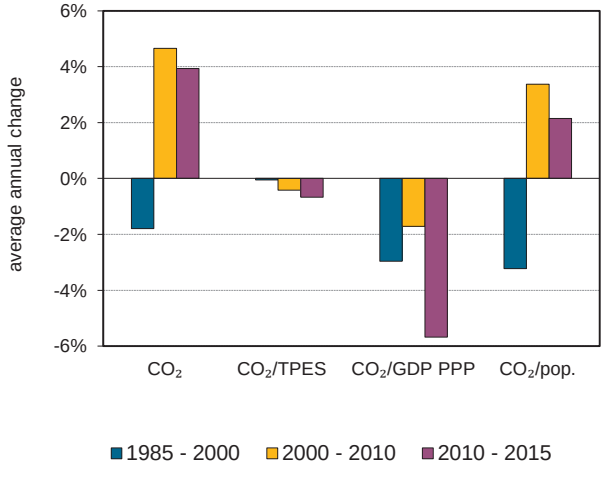
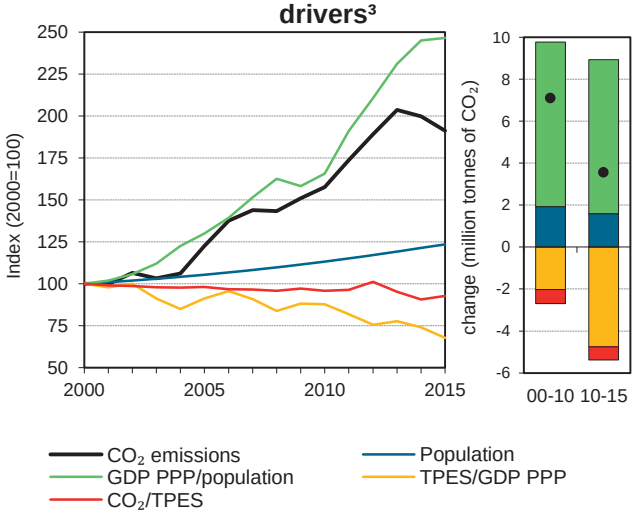


Figure 6. Total CO_2 emissions and drivers[3]



1. Prior to 1985, data for Mongolia were included in Other Asia.
2. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
3. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Mongolia [1]

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	12.9	10.2	9.0	11.0	14.2	17.9	17.2	34%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	143	113	100	125	165	221	207	45%
GDP (billion 2010 USD)	3.9	3.4	3.8	5.3	7.2	11.4	11.7	204%
GDP PPP (billion 2010 USD)	11	9.6	10.9	15.0	20.5	32.5	33.3	204%
Population (millions)	2.2	2.3	2.4	2.5	2.7	2.9	3.0	35%
CO_2 / TPES (tCO_2 per TJ)	90.1	90.8	89.5	87.7	85.8	81.1	82.9	-8%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	3.34	3.1	2.3	2.1	2.0	1.6	1.5	-56%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	1.17	1.1	0.8	0.7	0.7	0.6	0.5	-56%
CO_2 / population (tCO_2 per capita)	5.9	4.5	3.7	4.4	5.2	6.2	5.8	-1%
Share of electricity output from fossil fuels	100%	100%	100%	100%	100%	97%	97%	
CO_2 / kWh of electricity (gCO_2/kWh)	733	1318	1139	1188	1161	1313	1249	70%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [2]								
CO_2 emissions index	100	80	70	86	110	140	134	34%
Population index	100	105	110	116	124	133	135	35%
GDP PPP per population index	100	83	91	118	150	223	224	124%
Energy intensity index - TPES / GDP PPP	100	91	70	64	62	52	48	-52%
Carbon intensity index - CO_2 / TPES	100	101	99	97	95	90	92	-8%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [3]	Total	%change 90-15
CO_2 fuel combustion	**13.7**	**3.5**	**-**	**-**	**17.2**	**34%**
Electricity and heat generation	11.5	0.2	-	-	11.8	78%
Other energy industry own use	0.0	-	-	-	0.0	x
Manufacturing industries and construction	0.3	1.1	-	-	1.4	-48%
Transport	0.1	1.9	-	-	2.0	29%
of which: road	-	*1.5*	-	-	*1.5*	30%
Other	1.8	0.2	-	-	1.9	3%
of which: residential	*1.1*	-	-	-	*1.1*	30%
of which: services	*0.0*	-	-	-	*0.0*	-50%
Memo: international marine bunkers	-	-	-	-	-	-
Memo: international aviation bunkers	-	*0.1*	-	-	*0.1*	*575%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[4] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	11.5	83.0	8.3	8.3
Road - oil	1.5	30.2	1.1	9.4
Manufacturing industries - oil	1.1	79.9	0.8	10.2
Residential - coal	1.1	30.1	0.8	11.0
Non-specified other sectors - coal	0.7	-28.2	0.5	11.5
Other transport - oil	0.5	80.2	0.3	11.8
Manufacturing industries - coal	0.3	-84.9	0.2	12.0
Main activity prod. elec. and heat - oil	0.2	-24.7	0.2	12.2
Non-specified other - oil	0.2	76.7	0.1	12.3
Memo: total CO_2 from fuel combustion	*17.2*	*33.5*	*12.4*	*12.4*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Montenegro [1]

Figure 1. CO_2 emissions by fuel

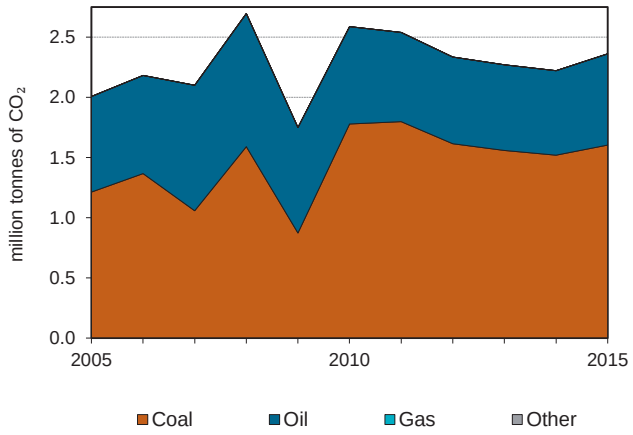


Figure 2. CO_2 emissions by sector

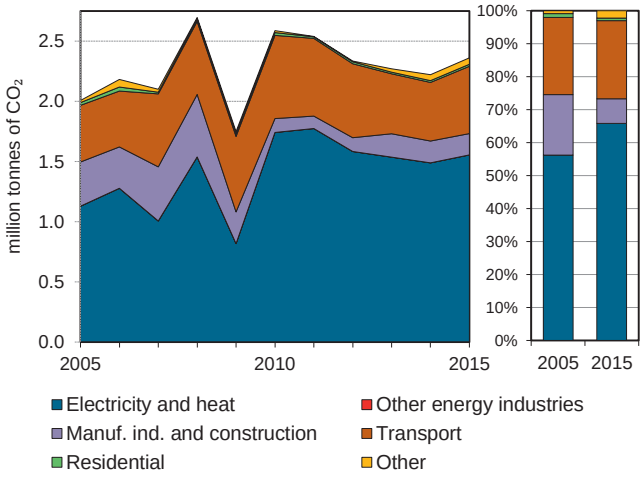


Figure 3. Electricity generation by fuel

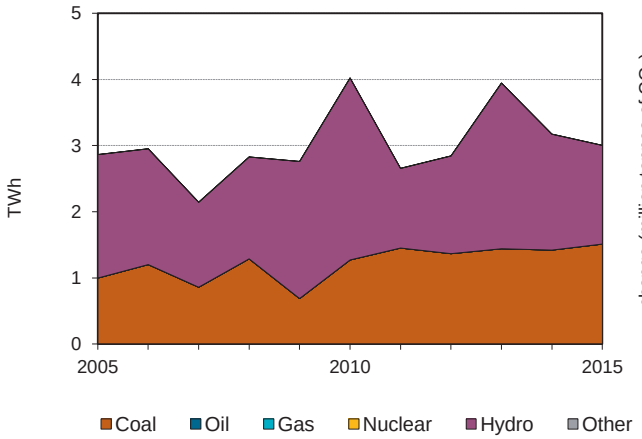


Figure 4. CO_2 from electricity generation: driving factors[2]

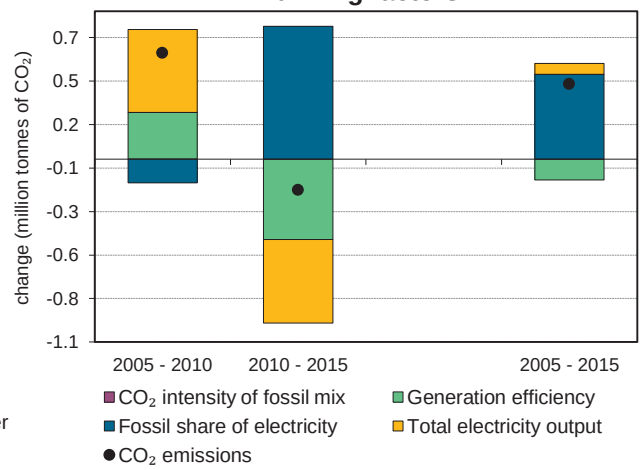


Figure 5. Changes in selected indicators

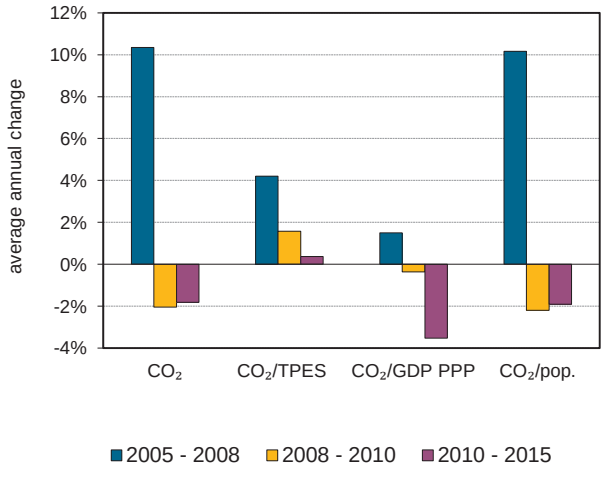
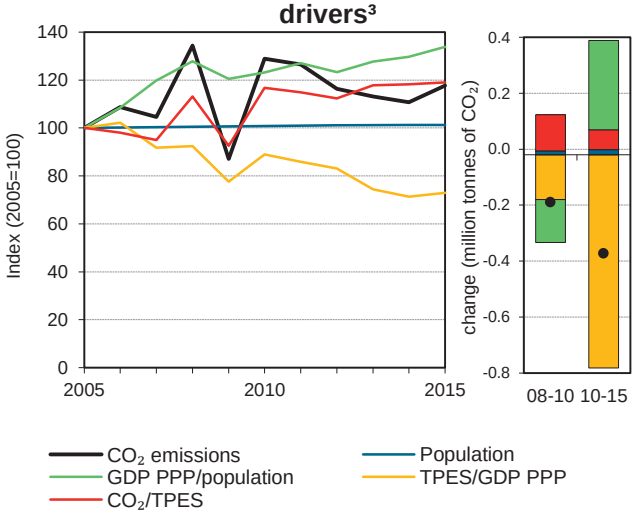


Figure 6. Total CO_2 emissions and drivers[3]



1. Prior to 2005, data for Montenegro were included in Serbia.
2. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
3. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Montenegro [1]

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 05-15
CO_2 fuel combustion ($MtCO_2$)	..	..	..	2.0	2.6	2.2	2.4	18%
Share of World CO_2 from fuel combustion	..	..	..	0%	0%	0%	0%	
TPES (PJ)	..	..	..	43	47	40	42	-1%
GDP (billion 2010 USD)	..	..	..	3.3	4.1	4.4	4.5	36%
GDP PPP (billion 2010 USD)	..	..	..	6.7	8.3	8.8	9.1	36%
Population (millions)	..	..	..	0.6	0.6	0.6	0.6	1%
CO_2 / TPES (tCO_2 per TJ)	..	..	..	46.9	54.8	55.4	55.8	19%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	..	..	..	0.6	0.6	0.5	0.5	-13%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	..	..	..	0.3	0.3	0.3	0.3	-13%
CO_2 / population (tCO_2 per capita)	..	..	..	3.3	4.2	3.6	3.8	16%
Share of electricity output from fossil fuels	..	..	..	35%	32%	45%	50%	
CO_2 / kWh of electricity (gCO_2/kWh)	..	..	..	392	431	469	518	32%
CO_2 emissions and drivers - Kaya decomposition (2005=100) [2]								
CO_2 emissions index	..	..	..	100	129	111	118	18%
Population index	..	..	..	100	101	101	101	1%
GDP PPP per population index	..	..	..	100	123	130	134	34%
Energy intensity index - TPES / GDP PPP	..	..	..	100	89	71	73	-27%
Carbon intensity index - CO_2 / TPES	..	..	..	100	117	118	119	19%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [3]	Total	%change 05-15
CO_2 fuel combustion	**1.6**	**0.8**	**-**	**-**	**2.4**	**18%**
Electricity and heat generation	1.6	-	-	-	1.6	38%
Other energy industry own use	-	-	-	-	-	-
Manufacturing industries and construction	0.0	0.1	-	-	0.2	-52%
Transport	-	0.6	-	-	0.6	19%
of which: road	-	*0.5*	-	-	*0.5*	18%
Other	0.0	0.0	-	-	0.1	74%
of which: residential	*0.0*	*0.0*	-	-	*0.0*	-26%
of which: services	*0.0*	*0.0*	-	-	*0.0*	182%
Memo: international marine bunkers	-	..	-	-	..	..
Memo: international aviation bunkers	-	*0.1*	-	-	*0.1*	*38%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 05-15	Level assessment[4] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	1.6	38.5	..	..
Road - oil	0.5	18.3	..	..
Manufacturing industries - oil	0.1	-51.0	..	..
Non-specified other - oil	0.0	650.8	..	..
Manufacturing industries - coal	0.0	-55.4	..	..
Residential - coal	0.0	-16.7	..	..
Other transport - oil	0.0	49.0	..	..
Non-specified other sectors - coal	0.0	-41.7	..	..
Residential - oil	0.0	-53.1	..	..
Memo: total CO_2 from fuel combustion	*2.4*	*17.7*	..	..

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Morocco

Figure 1. CO_2 emissions by fuel

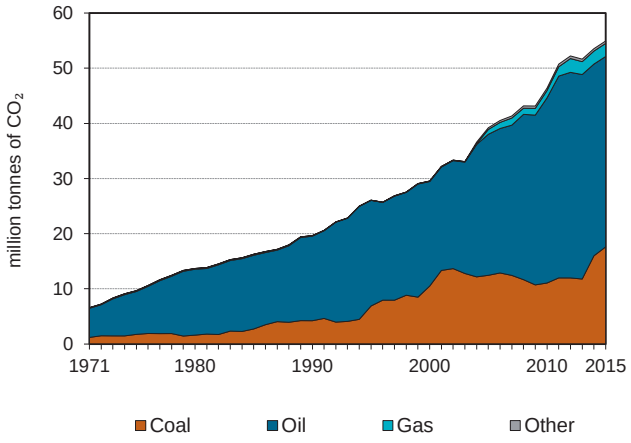


Figure 2. CO_2 emissions by sector

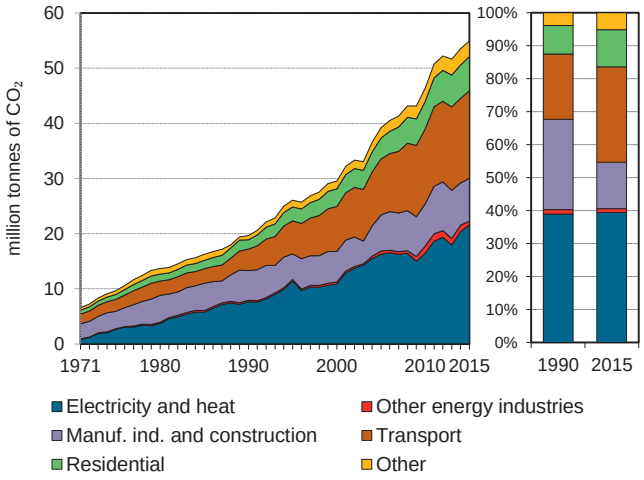


Figure 3. Electricity generation by fuel

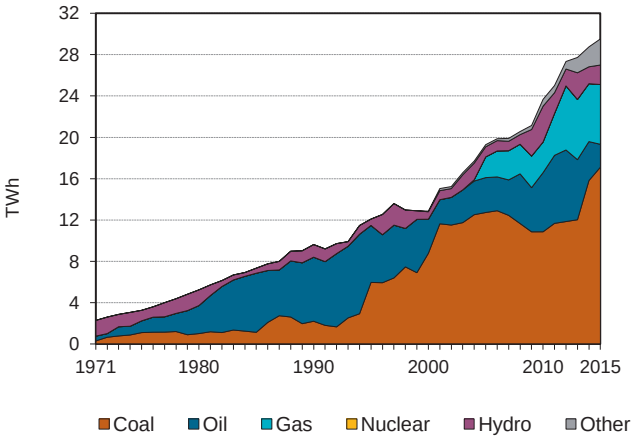


Figure 4. CO_2 from electricity generation: driving factors[1]

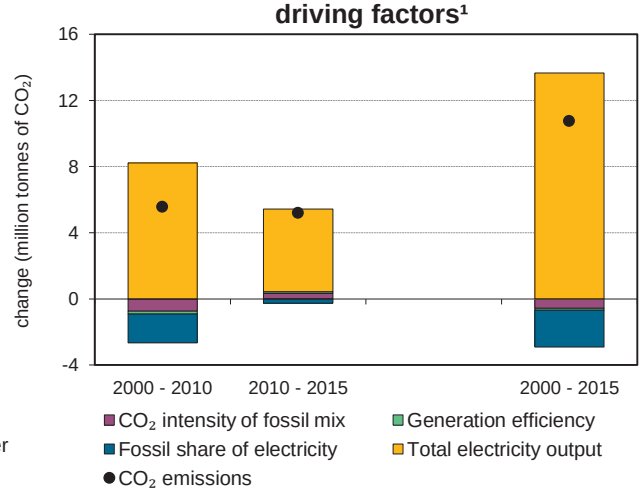


Figure 5. Changes in selected indicators

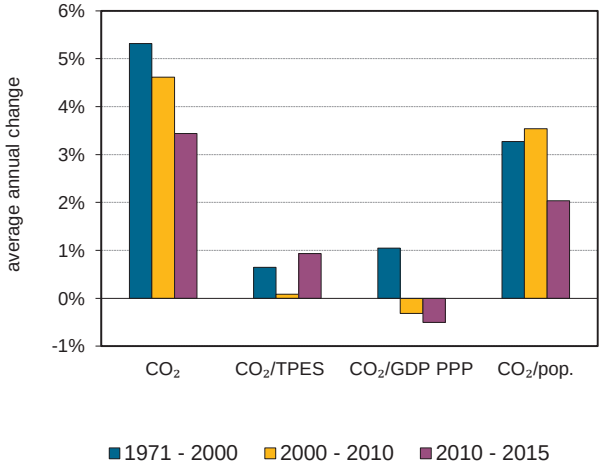
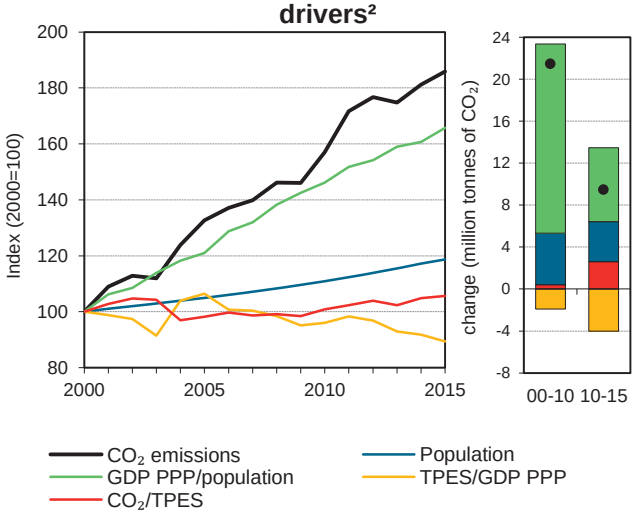


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Morocco

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	19.7	26.1	29.5	39.2	46.4	53.5	54.9	180%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	319	391	461	624	718	798	812	155%
GDP (billion 2010 USD)	43.2	47.1	57.5	73.0	93.2	108.3	113.2	162%
GDP PPP (billion 2010 USD)	96.2	104.8	128.1	162.6	207.6	241.3	252.2	162%
Population (millions)	25	27.2	29.0	30.4	32.1	33.9	34.4	38%
CO_2 / TPES (tCO_2 per TJ)	61.6	66.7	64.0	62.9	64.6	67.1	67.7	10%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.46	0.6	0.5	0.5	0.5	0.5	0.5	7%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	7%
CO_2 / population (tCO_2 per capita)	0.8	1.0	1.0	1.3	1.4	1.6	1.6	103%
Share of electricity output from fossil fuels	87%	95%	94%	94%	83%	88%	86%	
CO_2 / kWh of electricity (gCO_2/kWh)	794	943	846	843	695	708	702	-12%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	133	150	200	236	272	280	180%
Population index	100	109	116	122	129	136	138	38%
GDP PPP per population index	100	100	115	139	168	185	190	90%
Energy intensity index - TPES / GDP PPP	100	112	109	116	104	100	97	-3%
Carbon intensity index - CO_2 / TPES	100	108	104	102	105	109	110	10%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**17.6**	**34.5**	**2.4**	**0.4**	**54.9**	**180%**
Electricity and heat generation	17.5	1.9	2.2	-	21.6	183%
Other energy industry own use	-	0.6	-	-	0.6	135%
Manufacturing industries and construction	0.1	7.1	0.2	0.4	7.7	44%
Transport	-	15.9	-	-	15.9	308%
of which: road	-	*15.8*	-	-	*15.8*	306%
Other	-	9.0	-	-	9.0	268%
of which: residential	-	*6.2*	-	-	*6.2*	267%
of which: services	-	*0.4*	-	-	*0.4*	492%
Memo: international marine bunkers	-	*0.4*	-	-	*0.4*	*569%*
Memo: international aviation bunkers	-	*2.0*	-	-	*2.0*	*153%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	17.5	525.2	21.0	21.0
Road - oil	15.8	305.6	18.9	40.0
Manufacturing industries - oil	7.1	83.1	8.5	48.5
Residential - oil	6.2	266.9	7.4	55.9
Non-specified other - oil	2.8	269.4	3.4	59.3
Main activity prod. elec. and heat - gas	2.2	x	2.7	62.0
Main activity prod. elec. and heat - oil	1.9	-50.4	2.2	64.2
Other energy industry own use - oil	0.6	134.6	0.8	65.0
Manufacturing industries -other	0.4	x	0.5	65.5
Memo: total CO_2 from fuel combustion	*54.9*	*179.6*	*65.9*	*65.9*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Mozambique

Figure 1. CO_2 emissions by fuel

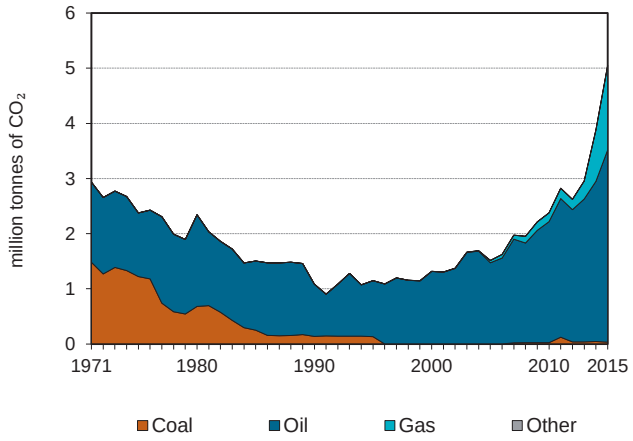


Figure 2. CO_2 emissions by sector

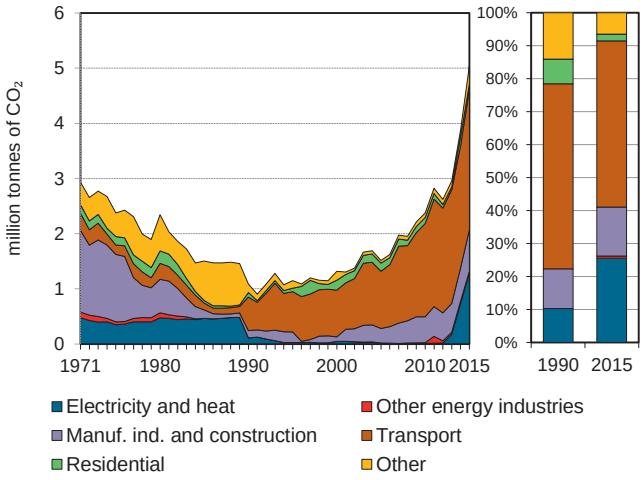


Figure 3. Electricity generation by fuel

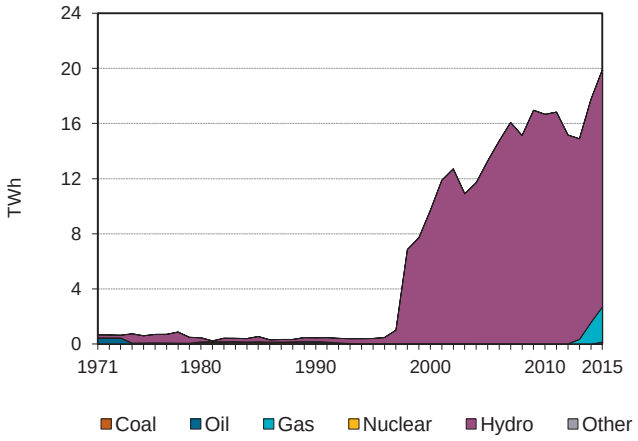


Figure 4. CO_2 from electricity generation: driving factors[1]

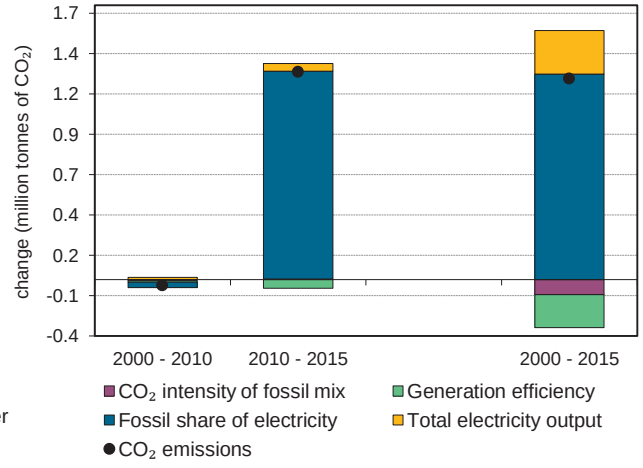


Figure 5. Changes in selected indicators

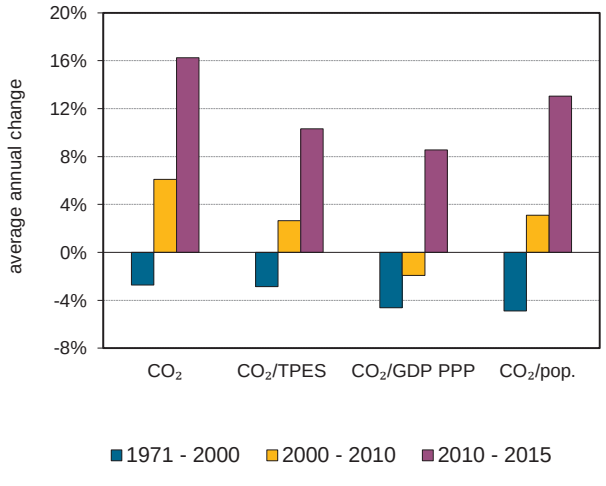
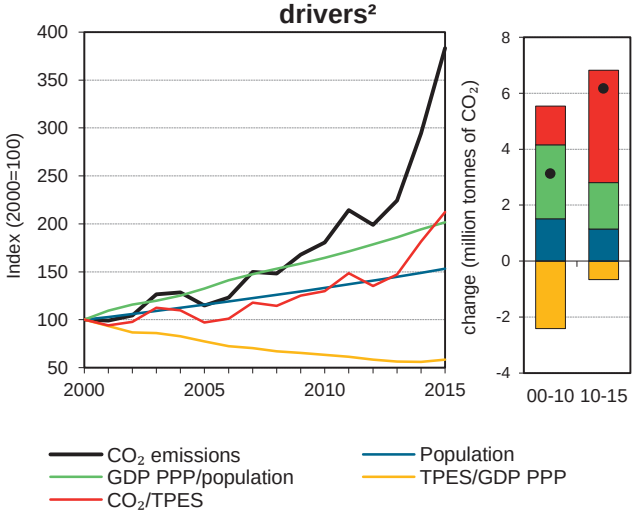


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Mozambique

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	1.1	1.1	1.3	1.5	2.4	3.9	5.0	365%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	248	263	300	355	417	487	542	119%
GDP (billion 2010 USD)	2.3	2.7	4.6	7.1	10.2	13.4	14.3	525%
GDP PPP (billion 2010 USD)	4.9	5.8	9.9	15.2	21.8	28.8	30.7	525%
Population (millions)	13.4	15.9	18.3	21.1	24.3	27.2	28.0	109%
CO_2 / TPES (tCO_2 per TJ)	4.4	4.4	4.4	4.3	5.7	8.0	9.3	113%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.47	0.4	0.3	0.2	0.2	0.3	0.4	-25%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.22	0.2	0.1	0.1	0.1	0.1	0.2	-25%
CO_2 / population (tCO_2 per capita)	0.1	0.1	0.1	0.1	0.1	0.1	0.2	122%
Share of electricity output from fossil fuels	37%	7%	0%	0%	0%	9%	14%	
CO_2 / kWh of electricity (gCO_2/kWh)	245	64	5	1	1	41	65	-74%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	106	121	140	219	358	465	365%
Population index	100	119	137	158	182	204	209	109%
GDP PPP per population index	100	99	148	196	244	288	299	199%
Energy intensity index - TPES / GDP PPP	100	90	60	46	38	34	35	-65%
Carbon intensity index - CO_2 / TPES	100	100	100	97	130	182	213	113%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**0.0**	**3.5**	**1.5**	**-**	**5.0**	**365%**
Electricity and heat generation	-	0.1	1.2	-	1.3	+
Other energy industry own use	0.0	-	-	-	0.0	x
Manufacturing industries and construction	-	0.4	0.3	-	0.8	475%
Transport	-	2.5	0.0	-	2.5	318%
of which: road	-	*2.3*	*0.0*	-	*2.3*	342%
Other	-	0.4	0.0	-	0.4	84%
of which: residential	-	*0.1*	*0.0*	-	*0.1*	25%
of which: services	-	*0.1*	*0.0*	-	*0.1*	x
Memo: international marine bunkers	-	..	-	-	..	..
Memo: international aviation bunkers	-	*0.1*	-	-	*0.1*	*-17%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	2.3	340.9	0.6	0.6
Main activity prod. elec. and heat - gas	1.2	x	0.3	0.9
Manufacturing industries - oil	0.4	766.9	0.1	1.1
Non-specified other - oil	0.3	114.7	0.1	1.1
Manufacturing industries - gas	0.3	x	0.1	1.2
Other transport - oil	0.2	154.2	0.1	1.3
Residential - oil	0.1	23.0	0.0	1.3
Main activity prod. elec. and heat - oil	0.1	47.1	0.0	1.3
Other energy industry - coal	0.0	x	0.0	1.3
Memo: total CO_2 from fuel combustion	*5.0*	*365.4*	*1.3*	*1.3*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Myanmar

Figure 1. CO_2 emissions by fuel

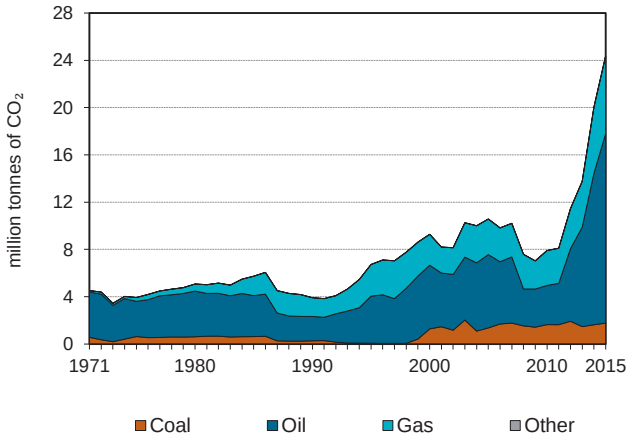


Figure 2. CO_2 emissions by sector

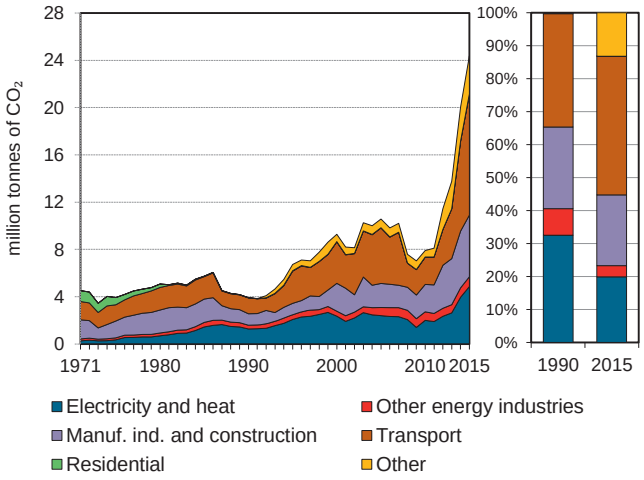


Figure 3. Electricity generation by fuel

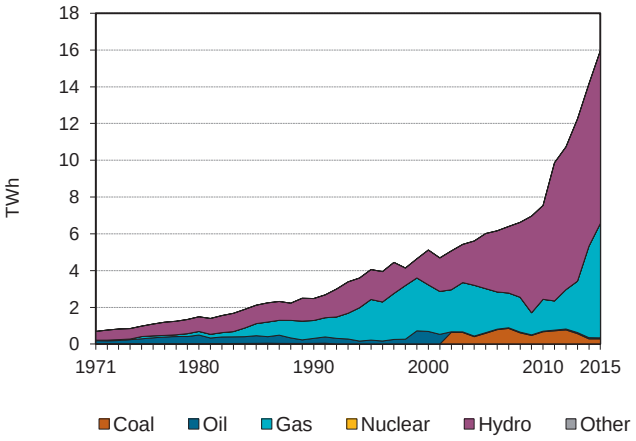


Figure 4. CO_2 from electricity generation: driving factors[1]

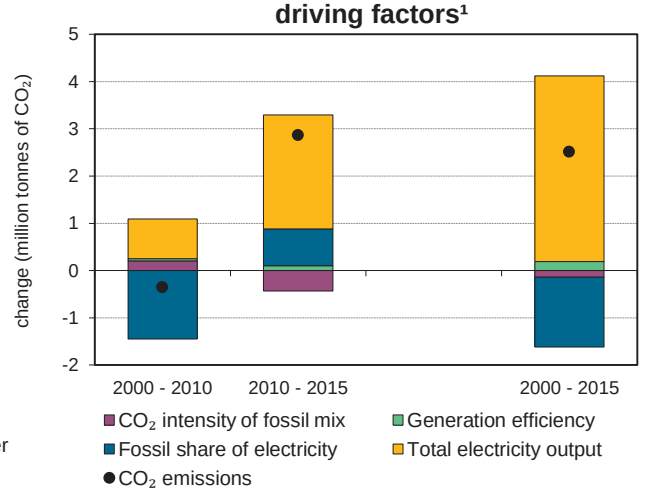


Figure 5. Changes in selected indicators

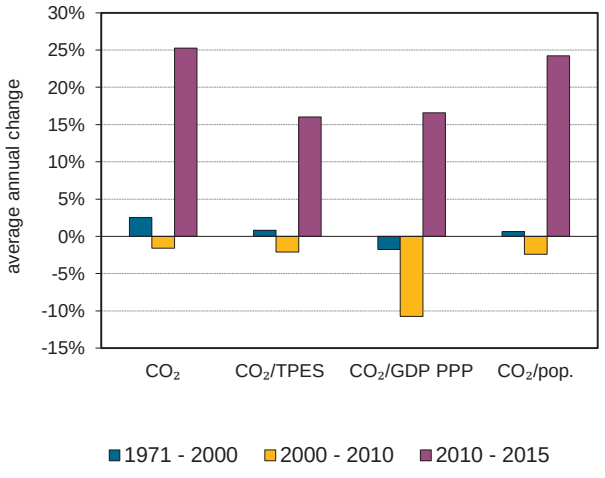
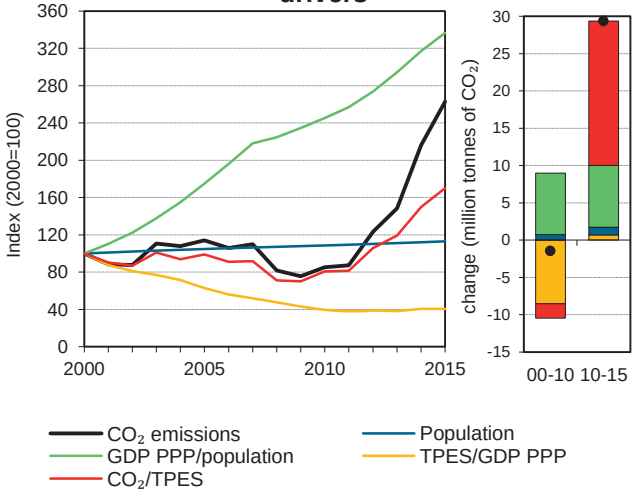


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Myanmar

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	3.9	6.7	9.3	10.6	7.9	20.0	24.4	523%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	447	494	537	618	566	775	830	86%
GDP (billion 2010 USD)	11.7	15.5	23.3	42.6	61.9	82.7	88.6	658%
GDP PPP (billion 2010 USD)	40.7	54.0	81.0	148.4	215.6	288.0	308.3	658%
Population (millions)	42	44.7	47.7	50.0	51.7	53.4	53.9	28%
CO_2 / TPES (tCO_2 per TJ)	8.8	13.6	17.3	17.1	14.0	25.8	29.4	236%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.34	0.4	0.4	0.2	0.1	0.2	0.3	-18%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.1	0.1	0.1	0.1	0.0	0.1	0.1	-18%
CO_2 / population (tCO_2 per capita)	0.1	0.2	0.2	0.2	0.2	0.4	0.5	385%
Share of electricity output from fossil fuels	52%	60%	63%	50%	32%	38%	41%	
CO_2 / kWh of electricity (gCO_2/kWh)	513	511	460	398	265	279	304	-41%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	172	237	270	202	512	623	523%
Population index	100	106	113	119	123	127	128	28%
GDP PPP per population index	100	125	176	307	431	557	591	491%
Energy intensity index - TPES / GDP PPP	100	83	60	38	24	24	24	-76%
Carbon intensity index - CO_2 / TPES	100	155	197	195	160	295	336	236%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**1.8**	**16.0**	**6.6**	**-**	**24.4**	**523%**
Electricity and heat generation	0.3	0.0	4.5	-	4.9	283%
Other energy industry own use	-	0.1	0.7	-	0.8	160%
Manufacturing industries and construction	1.4	2.9	0.9	-	5.2	439%
Transport	-	9.8	0.4	-	10.3	663%
of which: road	-	*8.5*	*0.4*	-	*8.9*	598%
Other	0.1	3.1	0.0	-	3.2	+
of which: residential	-	*0.0*	-	-	*0.0*	-67%
of which: services	-	*0.0*	-	-	*0.0*	x
Memo: international marine bunkers	-	*0.0*	-	-	*0.0*	*x*
Memo: international aviation bunkers	-	*0.1*	-	-	*0.1*	*617%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	8.5	567.2	15.0	15.0
Main activity prod. elec. and heat - gas	4.5	345.5	8.0	23.0
Non-specified other - oil	3.1	+	5.5	28.4
Manufacturing industries - oil	2.9	581.9	5.1	33.5
Manufacturing industries - coal	1.4	545.5	2.5	36.1
Other transport - oil	1.4	+	2.4	38.5
Manufacturing industries - gas	0.9	175.6	1.6	40.0
Other energy industry own use - gas	0.7	193.2	1.2	41.3
Road - gas	0.4	+	0.7	42.0
Memo: total CO_2 from fuel combustion	*24.4*	*523.0*	*43.0*	*43.0*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Namibia [1]

Figure 1. CO_2 emissions by fuel

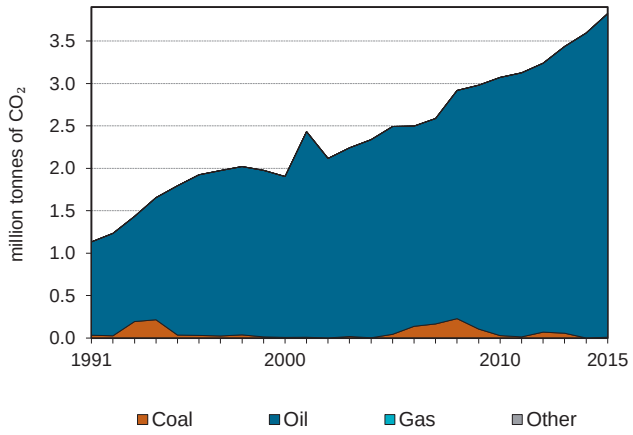


Figure 2. CO_2 emissions by sector

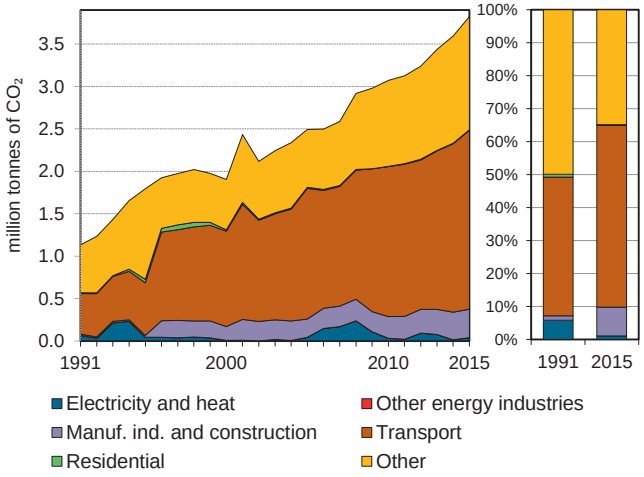


Figure 3. Electricity generation by fuel

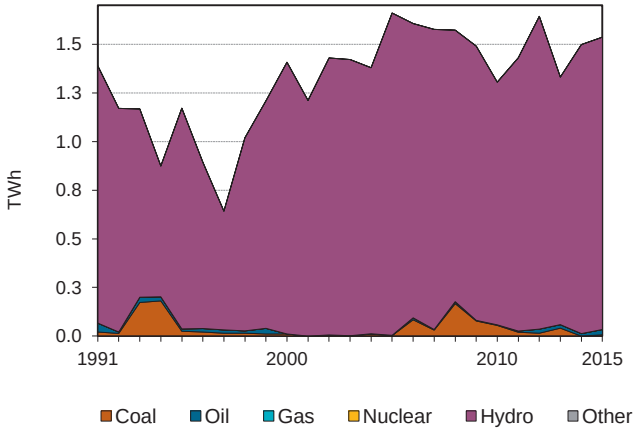


Figure 4. CO_2 from electricity generation: driving factors[2]

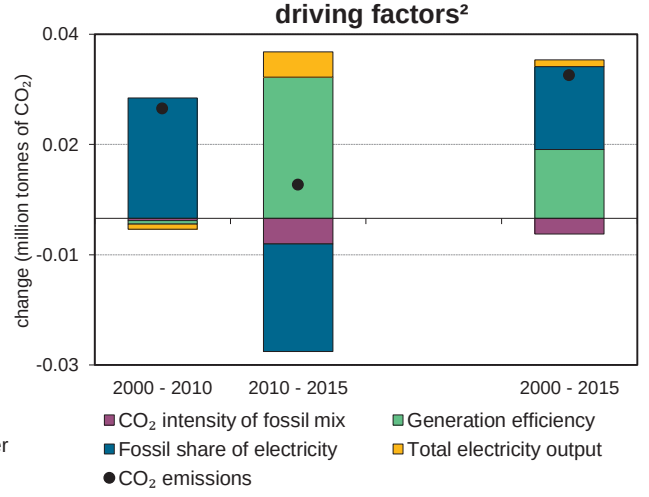


Figure 5. Changes in selected indicators

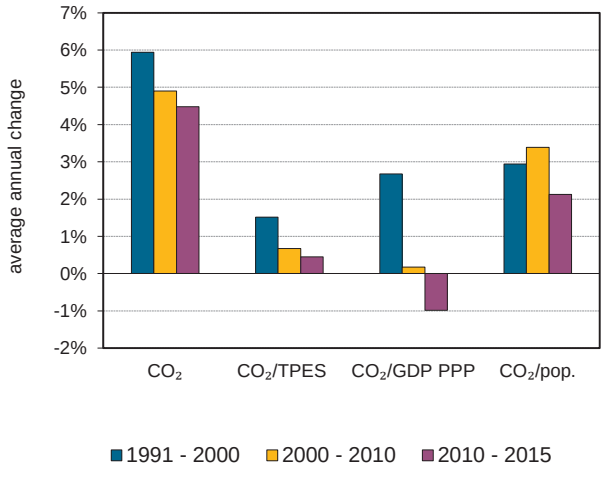
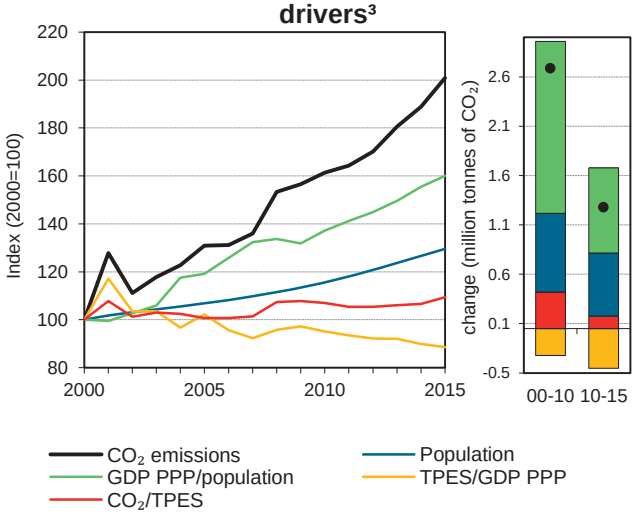


Figure 6. Total CO_2 emissions and drivers[3]



1. Prior to 1991, data for Namibia were included in Other Africa.
2. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
3. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Namibia [1]

Key indicators

	1990	2000	2005	2010	1991	2014	2015	%change 91-15
CO_2 fuel combustion ($MtCO_2$)	..	1.9	2.5	3.1	1.1	3.6	3.8	238%
Share of World CO_2 from fuel combustion	..	0%	0%	0%	0%	0%	0%	
TPES (PJ)	..	43	56	64	29	76	78	170%
GDP (billion 2010 USD)	..	7.1	9.1	11.3	5.4	14.0	14.8	175%
GDP PPP (billion 2010 USD)	..	11.4	14.5	18.0	8.6	22.4	23.6	175%
Population (millions)	..	1.9	2.0	2.2	1.5	2.4	2.5	68%
CO_2 / TPES (tCO_2 per TJ)	..	44.6	44.9	47.7	38.9	47.5	48.8	25%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	..	0.3	0.3	0.3	0.2	0.3	0.3	23%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	..	0.2	0.2	0.2	0.1	0.2	0.2	23%
CO_2 / population (tCO_2 per capita)	..	1.0	1.2	1.4	0.8	1.5	1.6	101%
Share of electricity output from fossil fuels	..	1%	0%	4%	5%	1%	2%	
CO_2 / kWh of electricity (gCO_2/kWh)	..	5	26	24	47	9	25	-47%
CO_2 emissions and drivers - Kaya decomposition (1991=100) [2]								
CO_2 emissions index	..	168	220	271	100	317	338	238%
Population index	..	129	138	150	100	164	168	68%
GDP PPP per population index	..	102	122	140	100	159	164	64%
Energy intensity index - TPES / GDP PPP	..	111	113	105	100	100	98	-2%
Carbon intensity index - CO_2 / TPES	..	114	115	122	100	122	125	25%

1. Prior to 1991, data for Namibia were included in Other Africa. 2. Please see Part I for methodological notes.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [3]	Total	%change 91-15
CO_2 fuel combustion	**0.0**	**3.8**	**-**	**-**	**3.8**	**238%**
Electricity and heat generation	0.0	0.0	-	-	0.0	-41%
Other energy industry own use	-	-	-	-	-	-
Manufacturing industries and construction	-	0.3	-	-	0.3	+
Transport	-	2.1	-	-	2.1	342%
of which: road	-	*2.0*	-	-	*2.0*	335%
Other	-	1.3	-	-	1.3	133%
of which: residential	-	*0.0*	-	-	*0.0*	-33%
of which: services	-	*0.0*	-	-	*0.0*	x
Memo: international marine bunkers	-	..	-	-	..	..
Memo: international aviation bunkers	-	*0.2*	-	-	*0.2*	*89%*

3. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 91-15	Level assessment[4] (%)	Cumulative total (%)
Road - oil	2.0	334.8	10.4	10.4
Non-specified other - oil	1.3	136.0	7.0	17.4
Manufacturing industries - oil	0.3	+	1.8	19.2
Other transport - oil	0.1	508.3	0.6	19.8
Main activity prod. elec. and heat - oil	0.0	-10.0	0.2	20.0
Main activity prod. elec. and heat - coal	0.0	-73.3	0.0	20.0
Residential - oil	0.0	-33.3	0.0	20.0
-	-	-	-	-
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*3.8*	*237.5*	*20.0*	*20.0*

4. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Nepal

Figure 1. CO_2 emissions by fuel

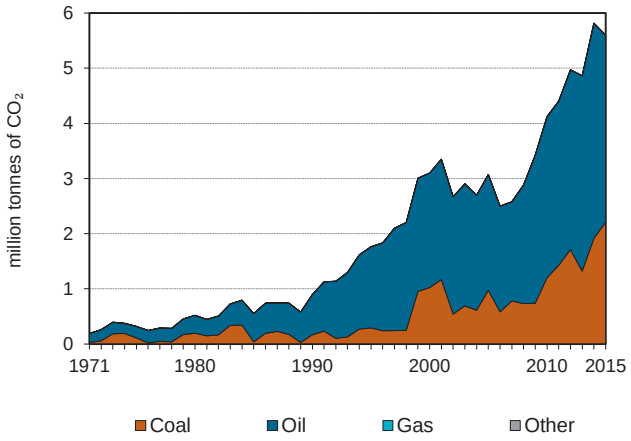


Figure 2. CO_2 emissions by sector

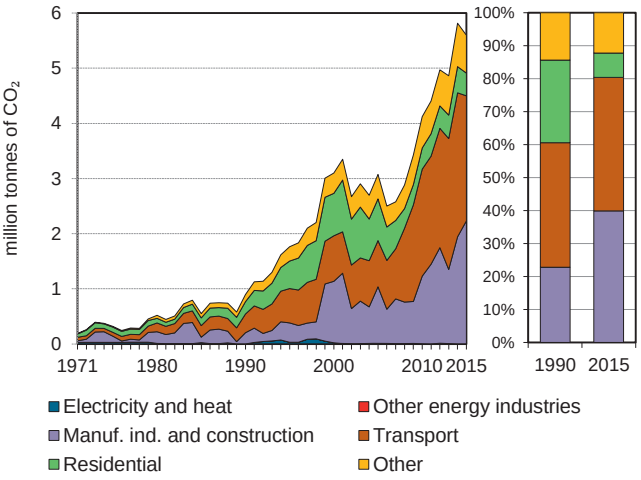


Figure 3. Electricity generation by fuel

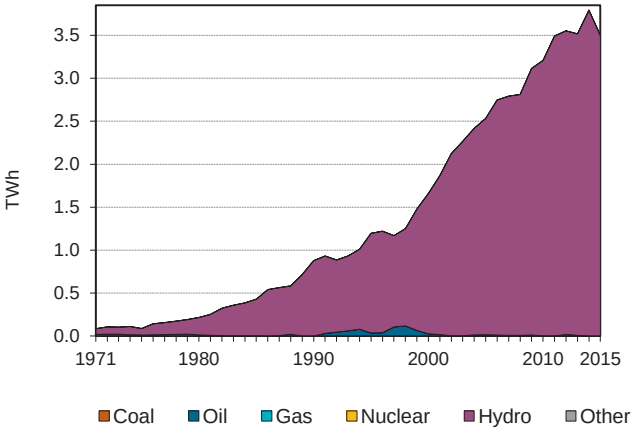


Figure 4. CO_2 from electricity generation: driving factors[1]

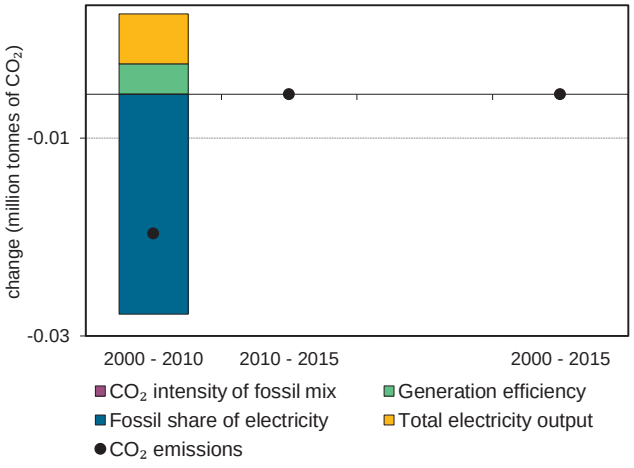


Figure 5. Changes in selected indicators

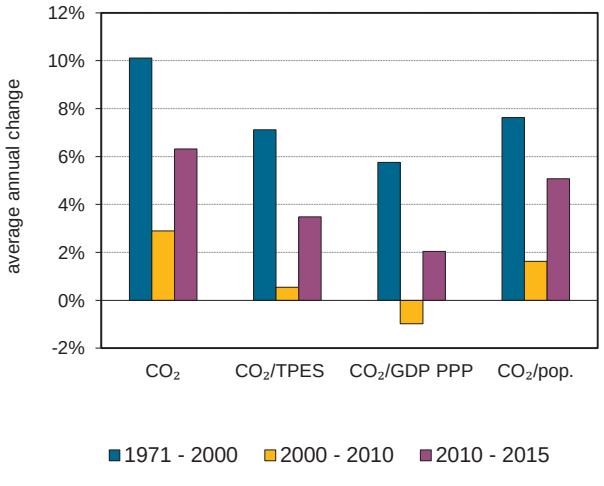
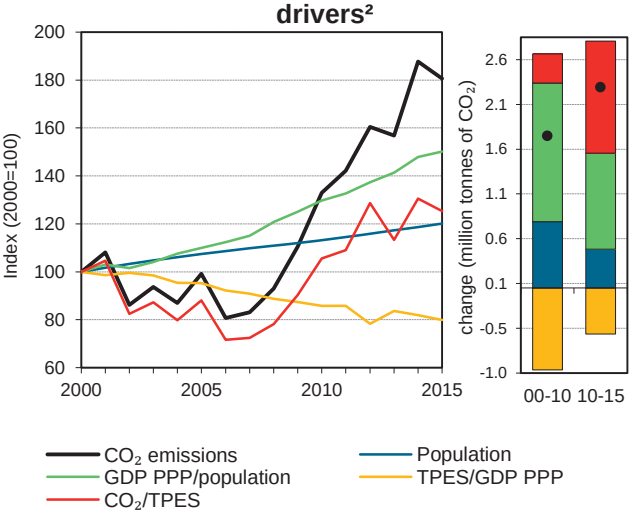


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Nepal

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	0.9	1.8	3.1	3.1	4.1	5.8	5.6	526%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	242	281	339	382	427	488	489	102%
GDP (billion 2010 USD)	6.7	8.6	10.9	12.9	16.0	19.1	19.7	194%
GDP PPP (billion 2010 USD)	22	28.3	35.8	42.3	52.6	62.9	64.6	194%
Population (millions)	18.7	21.4	23.7	25.5	26.9	28.2	28.5	52%
CO_2 / TPES (tCO_2 per TJ)	3.7	6.3	9.1	8.0	9.6	11.9	11.4	210%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.13	0.2	0.3	0.2	0.3	0.3	0.3	113%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.04	0.1	0.1	0.1	0.1	0.1	0.1	113%
CO_2 / population (tCO_2 per capita)	0.1	0.1	0.1	0.1	0.2	0.2	0.2	312%
Share of electricity output from fossil fuels	0%	3%	2%	1%	0%	0%	0%	
CO_2 / kWh of electricity (gCO_2/kWh)	0	26	12	5	1	-	-	0%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	197	346	343	460	650	626	526%
Population index	100	114	127	136	143	150	152	52%
GDP PPP per population index	100	113	128	141	167	190	193	93%
Energy intensity index - TPES / GDP PPP	100	90	86	82	74	70	69	-31%
Carbon intensity index - CO_2 / TPES	100	170	247	218	261	323	310	210%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**2.2**	**3.4**	**-**	**-**	**5.6**	**526%**
Electricity and heat generation	-	-	-	-	-	-
Other energy industry own use	-	-	-	-	-	-
Manufacturing industries and construction	2.2	0.0	-	-	2.2	995%
Transport	-	2.3	-	-	2.3	570%
of which: road	-	*2.3*	-	-	*2.3*	570%
Other	0.0	1.1	-	-	1.1	211%
of which: residential	*0.0*	*0.4*	-	-	*0.4*	84%
of which: services	-	*0.3*	-	-	*0.3*	899%
Memo: international marine bunkers	-	-	-	-	-	-
Memo: international aviation bunkers	-	*0.3*	-	-	*0.3*	*520%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	2.3	569.9	0.8	0.8
Manufacturing industries - coal	2.2	+	0.8	1.6
Non-specified other - oil	0.7	432.9	0.2	1.9
Residential - oil	0.4	79.8	0.1	2.0
Manufacturing industries - oil	0.0	-9.5	0.0	2.0
Residential - coal	0.0	x	0.0	2.0
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*5.6*	*525.5*	*2.0*	*2.0*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Netherlands

Figure 1. CO_2 emissions by fuel

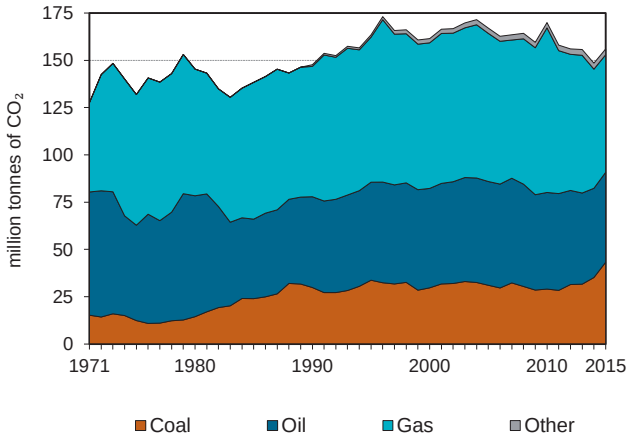


Figure 2. CO_2 emissions by sector

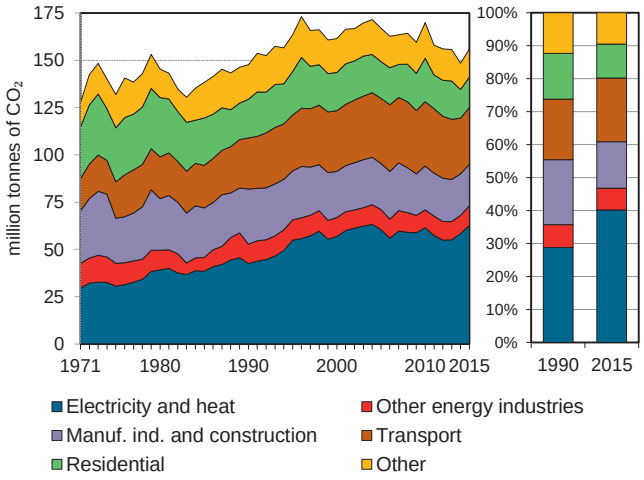


Figure 3. Electricity generation by fuel

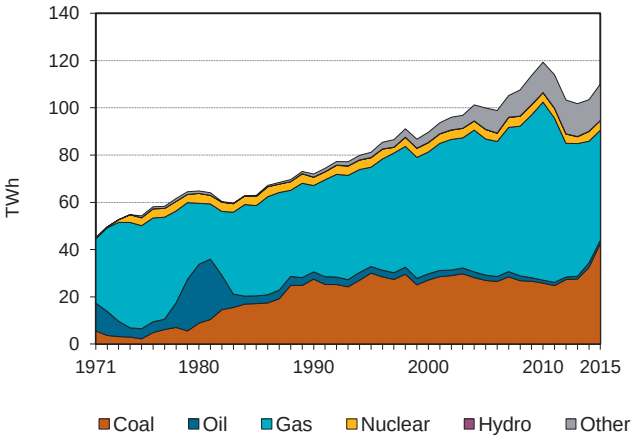


Figure 4. CO_2 from electricity generation: driving factors[1]

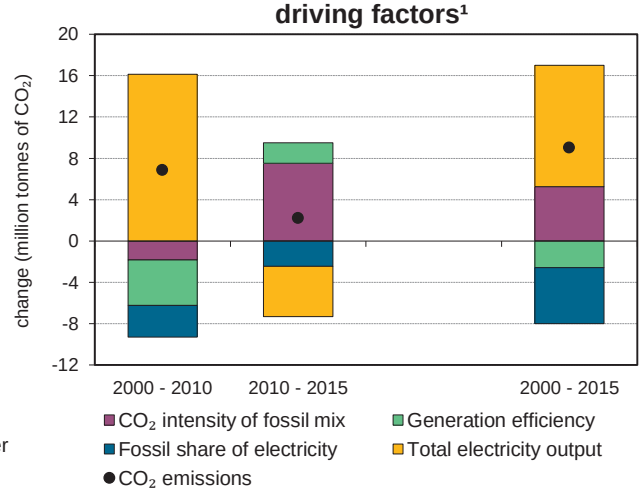


Figure 5. Changes in selected indicators

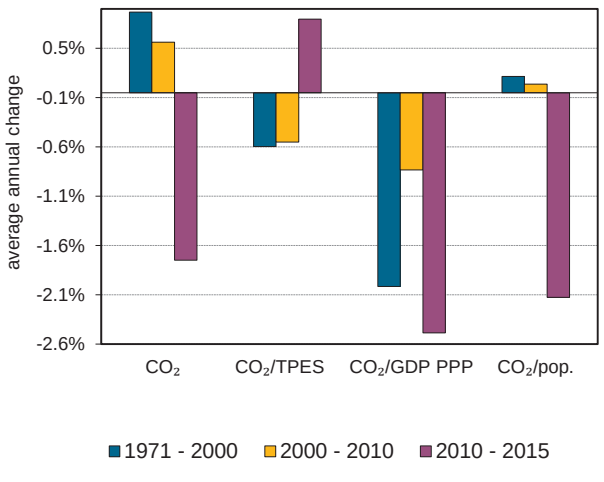
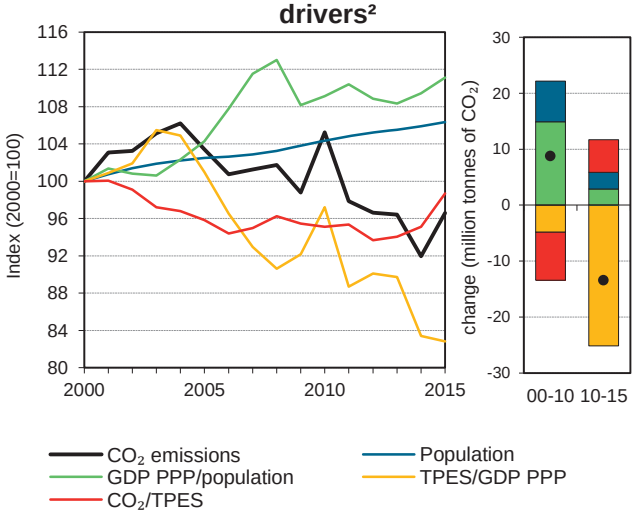


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Netherlands

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	147.7	163.5	161.5	167.0	170.0	148.5	156.0	6%
Share of World CO_2 from fuel combustion	1%	1%	1%	1%	1%	0%	0%	
TPES (PJ)	2814	3 092	3 158	3 408	3 495	3 054	3 091	10%
GDP (billion 2010 USD)	530.5	594.2	734.7	785.1	836.4	851.6	868.3	64%
GDP PPP (billion 2010 USD)	469.9	526.3	650.7	695.4	740.8	754.3	769.0	64%
Population (millions)	15	15.5	15.9	16.3	16.6	16.9	16.9	13%
CO_2 / TPES (tCO_2 per TJ)	52.5	52.9	51.1	49.0	48.6	48.6	50.5	-4%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.28	0.3	0.2	0.2	0.2	0.2	0.2	-35%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.31	0.3	0.2	0.2	0.2	0.2	0.2	-35%
CO_2 / population (tCO_2 per capita)	9.9	10.6	10.1	10.2	10.2	8.8	9.2	-7%
Share of electricity output from fossil fuels	94%	93%	92%	89%	87%	85%	84%	
CO_2 / kWh of electricity (gCO_2/kWh)	545	561	500	479	421	472	489	-10%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	111	109	113	115	101	106	6%
Population index	100	103	107	109	111	113	113	13%
GDP PPP per population index	100	108	130	136	142	142	144	44%
Energy intensity index - TPES / GDP PPP	100	98	81	82	79	68	67	-33%
Carbon intensity index - CO_2 / TPES	100	101	97	93	93	93	96	-4%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**43.2**	**47.5**	**62.2**	**3.1**	**156.0**	**6%**
Electricity and heat generation	38.4	1.8	19.5	2.9	62.6	47%
Other energy industry own use	0.8	6.2	3.4	-	10.4	2%
Manufacturing industries and construction	4.0	7.0	11.0	-	22.0	-25%
Transport	-	30.0	0.1	-	30.1	11%
of which: road	-	*28.7*	*0.1*	-	*28.8*	10%
Other	0.0	2.6	28.2	0.1	30.9	-20%
of which: residential	*0.0*	*0.1*	*16.0*	-	*16.1*	-21%
of which: services	*0.0*	*0.5*	*7.1*	*0.1*	*7.7*	-6%
Memo: international marine bunkers	-	*39.6*	-	-	*39.6*	*13%*
Memo: international aviation bunkers	-	*11.3*	-	-	*11.3*	*149%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	38.3	66.1	19.6	19.6
Road - oil	28.7	10.1	14.7	34.3
Residential - gas	16.0	-18.6	8.2	42.5
Main activity prod. elec. and heat - gas	14.4	9.9	7.4	49.9
Non-specified other - gas	12.2	-17.5	6.2	56.1
Manufacturing industries - gas	11.0	-31.0	5.6	61.8
Manufacturing industries - oil	7.0	-6.5	3.6	65.3
Other energy industry own use - oil	6.2	-18.6	3.2	68.5
Unallocated autoproducers - gas	5.1	44.9	2.6	71.1
Memo: total CO_2 from fuel combustion	*156.0*	*5.6*	*79.9*	*79.9*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

New Zealand

Figure 1. CO_2 emissions by fuel

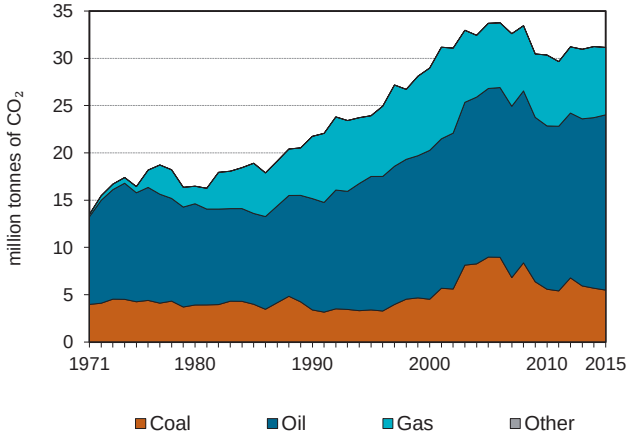


Figure 2. CO_2 emissions by sector

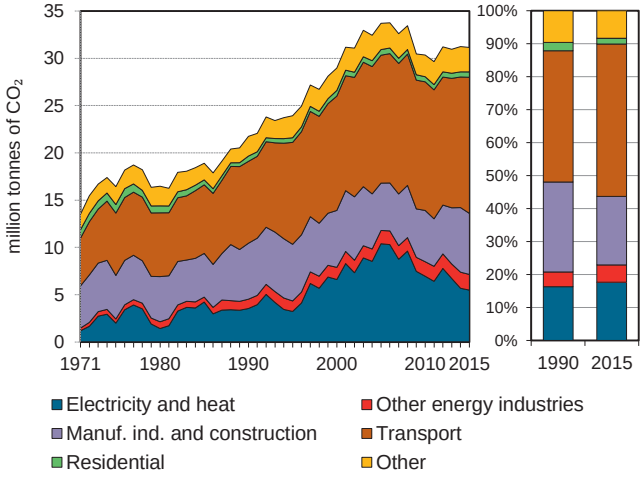


Figure 3. Electricity generation by fuel

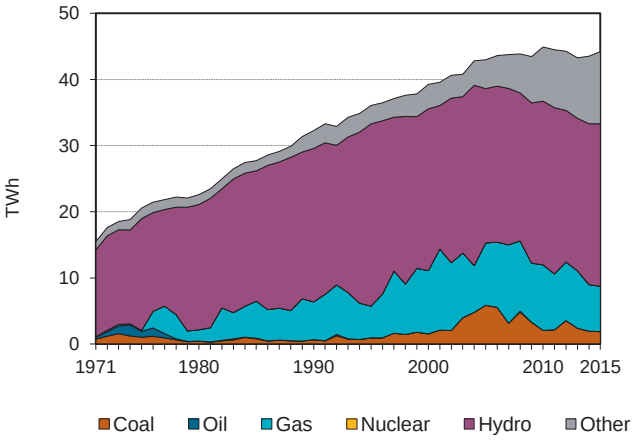


Figure 4. CO_2 from electricity generation: driving factors[1]

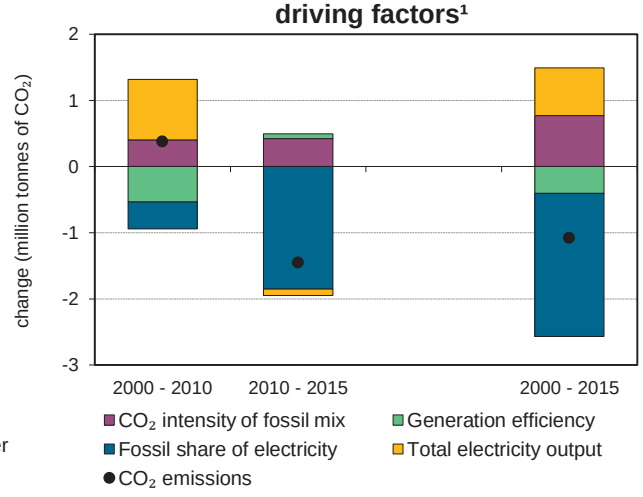


Figure 5. Changes in selected indicators

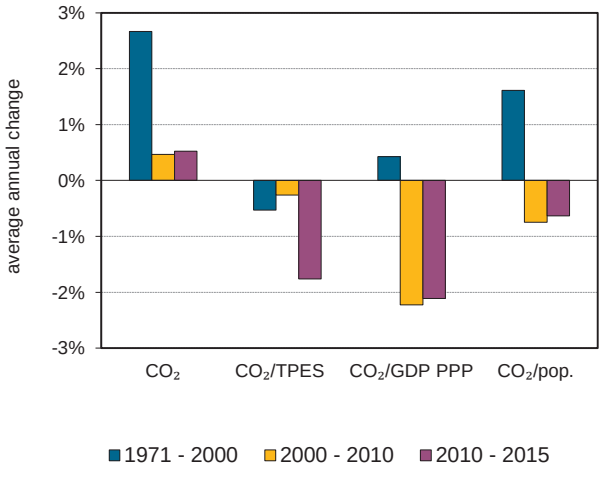
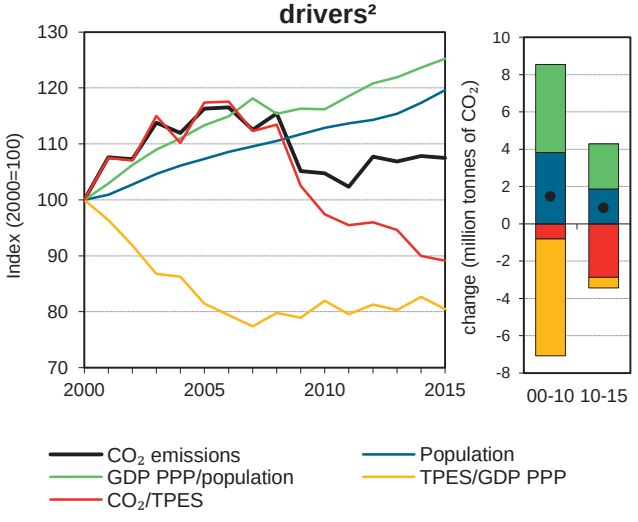


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

New Zealand

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	21.8	23.9	29.0	33.7	30.3	31.2	31.2	43%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	537	623	716	709	770	858	864	61%
GDP (billion 2010 USD)	82.7	96.6	111.7	135.9	146.6	162.0	167.4	102%
GDP PPP (billion 2010 USD)	76.7	89.6	103.7	126.1	136.0	150.3	155.3	102%
Population (millions)	3.4	3.7	3.9	4.1	4.4	4.5	4.6	37%
CO_2 / TPES (tCO_2 per TJ)	40.5	38.4	40.5	47.5	39.4	36.4	36.1	-11%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.26	0.2	0.3	0.2	0.2	0.2	0.2	-29%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.28	0.3	0.3	0.3	0.2	0.2	0.2	-29%
CO_2 / population (tCO_2 per capita)	6.5	6.5	7.5	8.1	7.0	6.9	6.7	5%
Share of electricity output from fossil fuels	20%	16%	28%	36%	27%	21%	20%	
CO_2 / kWh of electricity (gCO_2/kWh)	110	90	168	242	155	131	124	13%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	110	133	155	140	144	143	43%
Population index	100	109	115	123	129	134	137	37%
GDP PPP per population index	100	107	118	134	137	146	148	48%
Energy intensity index - TPES / GDP PPP	100	99	99	80	81	81	79	-21%
Carbon intensity index - CO_2 / TPES	100	95	100	117	97	90	89	-11%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**5.5**	**18.5**	**7.1**	**-**	**31.2**	**43%**
Electricity and heat generation	2.6	-	2.8	-	5.5	55%
Other energy industry own use	0.3	0.9	0.5	-	1.7	68%
Manufacturing industries and construction	2.3	1.3	2.9	-	6.5	9%
Transport	-	14.4	0.0	-	14.4	66%
of which: road	-	*13.0*	*0.0*	-	*13.0*	75%
Other	0.3	2.0	0.9	-	3.2	19%
of which: residential	*0.0*	*0.2*	*0.3*	-	*0.6*	1%
of which: services	*0.1*	*0.4*	*0.4*	-	*1.0*	9%
Memo: international marine bunkers	-	*1.1*	-	-	*1.1*	*3%*
Memo: international aviation bunkers	-	*2.5*	-	-	*2.5*	*89%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	13.0	78.0	15.9	15.9
Manufacturing industries - gas	2.9	1.1	3.6	19.5
Main activity prod. elec. and heat - gas	2.8	-4.1	3.4	22.9
Manufacturing industries - coal	2.3	5.5	2.8	25.7
Non-specified other - oil	1.8	12.0	2.2	27.8
Unallocated autoproducers - coal	1.6	+	1.9	29.8
Other transport - oil	1.4	15.5	1.8	31.5
Manufacturing industries - oil	1.3	45.0	1.6	33.1
Main activity prod. elec. and heat - coal	1.1	128.2	1.3	34.4
Memo: total CO_2 from fuel combustion	*31.2*	*43.3*	*38.2*	*38.2*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Nicaragua

Figure 1. CO_2 emissions by fuel

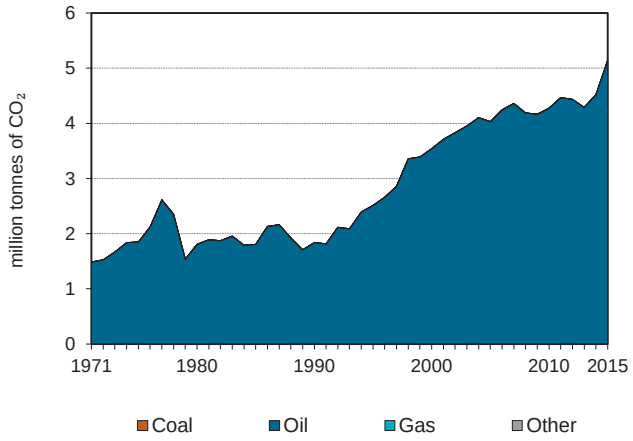


Figure 2. CO_2 emissions by sector

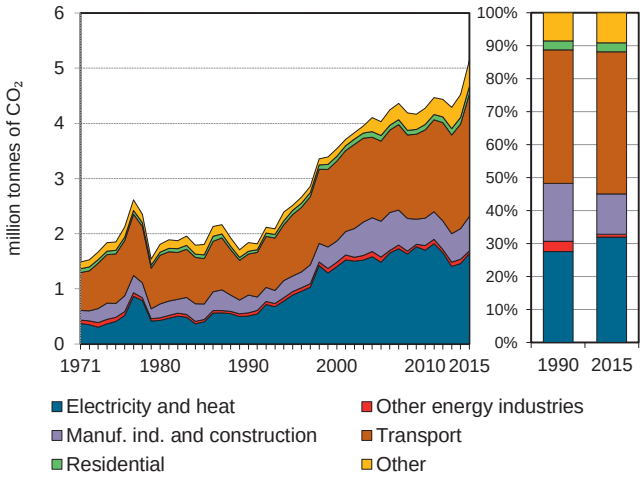


Figure 3. Electricity generation by fuel

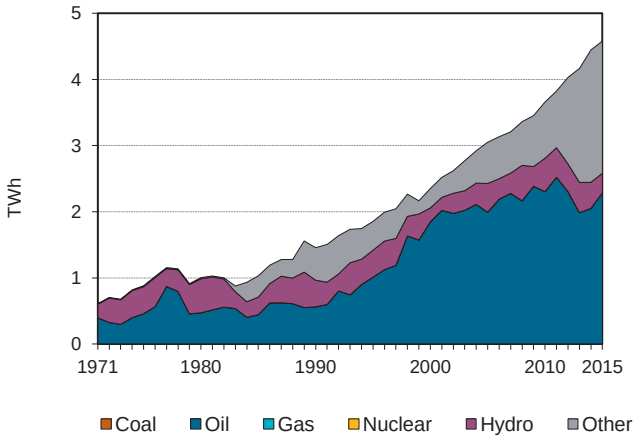


Figure 4. CO_2 from electricity generation: driving factors[1]

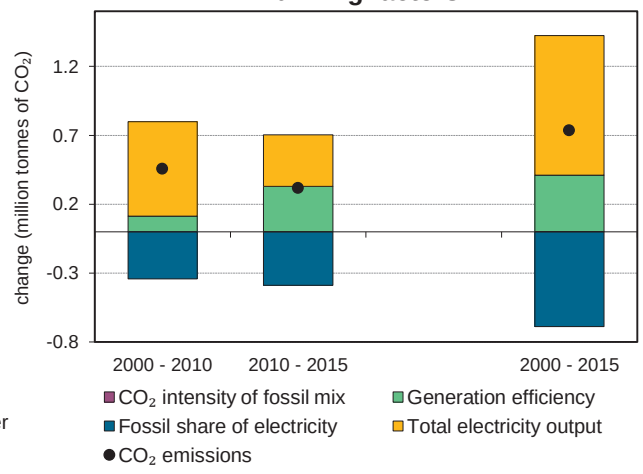


Figure 5. Changes in selected indicators

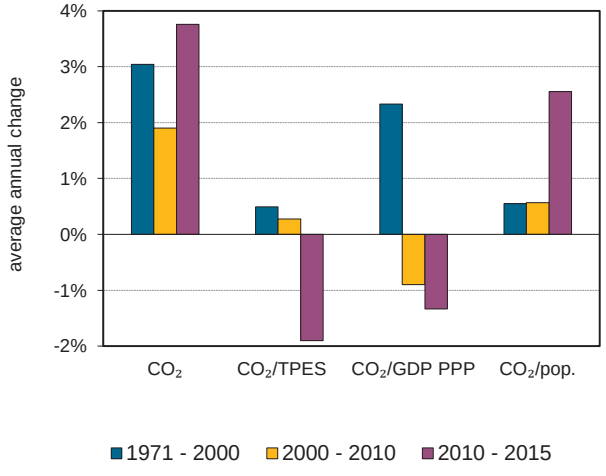
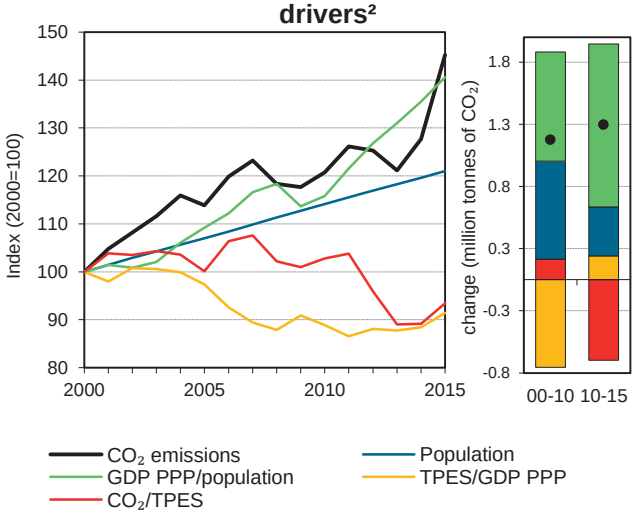


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Nicaragua

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	1.8	2.5	3.5	4.0	4.3	4.5	5.1	180%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	85	95	105	120	124	151	164	94%
GDP (billion 2010 USD)	4.7	5.2	6.6	7.7	8.7	10.7	11.2	137%
GDP PPP (billion 2010 USD)	12.3	13.4	17.1	20.0	22.6	27.7	29.1	137%
Population (millions)	4.2	4.6	5.0	5.4	5.7	6.0	6.1	47%
CO_2 / TPES (tCO_2 per TJ)	21.8	26.6	33.6	33.6	34.5	30.0	31.4	44%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.39	0.5	0.5	0.5	0.5	0.4	0.5	18%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.15	0.2	0.2	0.2	0.2	0.2	0.2	18%
CO_2 / population (tCO_2 per capita)	0.4	0.5	0.7	0.7	0.7	0.8	0.8	91%
Share of electricity output from fossil fuels	39%	55%	79%	65%	63%	46%	50%	
CO_2 / kWh of electricity (gCO_2/kWh)	348	478	597	486	465	328	358	3%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	137	193	219	233	246	280	180%
Population index	100	111	121	130	138	145	147	47%
GDP PPP per population index	100	98	115	126	133	156	162	62%
Energy intensity index - TPES / GDP PPP	100	102	89	87	79	79	82	-18%
Carbon intensity index - CO_2 / TPES	100	122	155	155	159	138	144	44%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**5.1**	**-**	**-**	**5.1**	**180%**
Electricity and heat generation	-	1.6	-	-	1.6	223%
Other energy industry own use	-	0.0	-	-	0.0	-16%
Manufacturing industries and construction	-	0.6	-	-	0.6	95%
Transport	-	2.2	-	-	2.2	198%
of which: road	-	*2.0*	-	-	*2.0*	183%
Other	-	0.6	-	-	0.6	194%
of which: residential	-	*0.1*	-	-	*0.1*	184%
of which: services	-	*0.4*	-	-	*0.4*	402%
Memo: international marine bunkers	-	..	-	-	..	..
Memo: international aviation bunkers	-	*0.1*	-	-	*0.1*	*-4%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	2.0	183.2	12.5	12.5
Main activity prod. elec. and heat - oil	1.6	227.1	10.0	22.4
Manufacturing industries - oil	0.6	94.8	3.9	26.3
Non-specified other - oil	0.5	197.2	2.9	29.3
Other transport - oil	0.2	469.0	1.4	30.6
Residential - oil	0.1	183.7	0.9	31.5
Other energy industry own use - oil	0.0	-16.1	0.3	31.8
Unallocated autoproducers - oil	0.0	118.5	0.3	32.1
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*5.1*	*179.7*	*32.1*	*32.1*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Niger [1]

Figure 1. CO_2 emissions by fuel

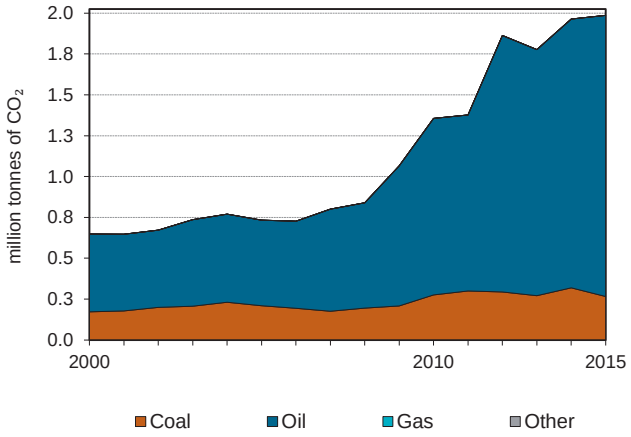


Figure 2. CO_2 emissions by sector

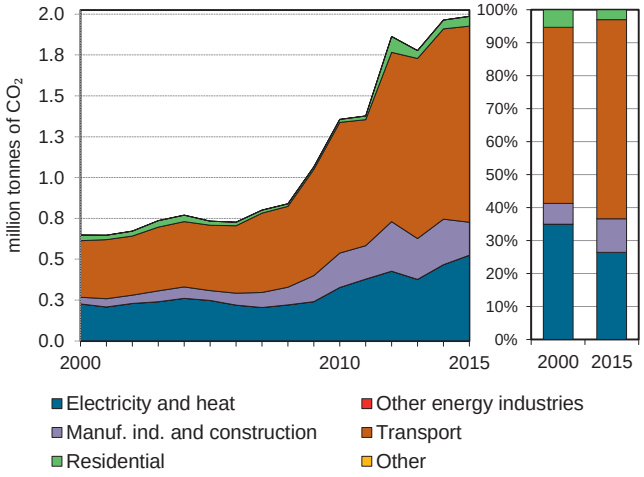


Figure 3. Electricity generation by fuel

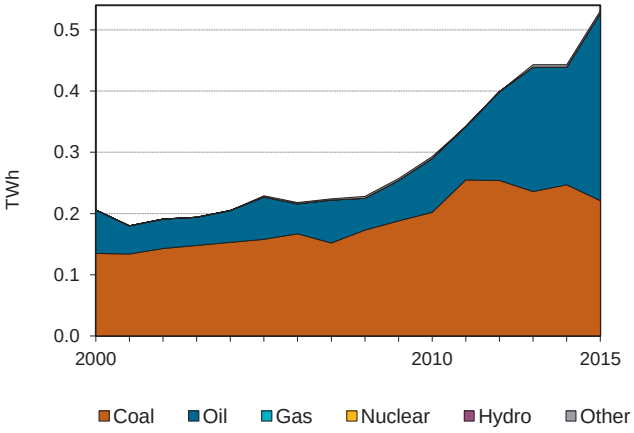


Figure 4. CO_2 from electricity generation: driving factors[2]

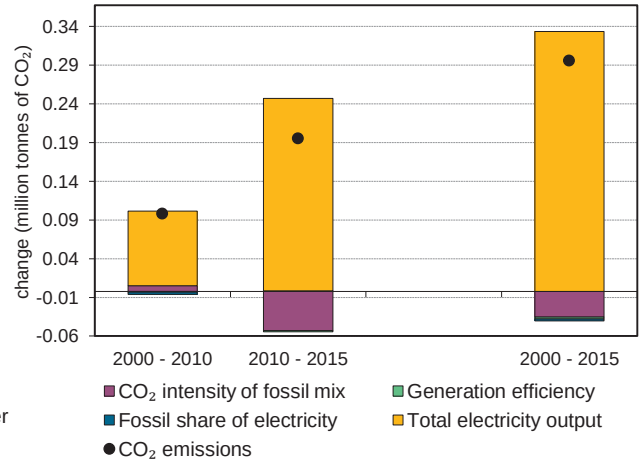


Figure 5. Changes in selected indicators

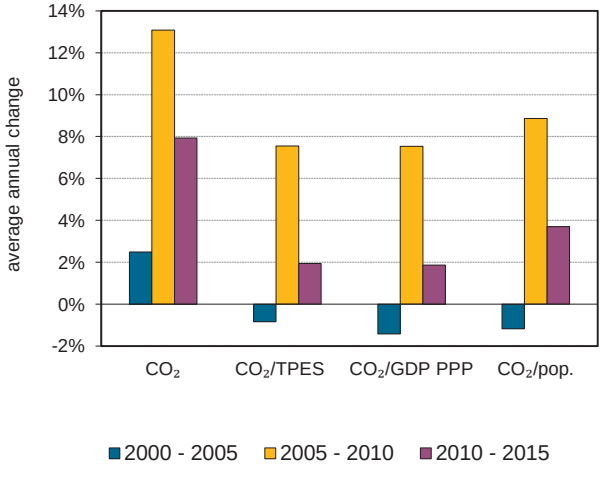
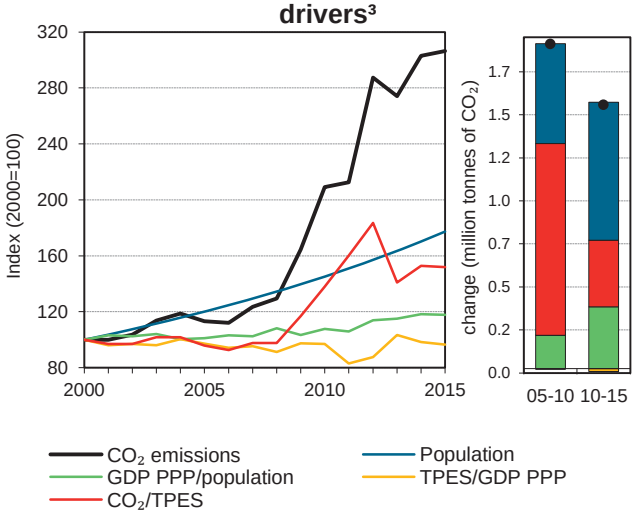


Figure 6. Total CO_2 emissions and drivers[3]



1. Prior to 2000, data for Niger were included in Other Africa.
2. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
3. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Niger [1]

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 00-15
CO_2 fuel combustion ($MtCO_2$)	..	..	0.6	0.7	1.4	2.0	2.0	207%
Share of World CO_2 from fuel combustion	..	..	0%	0%	0%	0%	0%	
TPES (PJ)	..	..	62	73	93	122	124	102%
GDP (billion 2010 USD)	..	..	3.7	4.4	5.7	7.4	7.6	109%
GDP PPP (billion 2010 USD)	..	..	8.4	10.2	13.1	16.9	17.5	109%
Population (millions)	..	..	11.2	13.5	16.3	19.1	19.9	77%
CO_2 / TPES (tCO_2 per TJ)	..	..	10.5	10.1	14.5	16.1	16.0	52%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	..	..	0.2	0.2	0.2	0.3	0.3	47%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	..	..	0.1	0.1	0.1	0.1	0.1	47%
CO_2 / population (tCO_2 per capita)	..	..	0.1	0.1	0.1	0.1	0.1	73%
Share of electricity output from fossil fuels	..	..	100%	99%	99%	99%	99%	
CO_2 / kWh of electricity (gCO_2/kWh)	..	..	1100	1083	1116	1053	988	-10%
CO_2 emissions and drivers - Kaya decomposition (2000=100) [2]								
CO_2 emissions index	..	..	100	113	209	303	307	207%
Population index	..	..	100	120	145	170	177	77%
GDP PPP per population index	..	..	100	101	108	118	118	18%
Energy intensity index - TPES / GDP PPP	..	..	100	97	97	98	97	-3%
Carbon intensity index - CO_2 / TPES	..	..	100	96	138	153	152	52%

1. Prior to 2000, data for Niger were included in Other Africa. 2. Please see Part I for methodological notes.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [3]	Total	%change 00-15
CO_2 fuel combustion	**0.3**	**1.7**	**-**	**-**	**2.0**	**207%**
Electricity and heat generation	0.3	0.3	-	-	0.5	132%
Other energy industry own use	-	-	-	-	-	-
Manufacturing industries and construction	-	0.2	-	-	0.2	392%
Transport	-	1.2	-	-	1.2	247%
of which: road	-	*1.2*	-	-	*1.2*	247%
Other	-	0.1	-	-	0.1	74%
of which: residential	-	*0.1*	-	-	*0.1*	74%
of which: services	-	-	-	-	-	-
Memo: international marine bunkers	-	-	-	-	-	-
Memo: international aviation bunkers	-	*0.1*	-	-	*0.1*	*173%*

3. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 00-15	Level assessment[4] (%)	Cumulative total (%)
Road - oil	1.2	246.9	..	..
Main activity prod. elec. and heat - coal	0.3	54.5	..	..
Manufacturing industries - oil	0.2	392.2	..	..
Main activity prod. elec. and heat - oil	0.1	181.8	..	..
Unallocated autoproducers - oil	0.1	+	..	..
Residential - oil	0.1	73.6	..	..
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*2.0*	*206.5*	..	..

4. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Nigeria

Figure 1. CO_2 emissions by fuel

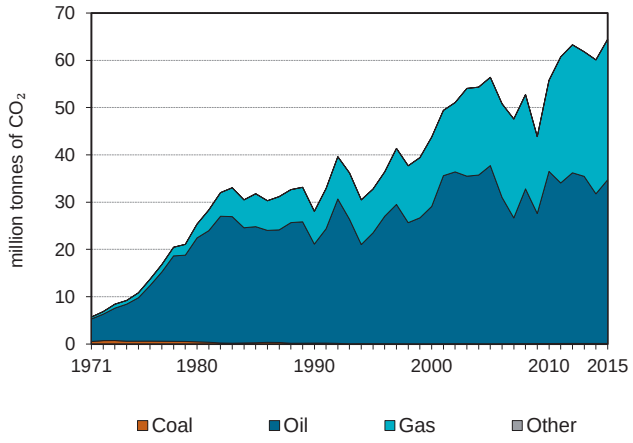


Figure 2. CO_2 emissions by sector

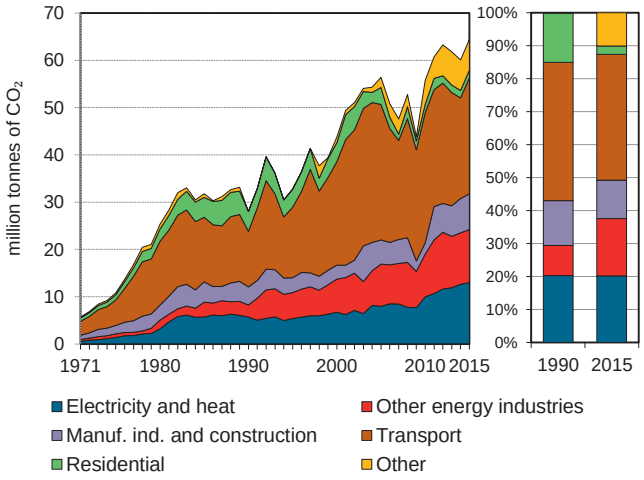


Figure 3. Electricity generation by fuel

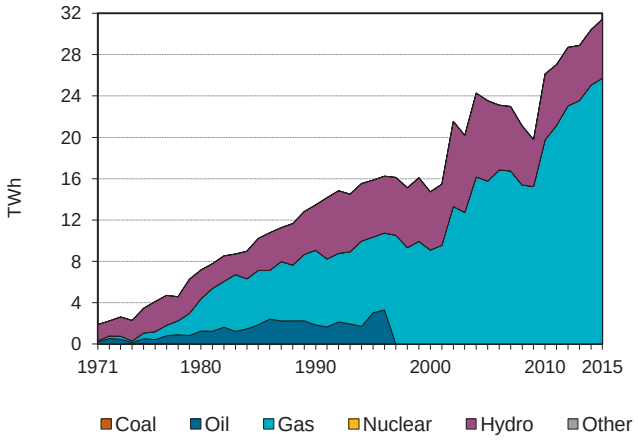


Figure 4. CO_2 from electricity generation: driving factors[1]

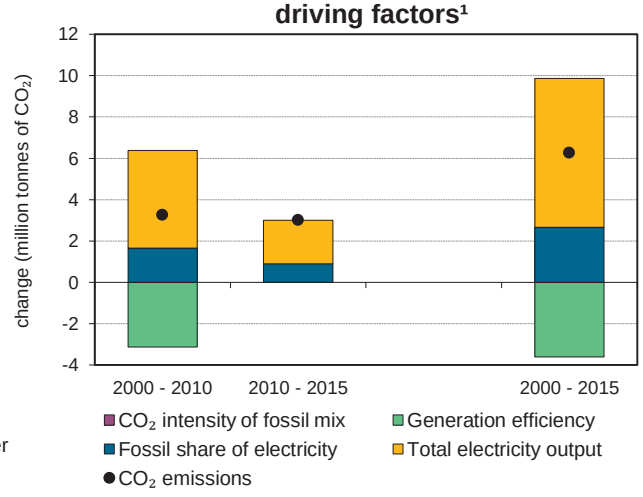


Figure 5. Changes in selected indicators

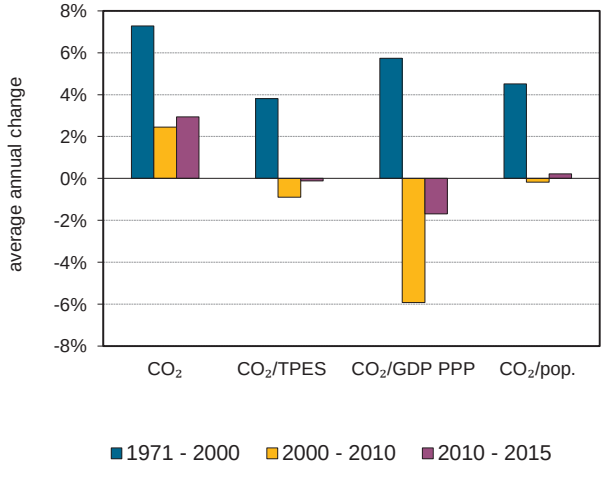
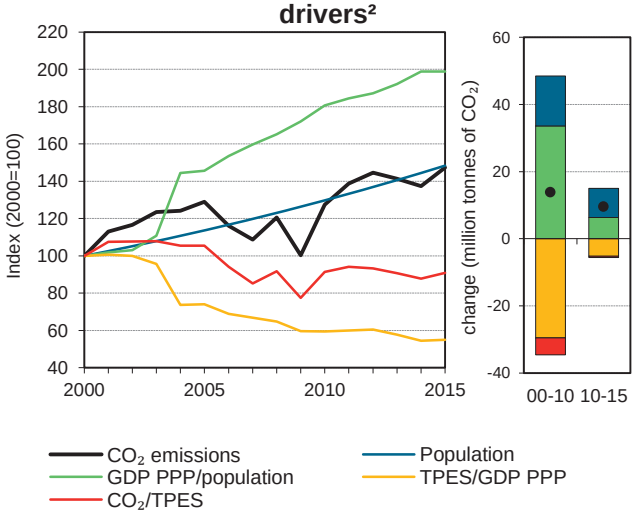


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Nigeria

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	28.1	32.8	43.8	56.4	55.8	60.1	64.4	130%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	2781	3 085	3 602	4 407	5 022	5 634	5 835	110%
GDP (billion 2010 USD)	130.3	133.5	156.6	259.2	367.1	449.9	461.8	255%
GDP PPP (billion 2010 USD)	283.9	291.0	341.4	564.8	800.2	980.6	1 006.6	255%
Population (millions)	95.6	108.4	122.9	139.6	159.4	177.5	182.2	91%
CO_2 / TPES (tCO_2 per TJ)	10.1	10.6	12.1	12.8	11.1	10.7	11.0	9%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.22	0.2	0.3	0.2	0.2	0.1	0.1	-35%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-35%
CO_2 / population (tCO_2 per capita)	0.3	0.3	0.4	0.4	0.3	0.3	0.4	21%
Share of electricity output from fossil fuels	67%	65%	62%	67%	76%	82%	82%	
CO_2 / kWh of electricity (gCO_2/kWh)	423	339	456	338	382	416	413	-2%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	117	156	201	199	214	230	130%
Population index	100	113	129	146	167	186	191	91%
GDP PPP per population index	100	90	94	136	169	186	186	86%
Energy intensity index - TPES / GDP PPP	100	108	108	80	64	59	59	-41%
Carbon intensity index - CO_2 / TPES	100	105	120	127	110	106	109	9%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**0.1**	**34.6**	**29.7**	**-**	**64.4**	**130%**
Electricity and heat generation	-	-	13.0	-	13.0	128%
Other energy industry own use	-	0.5	10.7	-	11.2	342%
Manufacturing industries and construction	0.1	1.4	6.0	-	7.5	97%
Transport	-	24.6	-	-	24.6	109%
of which: road	-	*24.5*	-	-	*24.5*	113%
Other	-	8.1	-	-	8.1	92%
of which: residential	-	*1.6*	-	-	*1.6*	-62%
of which: services	-	*0.0*	-	-	*0.0*	-65%
Memo: international marine bunkers	-	*1.2*	-	-	*1.2*	*101%*
Memo: international aviation bunkers	-	*1.1*	-	-	*1.1*	*12%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	24.5	112.9	7.5	7.5
Other energy industry own use - gas	10.7	979.8	3.3	10.8
Main activity prod. elec. and heat - gas	10.1	139.2	3.1	13.9
Non-specified other - oil	6.5	+	2.0	15.9
Manufacturing industries - gas	6.0	257.2	1.8	17.8
Unallocated autoproducers - gas	2.8	x	0.9	18.7
Residential - oil	1.6	-61.5	0.5	19.1
Manufacturing industries - oil	1.4	-29.3	0.4	19.6
Other energy industry own use - oil	0.5	-66.7	0.2	19.7
Memo: total CO_2 from fuel combustion	*64.4*	*129.7*	*19.8*	*19.8*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Norway

Figure 1. CO_2 emissions by fuel

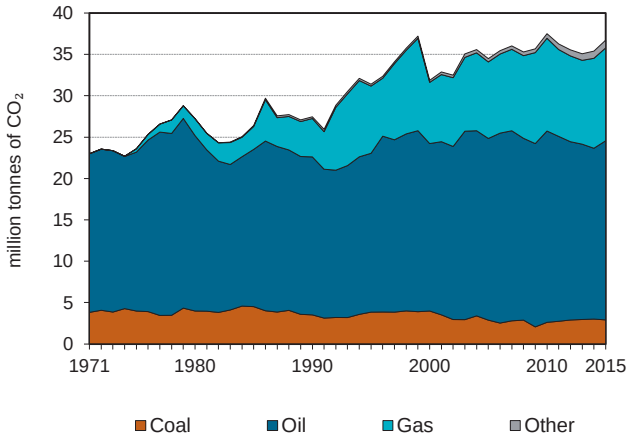


Figure 2. CO_2 emissions by sector

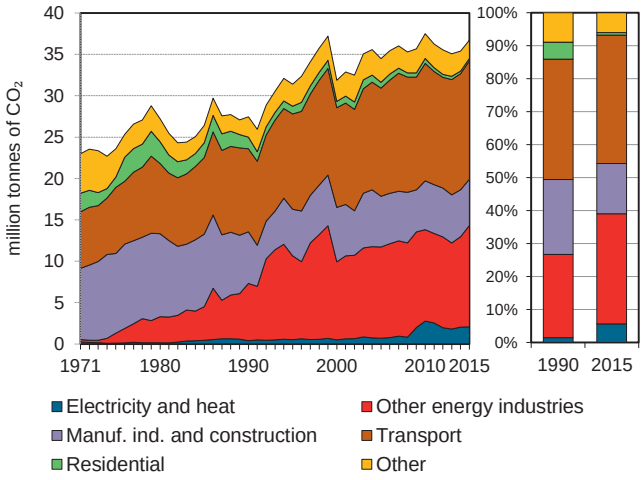


Figure 3. Electricity generation by fuel

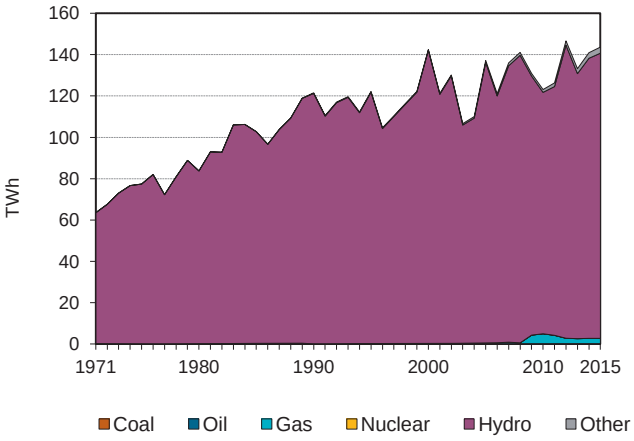


Figure 4. CO_2 from electricity generation: driving factors[1]

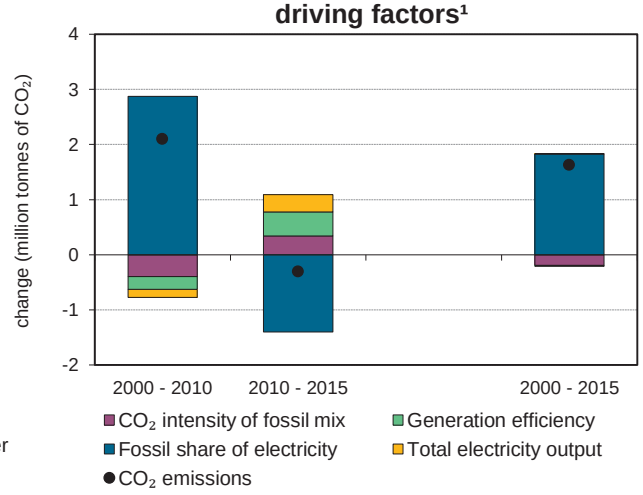


Figure 5. Changes in selected indicators

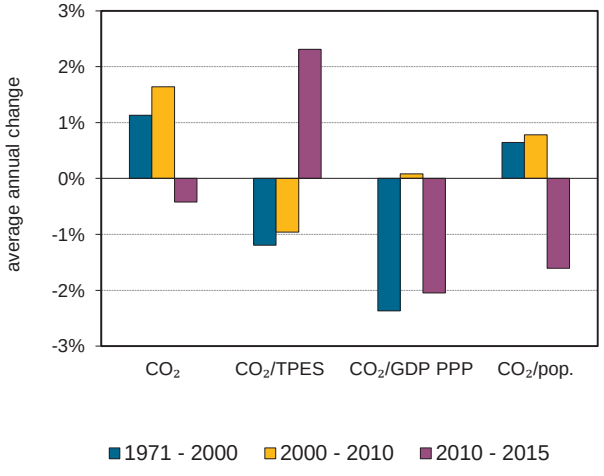
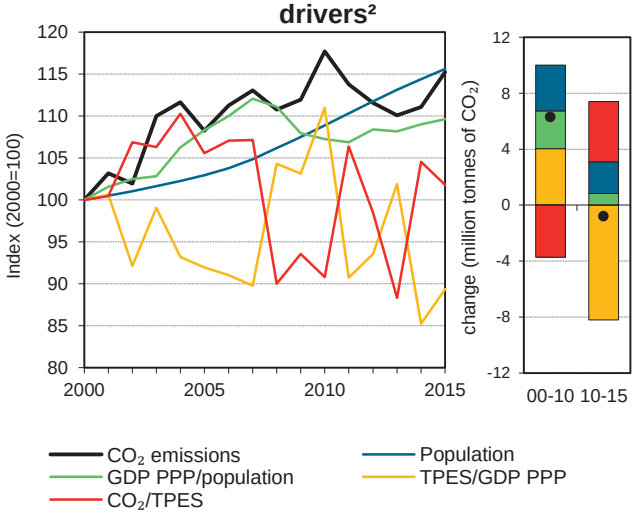


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Norway

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	27.5	31.4	31.9	34.5	37.5	35.4	36.7	34%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	882	984	1 095	1 123	1 420	1 164	1 240	41%
GDP (billion 2010 USD)	255.7	307.2	367.1	409.3	428.5	457.6	465.0	82%
GDP PPP (billion 2010 USD)	169.2	203.3	242.9	270.8	283.6	302.8	307.7	82%
Population (millions)	4.2	4.4	4.5	4.6	4.9	5.1	5.2	22%
CO_2 / TPES (tCO_2 per TJ)	31.1	31.9	29.1	30.7	26.4	30.4	29.6	-5%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.11	0.1	0.1	0.1	0.1	0.1	0.1	-26%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.16	0.2	0.1	0.1	0.1	0.1	0.1	-26%
CO_2 / population (tCO_2 per capita)	6.5	7.2	7.1	7.5	7.7	6.9	7.1	9%
Share of electricity output from fossil fuels	0%	0%	0%	1%	4%	2%	2%	
CO_2 / kWh of electricity (gCO_2/kWh)	1	1	1	2	16	9	9	595%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	114	116	126	137	129	134	34%
Population index	100	103	106	109	115	121	122	22%
GDP PPP per population index	100	117	136	147	145	148	149	49%
Energy intensity index - TPES / GDP PPP	100	93	87	80	96	74	77	-23%
Carbon intensity index - CO_2 / TPES	100	103	93	99	85	98	95	-5%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**2.9**	**21.6**	**11.2**	**0.9**	**36.7**	**34%**
Electricity and heat generation	0.2	0.1	0.9	0.9	2.1	425%
Other energy industry own use	-	2.9	9.4	-	12.3	77%
Manufacturing industries and construction	2.7	2.3	0.6	0.0	5.6	-10%
Transport	-	14.0	0.3	-	14.3	43%
of which: road	-	*10.9*	*0.0*	-	*10.9*	42%
Other	-	2.4	0.1	-	2.5	-35%
of which: residential	-	*0.3*	*0.0*	-	*0.3*	-79%
of which: services	-	*0.4*	*0.0*	-	*0.5*	-56%
Memo: international marine bunkers	-	*0.6*	-	-	*0.6*	*-57%*
Memo: international aviation bunkers	-	*1.5*	-	-	*1.5*	*18%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	10.9	41.4	19.6	19.6
Other energy industry own use - gas	9.4	101.7	16.9	36.6
Other transport - oil	3.2	35.0	5.7	42.3
Other energy industry own use - oil	2.9	26.9	5.2	47.6
Manufacturing industries - coal	2.7	-19.4	4.9	52.4
Manufacturing industries - oil	2.3	-22.3	4.1	56.5
Non-specified other - oil	2.1	-13.8	3.8	60.3
Unallocated autoproducers - gas	0.9	x	1.6	61.9
Main activity prod. elec. and heat - other	0.8	305.8	1.5	63.4
Memo: total CO_2 from fuel combustion	*36.7*	*33.7*	*66.4*	*66.4*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Oman

Figure 1. CO_2 emissions by fuel

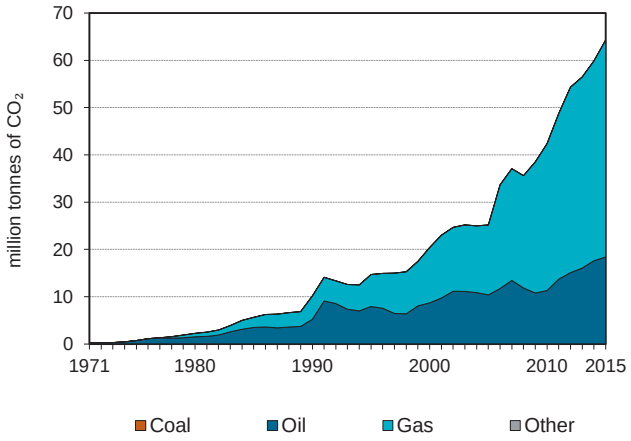


Figure 2. CO_2 emissions by sector

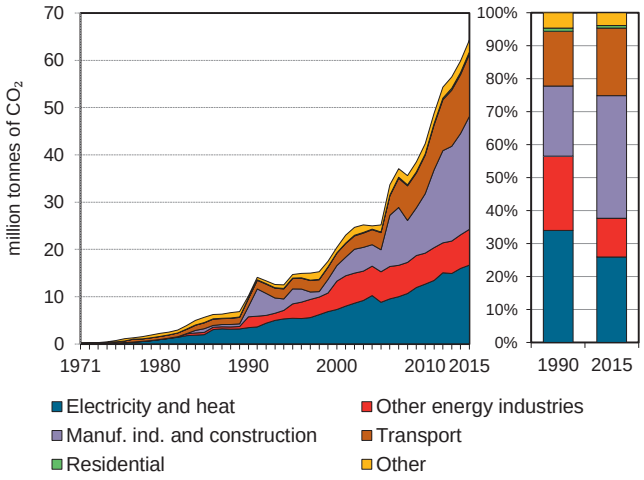


Figure 3. Electricity generation by fuel

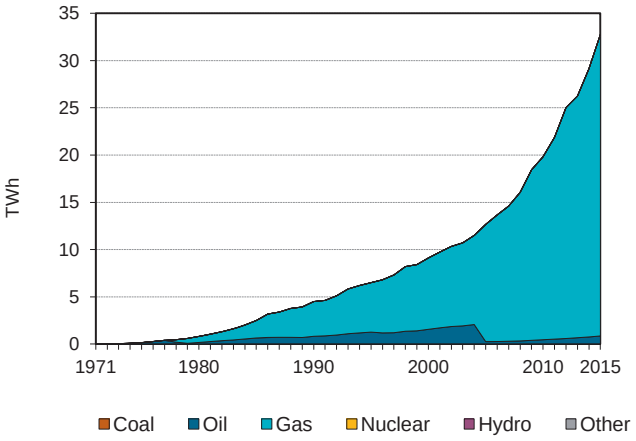


Figure 4. CO_2 from electricity generation: driving factors[1]

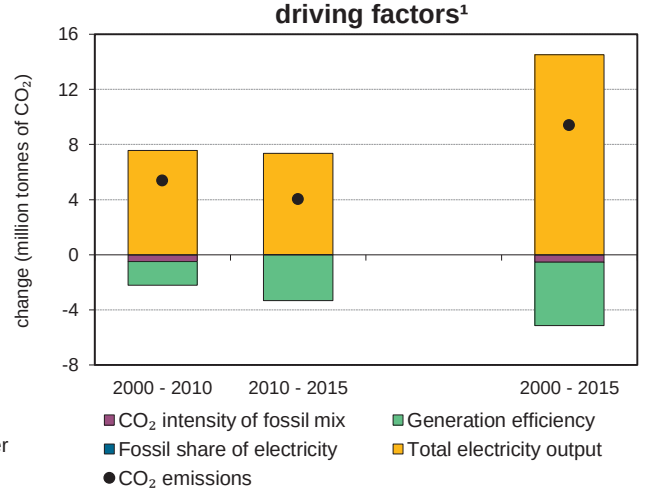


Figure 5. Changes in selected indicators

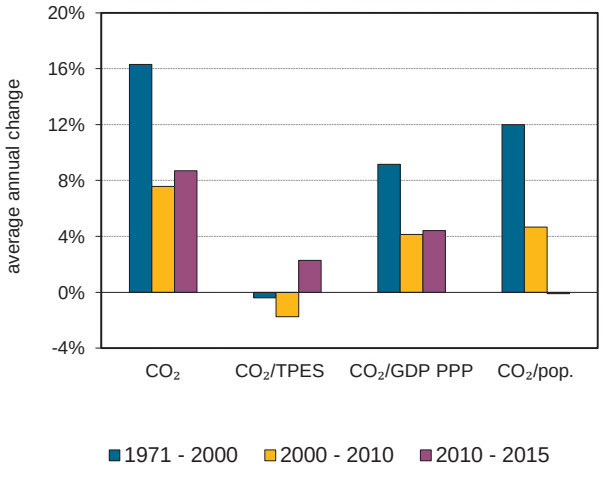
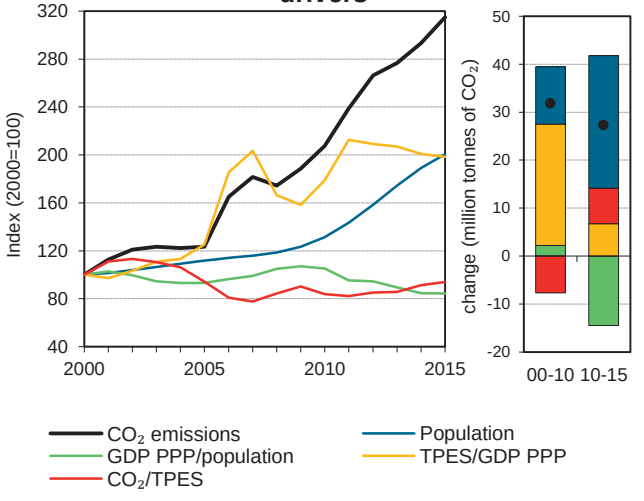


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Oman

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	10.2	14.7	20.4	25.2	42.4	59.9	64.3	533%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	177	255	317	415	784	1 019	1 063	502%
GDP (billion 2010 USD)	27	35.9	42.4	44.3	58.6	67.9	71.7	165%
GDP PPP (billion 2010 USD)	62.2	82.7	97.7	102.0	135.1	156.3	165.1	165%
Population (millions)	1.8	2.2	2.2	2.5	2.9	4.2	4.5	148%
CO_2 / TPES (tCO_2 per TJ)	57.5	57.5	64.4	60.7	54.0	58.8	60.5	5%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.38	0.4	0.5	0.6	0.7	0.9	0.9	138%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.16	0.2	0.2	0.2	0.3	0.4	0.4	138%
CO_2 / population (tCO_2 per capita)	5.6	6.7	9.1	10.0	14.4	14.1	14.3	155%
Share of electricity output from fossil fuels	100%	100%	100%	100%	100%	100%	100%	
CO_2 / kWh of electricity (gCO_2/kWh)	767	836	800	696	639	549	509	-34%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	145	201	248	417	589	633	533%
Population index	100	121	124	138	162	234	248	148%
GDP PPP per population index	100	110	127	119	134	107	107	7%
Energy intensity index - TPES / GDP PPP	100	109	114	143	204	229	227	127%
Carbon intensity index - CO_2 / TPES	100	100	112	106	94	102	105	5%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**18.4**	**45.9**	**-**	**64.3**	**533%**
Electricity and heat generation	-	0.6	16.0	-	16.7	383%
Other energy industry own use	-	0.6	6.9	-	7.6	231%
Manufacturing industries and construction	-	1.3	22.6	-	23.9	+
Transport	-	13.1	-	-	13.1	681%
of which: road	-	*13.1*	-	-	*13.1*	681%
Other	-	2.6	0.4	-	3.0	424%
of which: residential	-	*0.5*	-	-	*0.5*	371%
of which: services	-	-	-	-	-	-
Memo: international marine bunkers	-	*4.0*	-	-	*4.0*	+
Memo: international aviation bunkers	-	*1.6*	-	-	*1.6*	*71%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Manufacturing industries - gas	22.6	+	21.1	21.1
Main activity prod. elec. and heat - gas	16.0	523.5	15.0	36.1
Road - oil	13.1	680.5	12.3	48.4
Other energy industry own use - gas	6.9	329.7	6.5	54.9
Non-specified other - oil	2.1	596.9	2.0	56.9
Manufacturing industries - oil	1.3	-14.5	1.3	58.1
Main activity prod. elec. and heat - oil	0.6	-26.5	0.6	58.7
Other energy industry own use - oil	0.6	-5.8	0.6	59.3
Residential - oil	0.5	371.4	0.5	59.8
Memo: total CO_2 from fuel combustion	*64.3*	*532.9*	*60.1*	*60.1*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Pakistan

Figure 1. CO_2 emissions by fuel

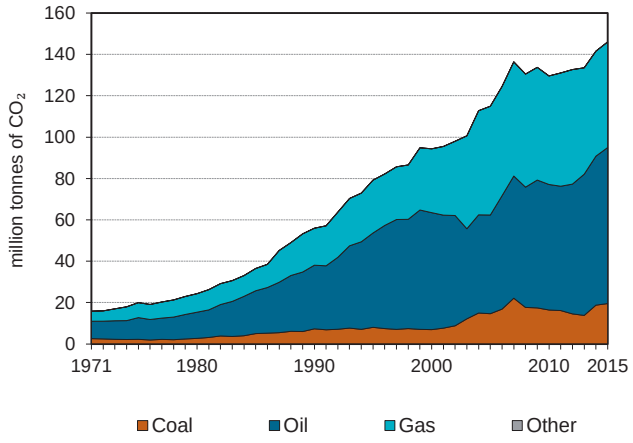


Figure 2. CO_2 emissions by sector

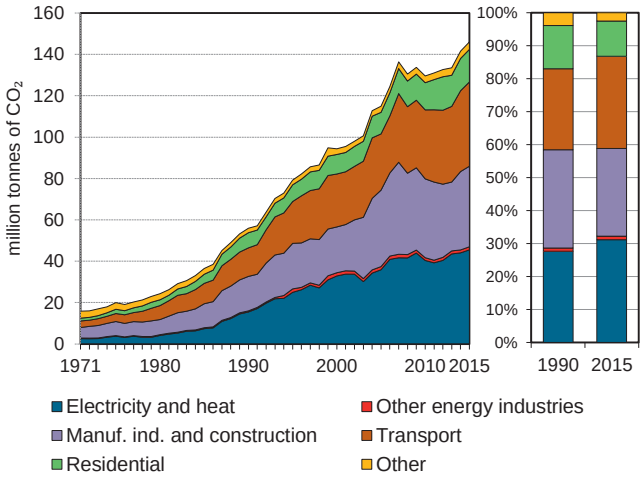


Figure 3. Electricity generation by fuel

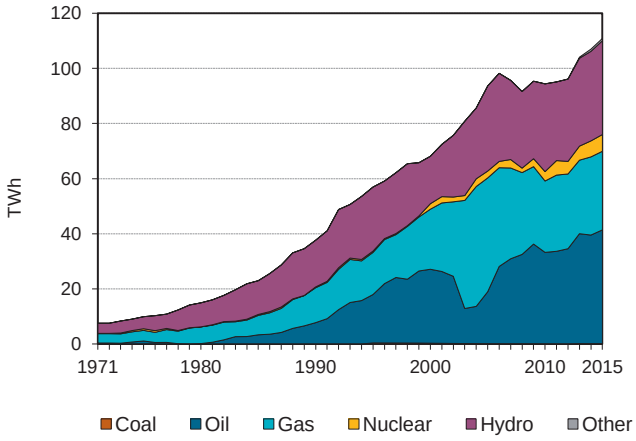


Figure 4. CO_2 from electricity generation: driving factors[1]

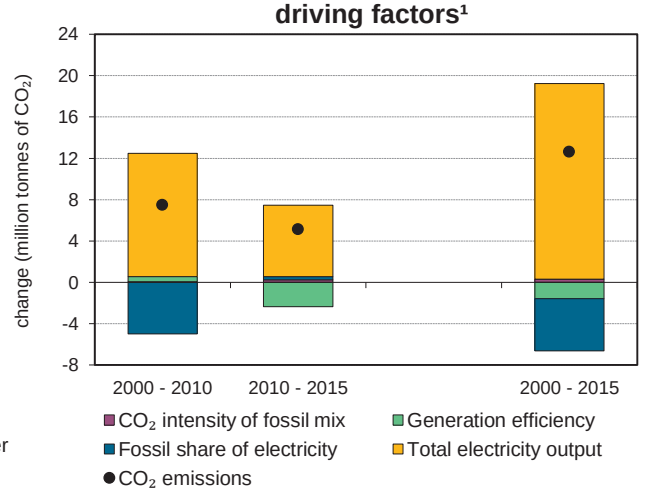


Figure 5. Changes in selected indicators

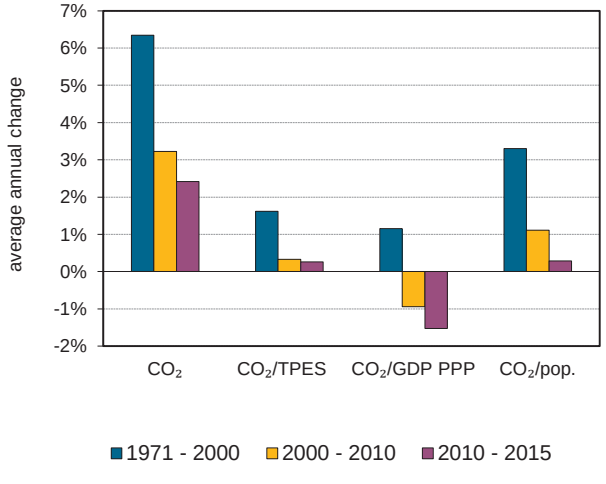
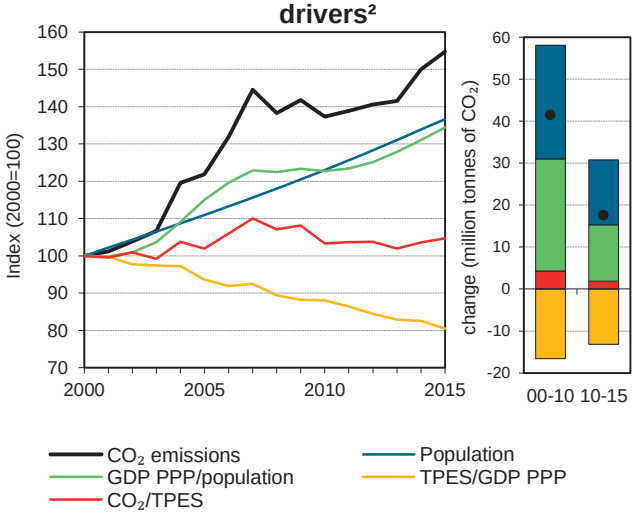


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Pakistan

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	56	79.2	94.4	115.0	129.6	141.6	146.0	161%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	1796	2 242	2 660	3 178	3 534	3 852	3 932	119%
GDP (billion 2010 USD)	79.9	100.1	117.6	150.0	177.4	206.2	215.9	170%
GDP PPP (billion 2010 USD)	322.3	404.1	474.3	605.2	715.8	831.9	871.1	170%
Population (millions)	107.6	122.6	138.3	153.4	170.0	185.0	188.9	76%
CO_2 / TPES (tCO_2 per TJ)	31.2	35.3	35.5	36.2	36.7	36.8	37.1	19%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.7	0.8	0.8	0.8	0.7	0.7	0.7	-3%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.17	0.2	0.2	0.2	0.2	0.2	0.2	-3%
CO_2 / population (tCO_2 per capita)	0.5	0.6	0.7	0.7	0.8	0.8	0.8	49%
Share of electricity output from fossil fuels	54%	58%	72%	64%	63%	63%	63%	
CO_2 / kWh of electricity (gCO_2/kWh)	411	439	483	383	428	412	410	0%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	142	169	205	232	253	261	161%
Population index	100	114	128	143	158	172	176	76%
GDP PPP per population index	100	110	115	132	141	150	154	54%
Energy intensity index - TPES / GDP PPP	100	100	101	94	89	83	81	-19%
Carbon intensity index - CO_2 / TPES	100	113	114	116	118	118	119	19%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**19.5**	**75.4**	**51.1**	**-**	**146.0**	**161%**
Electricity and heat generation	0.4	29.8	15.4	-	45.5	194%
Other energy industry own use	-	1.2	0.3	-	1.5	177%
Manufacturing industries and construction	19.2	4.3	15.4	-	38.9	134%
Transport	-	37.3	3.5	-	40.8	196%
of which: road	-	*36.1*	*3.5*	-	*39.6*	207%
Other	-	2.9	16.5	-	19.3	104%
of which: residential	-	*1.1*	*14.6*	-	*15.7*	114%
of which: services	-	*1.5*	*1.8*	-	*3.4*	177%
Memo: international marine bunkers	-	*0.2*	-	-	*0.2*	*100%*
Memo: international aviation bunkers	-	*2.1*	-	-	*2.1*	*51%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	36.1	179.9	19.1	19.1
Main activity prod. elec. and heat - oil	29.8	327.4	15.8	34.9
Manufacturing industries - coal	19.2	164.7	10.2	45.1
Manufacturing industries - gas	15.4	189.9	8.2	53.3
Main activity prod. elec. and heat - gas	15.4	82.2	8.1	61.4
Residential - gas	14.6	318.7	7.7	69.2
Manufacturing industries - oil	4.3	5.9	2.3	71.5
Road - gas	3.5	+	1.9	73.3
Non-specified other - gas	1.8	187.4	1.0	74.3
Memo: total CO_2 from fuel combustion	*146.0*	*161.0*	*77.4*	*77.4*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Panama

Figure 1. CO_2 emissions by fuel

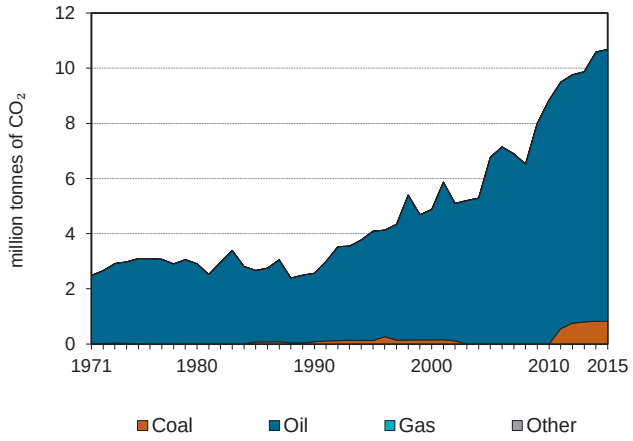


Figure 2. CO_2 emissions by sector

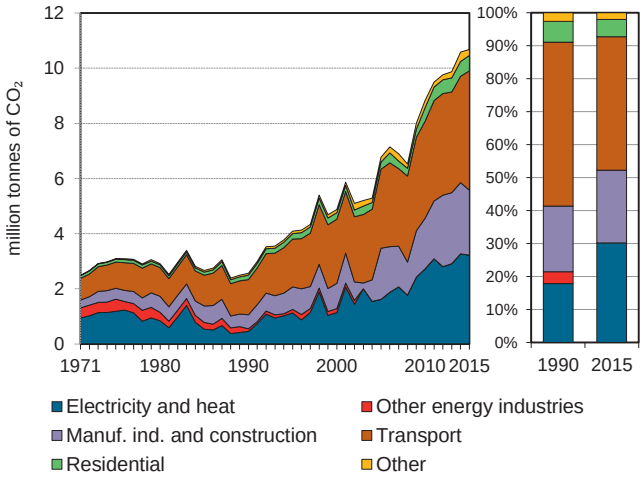


Figure 3. Electricity generation by fuel

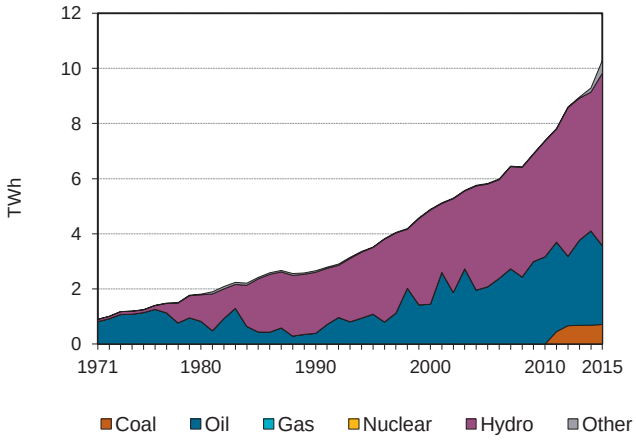


Figure 4. CO_2 from electricity generation: driving factors[1]

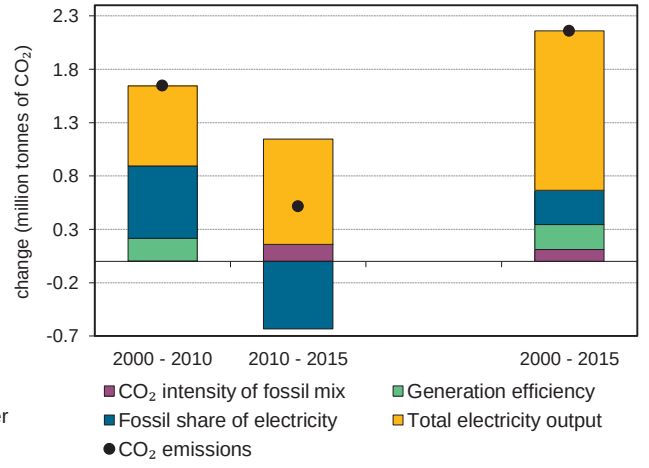


Figure 5. Changes in selected indicators

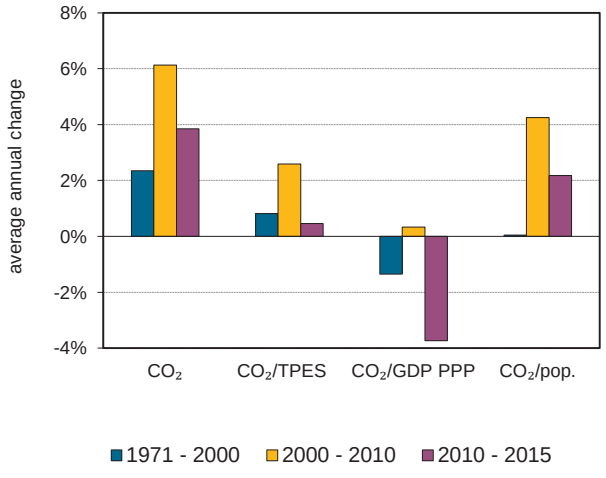
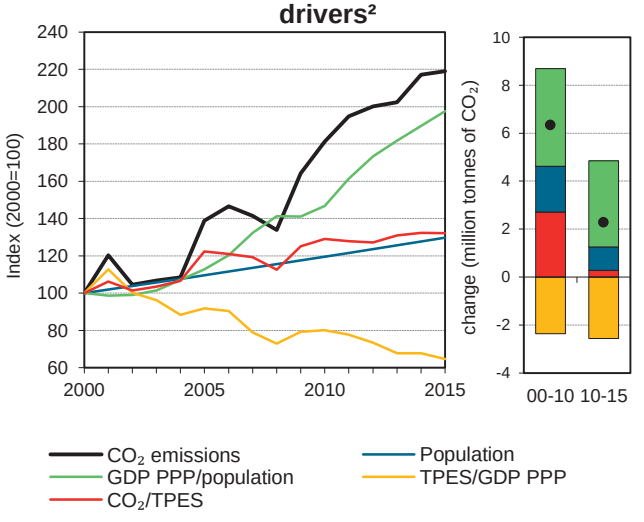


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Panama

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	2.6	4.1	4.9	6.8	8.8	10.6	10.7	317%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	62	84	108	122	151	176	178	186%
GDP (billion 2010 USD)	9.9	13.0	16.5	20.4	28.9	39.9	42.2	325%
GDP PPP (billion 2010 USD)	18.9	24.7	31.4	38.8	55.0	76.0	80.4	325%
Population (millions)	2.5	2.7	3.0	3.3	3.6	3.9	3.9	59%
CO_2 / TPES (tCO_2 per TJ)	41.1	48.9	45.3	55.5	58.5	60.0	59.9	46%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.26	0.3	0.3	0.3	0.3	0.3	0.3	-2%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.14	0.2	0.2	0.2	0.2	0.1	0.1	-2%
CO_2 / population (tCO_2 per capita)	1	1.5	1.6	2.0	2.4	2.7	2.7	162%
Share of electricity output from fossil fuels	15%	31%	30%	36%	43%	44%	35%	
CO_2 / kWh of electricity (gCO_2/kWh)	172	320	233	277	369	352	313	82%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	160	190	264	345	413	417	317%
Population index	100	111	123	134	147	157	159	59%
GDP PPP per population index	100	118	135	152	198	257	267	167%
Energy intensity index - TPES / GDP PPP	100	103	104	95	83	70	67	-33%
Carbon intensity index - CO_2 / TPES	100	119	110	135	143	146	146	46%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**0.8**	**9.9**	**-**	**-**	**10.7**	**317%**
Electricity and heat generation	0.8	2.4	-	-	3.2	604%
Other energy industry own use	-	-	-	-	-	-100%
Manufacturing industries and construction	-	2.4	-	-	2.4	362%
Transport	-	4.3	-	-	4.3	239%
of which: road	-	*4.3*	-	-	*4.3*	239%
Other	-	0.8	-	-	0.8	239%
of which: residential	-	*0.6*	-	-	*0.6*	244%
of which: services	-	*0.2*	-	-	*0.2*	126%
Memo: international marine bunkers	-	*10.2*	-	-	*10.2*	*103%*
Memo: international aviation bunkers	-	*2.0*	-	-	*2.0*	*902%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	4.3	239.0	24.9	24.9
Main activity prod. elec. and heat - oil	2.4	483.5	13.8	38.7
Manufacturing industries - oil	2.4	446.1	13.6	52.3
Main activity prod. elec. and heat - coal	0.8	x	4.8	57.1
Residential - oil	0.6	244.2	3.2	60.3
Non-specified other - oil	0.2	226.8	1.3	61.5
Other transport - oil	0.0	x	0.0	61.6
-	-	-	-	-
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*10.7*	*316.8*	*61.6*	*61.6*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Paraguay

Figure 1. CO_2 emissions by fuel

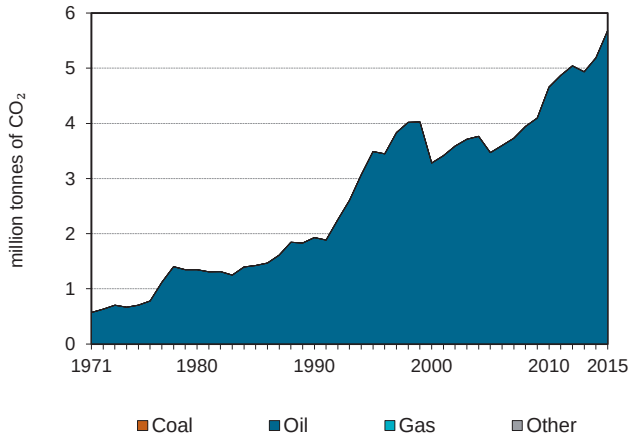


Figure 2. CO_2 emissions by sector

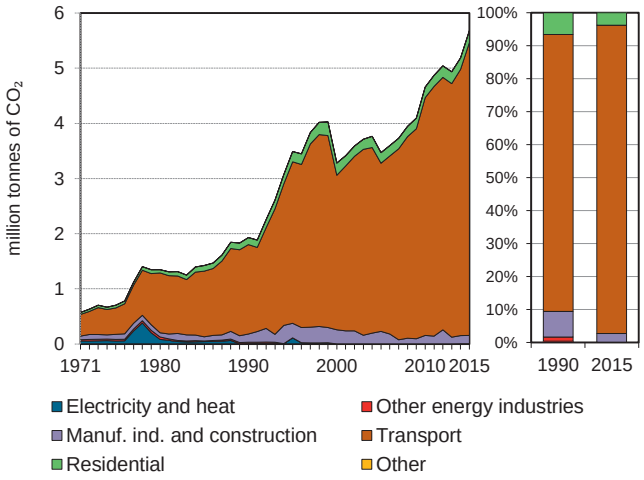


Figure 3. Electricity generation by fuel

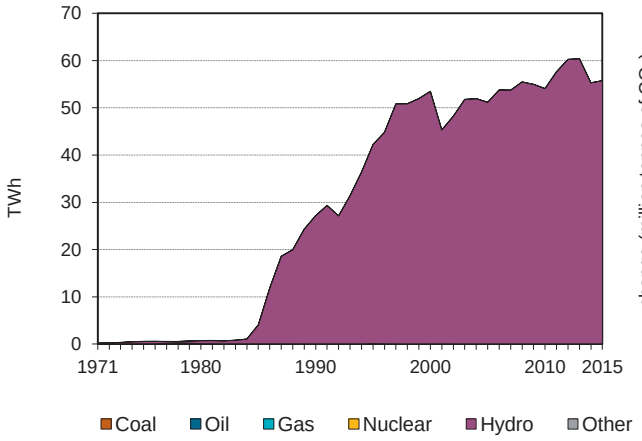


Figure 4. CO_2 from electricity generation: driving factors[1]

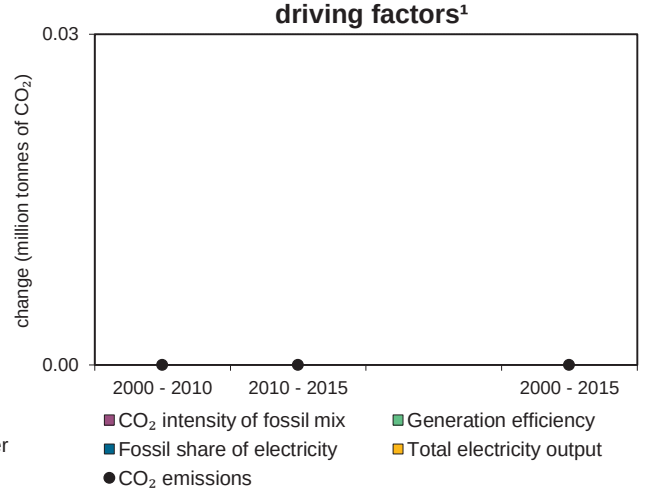


Figure 5. Changes in selected indicators

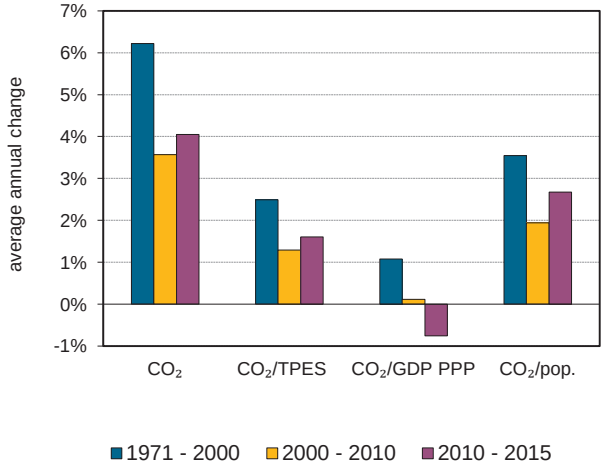
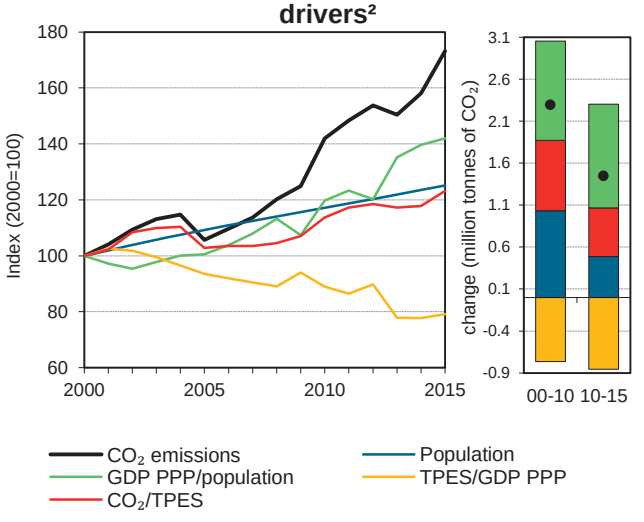


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Paraguay

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	1.9	3.5	3.3	3.5	4.7	5.2	5.7	194%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	129	164	161	166	201	216	227	76%
GDP (billion 2010 USD)	11.3	14.0	14.3	15.7	20.0	24.7	25.4	125%
GDP PPP (billion 2010 USD)	24.9	31.0	31.6	34.8	44.4	54.6	56.2	125%
Population (millions)	4.2	4.8	5.3	5.8	6.2	6.6	6.6	58%
CO_2 / TPES (tCO_2 per TJ)	15	21.2	20.3	20.9	23.1	24.0	25.1	67%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.17	0.2	0.2	0.2	0.2	0.2	0.2	31%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.08	0.1	0.1	0.1	0.1	0.1	0.1	31%
CO_2 / population (tCO_2 per capita)	0.5	0.7	0.6	0.6	0.7	0.8	0.9	87%
Share of electricity output from fossil fuels	0%	0%	0%	0%	0%	0%	0%	
CO_2 / kWh of electricity (gCO_2/kWh)	0	3	-	-	-	0	0	-76%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	181	170	180	241	269	294	194%
Population index	100	113	126	138	147	156	158	58%
GDP PPP per population index	100	110	101	101	121	141	143	43%
Energy intensity index - TPES / GDP PPP	100	103	99	92	88	77	78	-22%
Carbon intensity index - CO_2 / TPES	100	142	136	140	154	160	167	67%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**5.7**	**-**	**-**	**5.7**	**194%**
Electricity and heat generation	-	0.0	-	-	0.0	-50%
Other energy industry own use	-	-	-	-	-	-100%
Manufacturing industries and construction	-	0.2	-	-	0.2	2%
Transport	-	5.3	-	-	5.3	228%
of which: road	-	*5.3*	-	-	*5.3*	235%
Other	-	0.2	-	-	0.2	68%
of which: residential	-	*0.2*	-	-	*0.2*	68%
of which: services	-	-	-	-	-	-
Memo: international marine bunkers	-	-	-	-	-	-
Memo: international aviation bunkers	-	*0.1*	-	-	*0.1*	*222%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	5.3	234.5	8.6	8.6
Residential - oil	0.2	67.8	0.3	8.9
Manufacturing industries - oil	0.2	1.9	0.2	9.2
Other transport - oil	0.0	-30.5	0.0	9.2
Unallocated autoproducers - oil	0.0	-	0.0	9.2
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*5.7*	*194.5*	*9.2*	*9.2*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Peru

Figure 1. CO_2 emissions by fuel

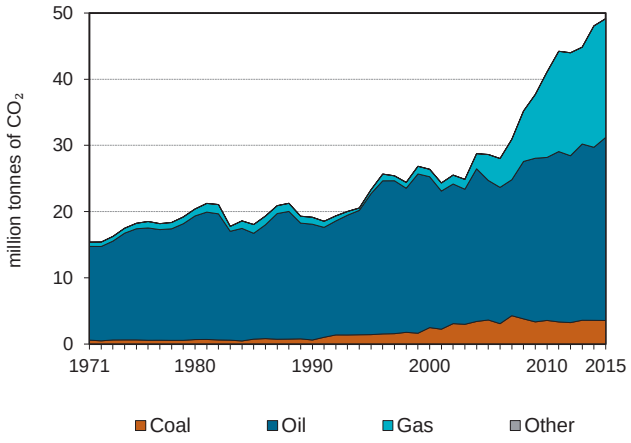


Figure 2. CO_2 emissions by sector

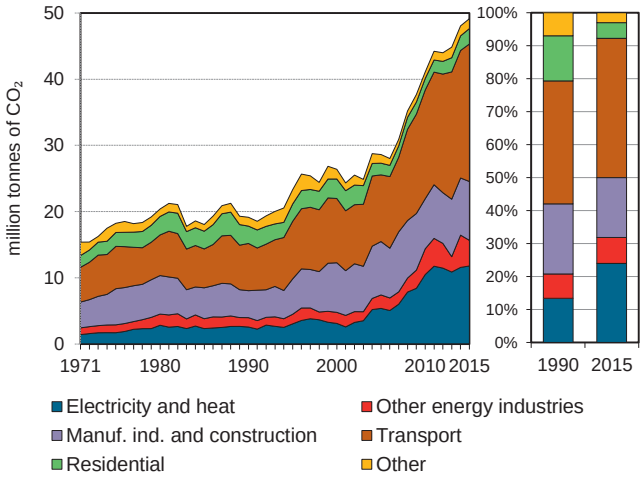


Figure 3. Electricity generation by fuel

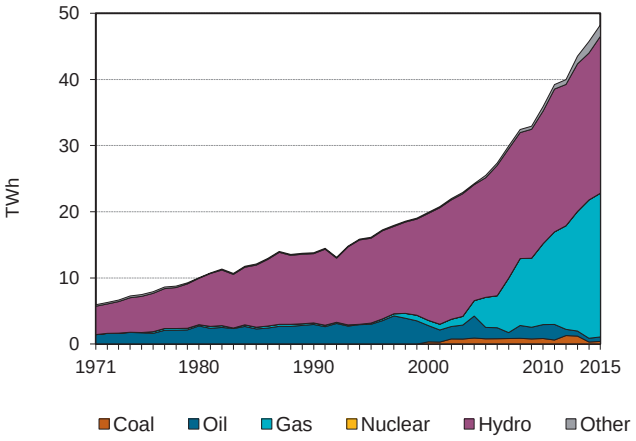


Figure 4. CO_2 from electricity generation: driving factors[1]

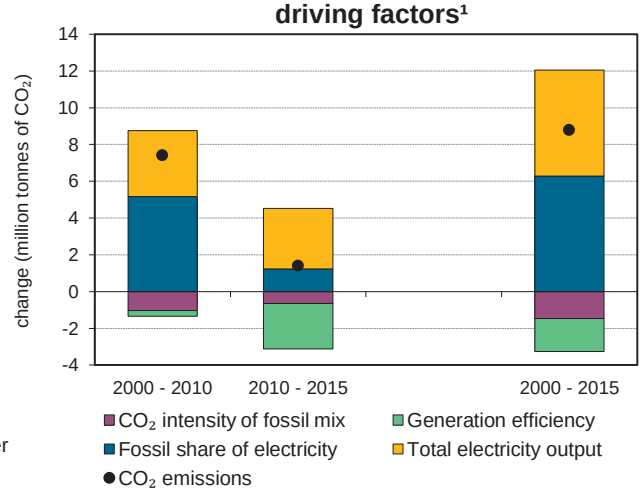


Figure 5. Changes in selected indicators

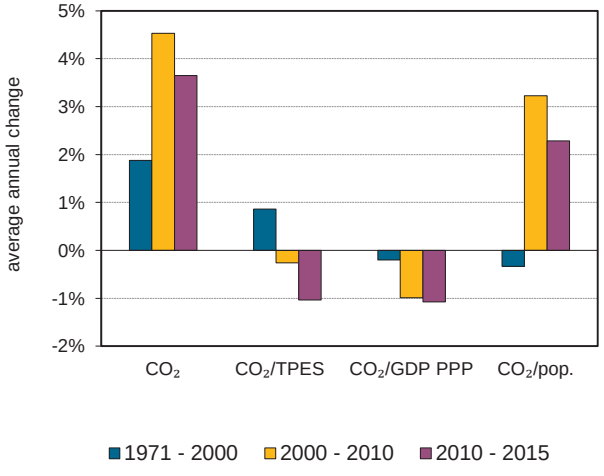
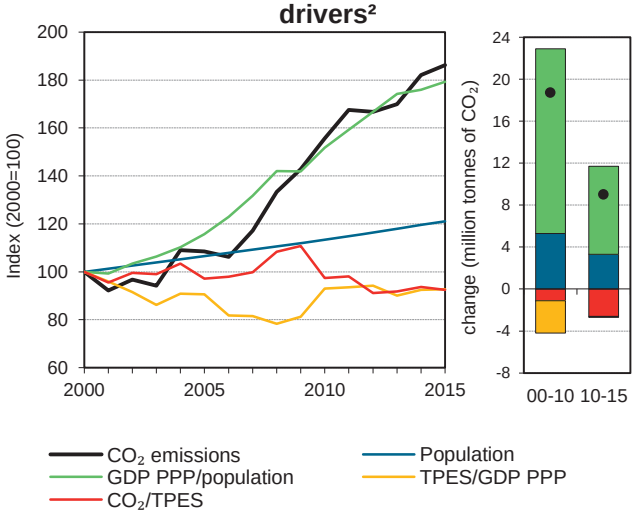


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Peru

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	19.1	23.3	26.4	28.6	41.1	48.1	49.1	157%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	408	459	512	571	818	995	1 031	153%
GDP (billion 2010 USD)	58.5	75.5	85.8	105.8	147.5	180.3	186.2	218%
GDP PPP (billion 2010 USD)	112.7	145.5	165.3	203.9	284.3	347.6	358.9	218%
Population (millions)	21.8	24.0	25.9	27.6	29.4	31.0	31.4	44%
CO_2 / TPES (tCO_2 per TJ)	47	50.7	51.6	50.1	50.2	48.3	47.7	2%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.33	0.3	0.3	0.3	0.3	0.3	0.3	-19%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.17	0.2	0.2	0.1	0.1	0.1	0.1	-19%
CO_2 / population (tCO_2 per capita)	0.9	1.0	1.0	1.0	1.4	1.6	1.6	79%
Share of electricity output from fossil fuels	23%	20%	18%	28%	42%	48%	47%	
CO_2 / kWh of electricity (gCO_2/kWh)	186	188	156	211	292	253	244	32%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	122	138	150	215	251	257	157%
Population index	100	110	119	126	135	142	144	44%
GDP PPP per population index	100	117	124	143	187	217	221	121%
Energy intensity index - TPES / GDP PPP	100	87	86	78	80	79	79	-21%
Carbon intensity index - CO_2 / TPES	100	108	110	107	107	103	102	2%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**3.5**	**27.7**	**17.9**	**-**	**49.1**	**157%**
Electricity and heat generation	0.7	0.9	10.2	-	11.8	360%
Other energy industry own use	-	0.7	3.2	-	3.9	173%
Manufacturing industries and construction	2.9	3.5	2.5	-	8.9	118%
Transport	-	19.3	1.5	-	20.8	191%
of which: road	-	*18.8*	*1.5*	-	*20.3*	195%
Other	0.0	3.3	0.5	-	3.8	-3%
of which: residential	-	*2.2*	*0.1*	-	*2.3*	-11%
of which: services	*0.0*	*0.7*	*0.3*	-	*0.9*	41%
Memo: international marine bunkers	-	..	-	-	..	..
Memo: international aviation bunkers	-	*2.6*	-	-	*2.6*	*300%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	18.8	173.5	20.1	20.1
Main activity prod. elec. and heat - gas	9.7	x	10.3	30.4
Manufacturing industries - oil	3.5	1.5	3.7	34.1
Other energy industry own use - gas	3.2	336.8	3.4	37.6
Manufacturing industries - coal	2.9	402.1	3.1	40.6
Manufacturing industries - gas	2.5	+	2.7	43.3
Residential - oil	2.2	-12.3	2.3	45.7
Road - gas	1.5	x	1.6	47.3
Non-specified other - oil	1.1	-15.7	1.2	48.5
Memo: total CO_2 from fuel combustion	*49.1*	*156.7*	*52.5*	*52.5*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Philippines

Figure 1. CO_2 emissions by fuel

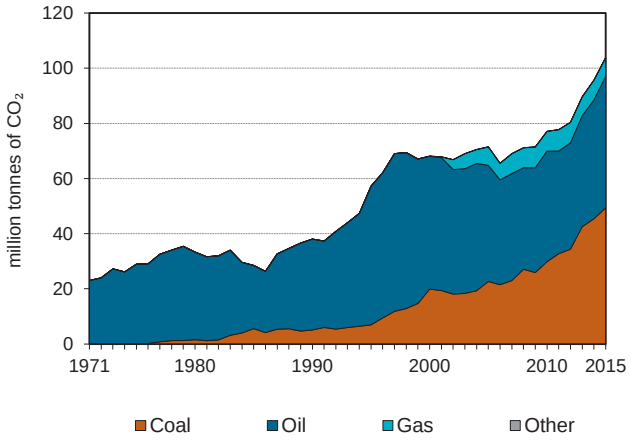


Figure 2. CO_2 emissions by sector

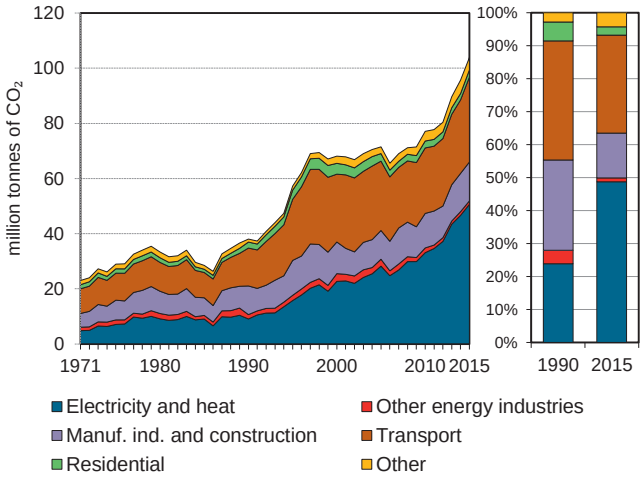


Figure 3. Electricity generation by fuel

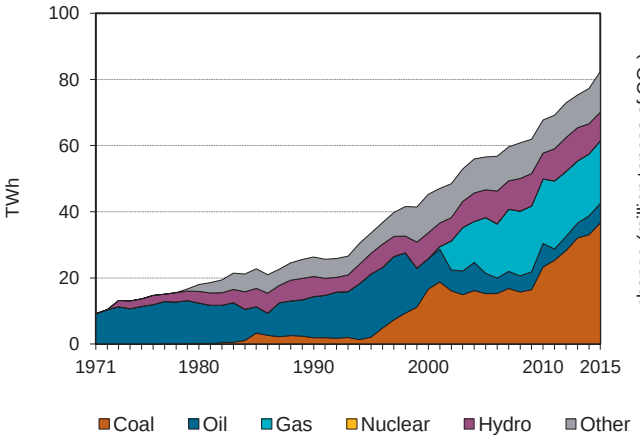


Figure 4. CO_2 from electricity generation: driving factors[1]

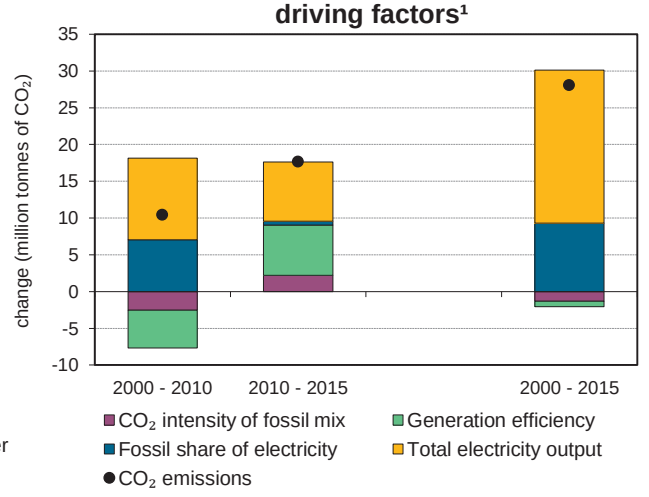


Figure 5. Changes in selected indicators

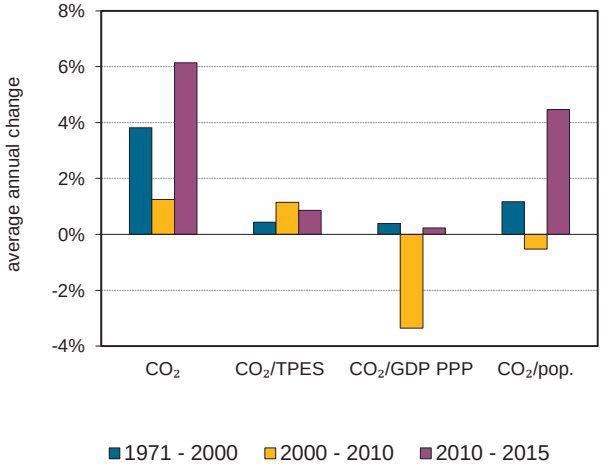
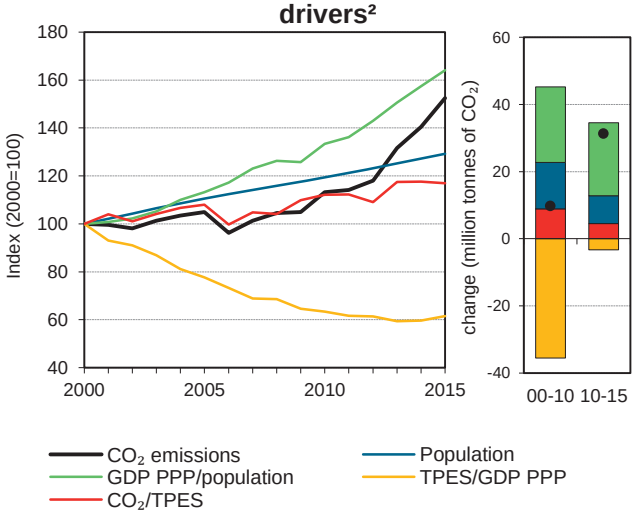


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Philippines

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	38	57.2	68.1	71.5	77.1	95.7	103.9	173%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	1202	1 408	1 674	1 627	1 691	2 000	2 183	82%
GDP (billion 2010 USD)	94.5	105.2	125.3	156.9	199.6	251.0	265.8	181%
GDP PPP (billion 2010 USD)	243.4	270.9	322.8	404.0	514.0	646.4	684.5	181%
Population (millions)	62	69.8	77.9	86.1	93.0	99.1	100.7	63%
CO_2 / TPES (tCO_2 per TJ)	31.7	40.7	40.7	43.9	45.6	47.8	47.6	50%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.4	0.5	0.5	0.5	0.4	0.4	0.4	-3%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.16	0.2	0.2	0.2	0.2	0.1	0.2	-3%
CO_2 / population (tCO_2 per capita)	0.6	0.8	0.9	0.8	0.8	1.0	1.0	68%
Share of electricity output from fossil fuels	55%	63%	57%	68%	74%	74%	75%	
CO_2 / kWh of electricity (gCO_2/kWh)	345	469	501	499	489	604	614	78%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	150	179	188	203	252	273	173%
Population index	100	113	126	139	150	160	163	63%
GDP PPP per population index	100	99	105	119	141	166	173	73%
Energy intensity index - TPES / GDP PPP	100	105	105	82	67	63	65	-35%
Carbon intensity index - CO_2 / TPES	100	128	129	139	144	151	150	50%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**49.4**	**47.7**	**6.8**	**0.0**	**103.9**	**173%**
Electricity and heat generation	39.7	4.5	6.4	0.0	50.6	458%
Other energy industry own use	-	1.0	0.3	-	1.3	-20%
Manufacturing industries and construction	9.7	4.3	0.1	-	14.1	36%
Transport	-	30.8	-	-	30.8	124%
of which: road	-	*26.3*	-	-	*26.3*	129%
Other	-	7.1	-	-	7.1	117%
of which: residential	-	*2.6*	-	-	*2.6*	19%
of which: services	-	*3.9*	-	-	*3.9*	+
Memo: international marine bunkers	-	*0.1*	-	-	*0.1*	*-59%*
Memo: international aviation bunkers	-	*3.6*	-	-	*3.6*	*258%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	39.7	+	10.4	10.4
Road - oil	26.3	128.6	6.9	17.3
Manufacturing industries - coal	9.7	215.6	2.5	19.9
Main activity prod. elec. and heat - gas	6.4	x	1.7	21.6
Main activity prod. elec. and heat - oil	4.5	-35.8	1.2	22.7
Non-specified other - oil	4.5	315.4	1.2	23.9
Other transport - oil	4.5	102.0	1.2	25.1
Manufacturing industries - oil	4.3	-41.2	1.1	26.2
Residential - oil	2.6	19.1	0.7	26.9
Memo: total CO_2 from fuel combustion	*103.9*	*173.1*	*27.3*	*27.3*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Poland [1]

Figure 1. CO_2 emissions by fuel

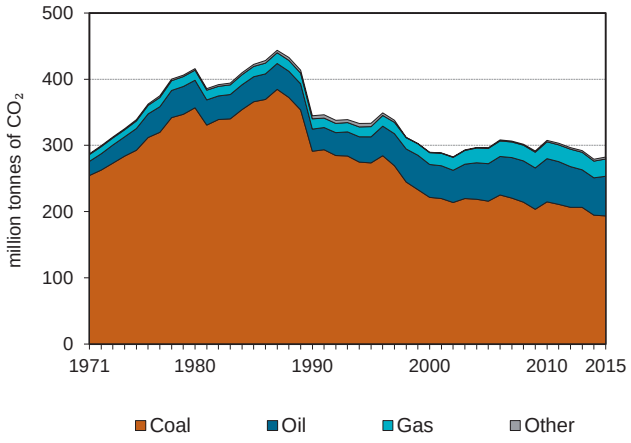


Figure 2. CO_2 emissions by sector

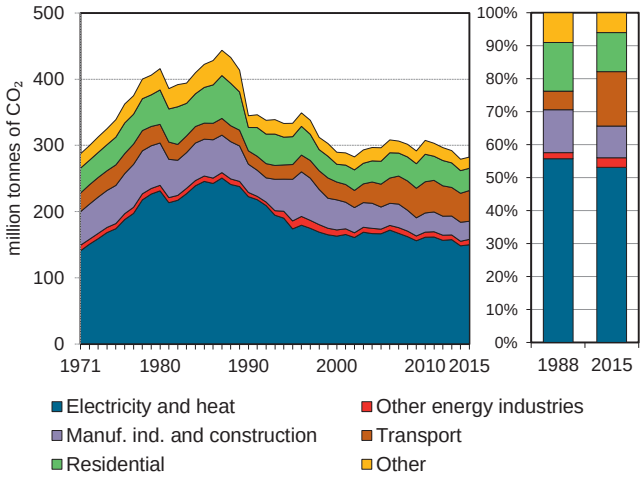


Figure 3. Electricity generation by fuel

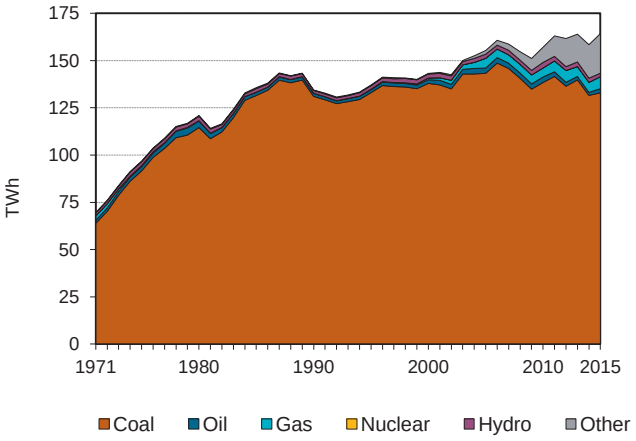


Figure 4. CO_2 from electricity generation: driving factors[2]

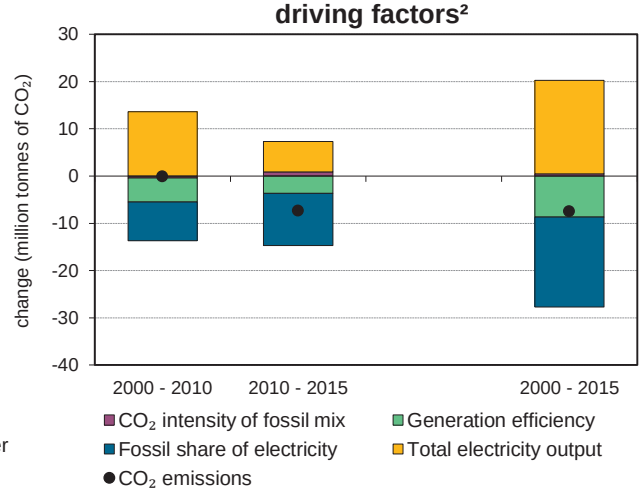


Figure 5. Changes in selected indicators

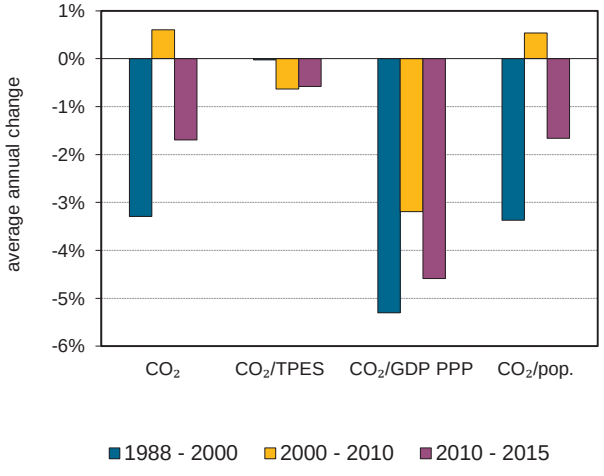
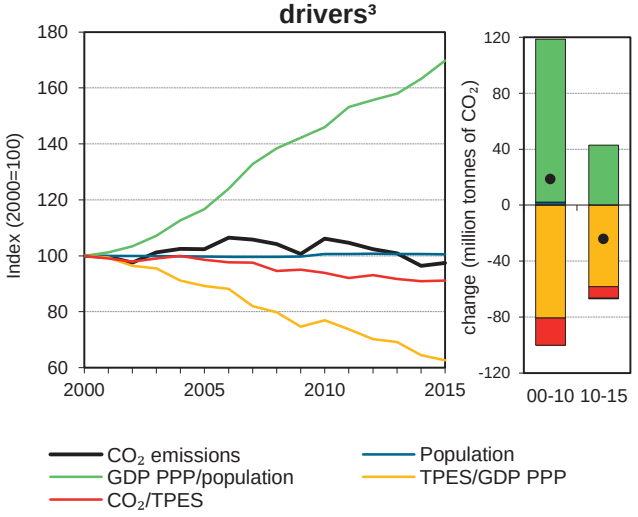


Figure 6. Total CO_2 emissions and drivers[3]



1. Under the Convention Poland is allowed to use 1988 as its base year.
2. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
3. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Poland [1]

Key indicators

	1988	1990	1995	2005	2010	2014	2015	%change 88-15
CO_2 fuel combustion ($MtCO_2$)	432.9	344.8	333.4	296.5	307.6	279.1	282.4	-35%
Share of World CO_2 from fuel combustion	2%	2%	2%	1%	1%	1%	1%	
TPES (PJ)	5540	4 317	4 165	3 858	4 205	3 937	3 974	-28%
GDP (billion 2010 USD)	253.5	226.7	252.4	379.8	479.3	535.6	556.2	119%
GDP PPP (billion 2010 USD)	424.3	379.4	422.5	635.7	802.3	896.5	931.8	120%
Population (millions)	37.9	38.0	38.3	38.2	38.5	38.5	38.5	2%
CO_2 / TPES (tCO_2 per TJ)	78.1	79.9	80.1	76.9	73.2	70.9	71.1	-9%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	1.71	1.5	1.3	0.8	0.6	0.5	0.5	-70%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	1.02	0.9	0.8	0.5	0.4	0.3	0.3	-70%
CO_2 / population (tCO_2 per capita)	11.4	9.1	8.7	7.8	8.0	7.3	7.3	-36%
Share of electricity output from fossil fuels	99%	99%	99%	98%	93%	87%	86%	
CO_2 / kWh of electricity (gCO_2/kWh)	..	1009	923	838	800	755	730	..
CO_2 emissions and drivers - Kaya decomposition (1988=100) [2]								
CO_2 emissions index	100	80	77	68	71	64	65	-35%
Population index	100	100	101	101	102	102	102	2%
GDP PPP per population index	100	89	98	149	186	208	216	116%
Energy intensity index - TPES / GDP PPP	100	87	76	46	40	34	33	-67%
Carbon intensity index - CO_2 / TPES	100	102	102	98	94	91	91	-9%

1. Under the Convention Poland is allowed to use 1988 as its base year. 2. Please see Part I for methodological notes.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [3]	Total	%change 88-15
CO_2 fuel combustion	**193.5**	**59.9**	**26.1**	**2.9**	**282.4**	**-35%**
Electricity and heat generation	145.0	1.4	3.4	0.2	150.0	-38%
Other energy industry own use	2.3	3.0	2.8	0.0	8.1	-3%
Manufacturing industries and construction	15.3	1.8	7.6	2.7	27.4	-51%
Transport	-	45.5	0.8	-	46.4	93%
of which: road	-	*45.2*	*0.0*	-	*45.3*	120%
Other	30.9	8.1	11.5	0.0	50.6	-51%
of which: residential	*24.7*	*1.6*	*7.4*	-	*33.7*	-47%
of which: services	*2.6*	*1.2*	*4.0*	*0.0*	*7.9*	-74%
Memo: international marine bunkers	-	*0.6*	-	-	*0.6*	*-64%*
Memo: international aviation bunkers	-	*1.9*	-	-	*1.9*	*71%*

3. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 88-15	Level assessment[4] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	141.2	-16.1	37.1	37.1
Road - oil	45.2	120.2	11.9	48.9
Residential - coal	24.7	-57.4	6.5	55.4
Manufacturing industries - coal	15.3	-62.7	4.0	59.5
Manufacturing industries - gas	7.6	-3.7	2.0	61.4
Residential - gas	7.4	28.8	1.9	63.4
Non-specified other - oil	6.6	64.5	1.7	65.1
Non-specified other sectors - coal	6.2	-81.7	1.6	66.7
Non-specified other - gas	4.1	436.9	1.1	67.8
Memo: total CO_2 from fuel combustion	*282.4*	*-34.8*	*74.1*	*74.1*

4. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Portugal

Figure 1. CO_2 emissions by fuel

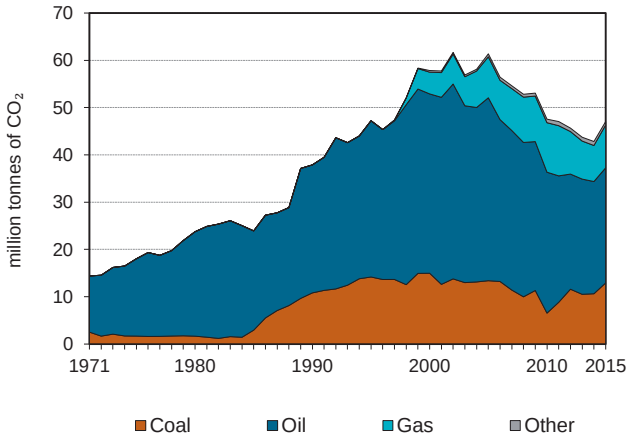


Figure 2. CO_2 emissions by sector

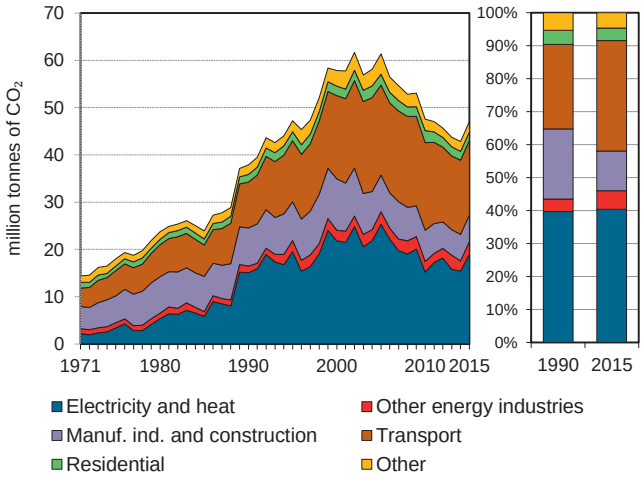


Figure 3. Electricity generation by fuel

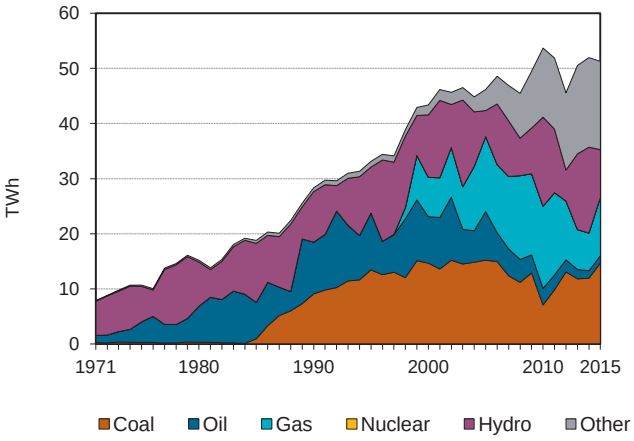


Figure 4. CO_2 from electricity generation: driving factors[1]

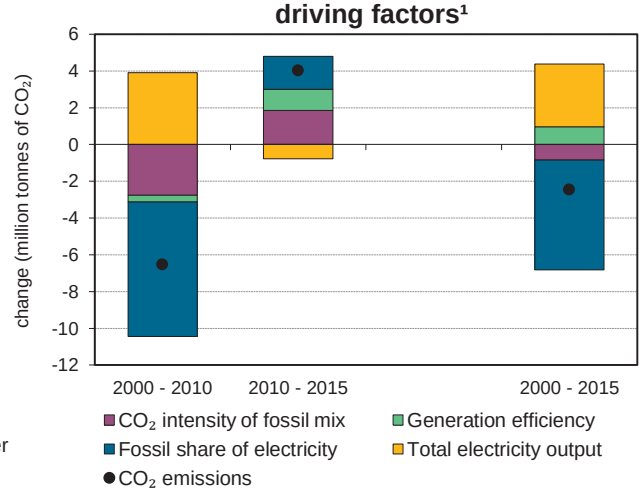


Figure 5. Changes in selected indicators

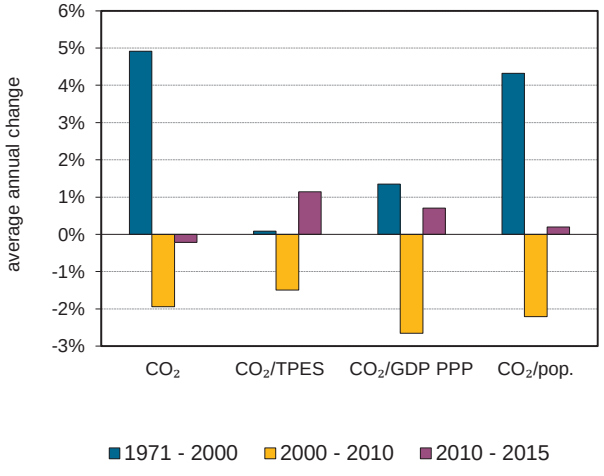
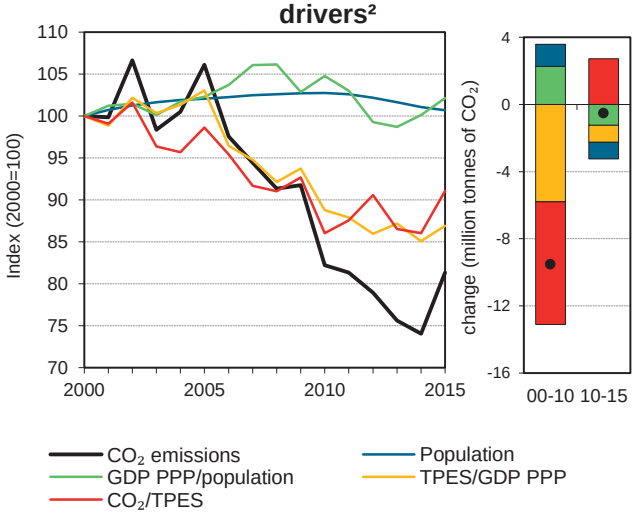


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Portugal

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	37.9	47.2	57.8	61.4	47.5	42.8	47.0	24%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	703	845	1 030	1 108	984	886	920	31%
GDP (billion 2010 USD)	166.6	181.3	221.4	231.1	238.3	224.0	227.5	37%
GDP PPP (billion 2010 USD)	202.2	220.1	268.7	280.6	289.3	271.9	276.2	37%
Population (millions)	10	10.0	10.3	10.5	10.6	10.4	10.4	4%
CO_2 / TPES (tCO_2 per TJ)	53.9	55.9	56.2	55.4	48.3	48.3	51.1	-5%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.23	0.3	0.3	0.3	0.2	0.2	0.2	-9%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.19	0.2	0.2	0.2	0.2	0.2	0.2	-9%
CO_2 / population (tCO_2 per capita)	3.8	4.7	5.6	5.8	4.5	4.1	4.5	20%
Share of electricity output from fossil fuels	65%	72%	70%	82%	47%	39%	52%	
CO_2 / kWh of electricity (gCO_2/kWh)	527	585	493	527	257	271	346	-34%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	125	153	162	126	113	124	24%
Population index	100	100	103	105	106	104	104	4%
GDP PPP per population index	100	108	129	132	135	129	132	32%
Energy intensity index - TPES / GDP PPP	100	111	110	114	98	94	96	-4%
Carbon intensity index - CO_2 / TPES	100	104	104	103	90	90	95	-5%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**12.9**	**24.4**	**9.1**	**0.7**	**47.0**	**24%**
Electricity and heat generation	12.9	0.8	4.9	0.4	19.0	26%
Other energy industry own use	-	2.4	0.3	-	2.7	86%
Manufacturing industries and construction	0.1	2.6	2.7	0.3	5.6	-30%
Transport	-	15.7	0.0	-	15.8	63%
of which: road	-	*15.0*	*0.0*	-	*15.1*	65%
Other	-	2.8	1.2	-	4.0	9%
of which: residential	-	*1.2*	*0.6*	-	*1.8*	10%
of which: services	-	*0.5*	*0.5*	-	*1.0*	88%
Memo: international marine bunkers	-	*2.1*	-	-	*2.1*	*7%*
Memo: international aviation bunkers	-	*3.1*	-	-	*3.1*	*127%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	15.0	64.5	21.5	21.5
Main activity prod. elec. and heat - coal	12.9	60.0	18.4	40.0
Unallocated autoproducers - gas	2.8	x	4.0	44.0
Manufacturing industries - gas	2.7	x	3.8	47.8
Manufacturing industries - oil	2.6	-54.4	3.7	51.5
Other energy industry own use - oil	2.4	69.6	3.4	54.9
Main activity prod. elec. and heat - gas	2.1	x	3.0	57.9
Non-specified other - oil	1.7	-16.7	2.4	60.3
Residential - oil	1.2	-24.5	1.7	62.0
Memo: total CO_2 from fuel combustion	*47.0*	*24.2*	*67.4*	*67.4*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Qatar

Figure 1. CO_2 emissions by fuel

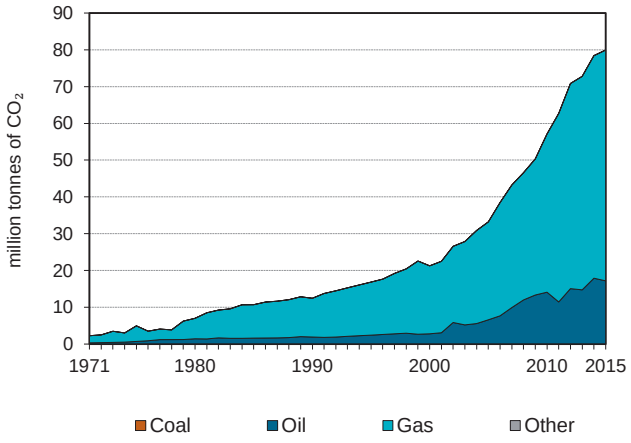


Figure 2. CO_2 emissions by sector

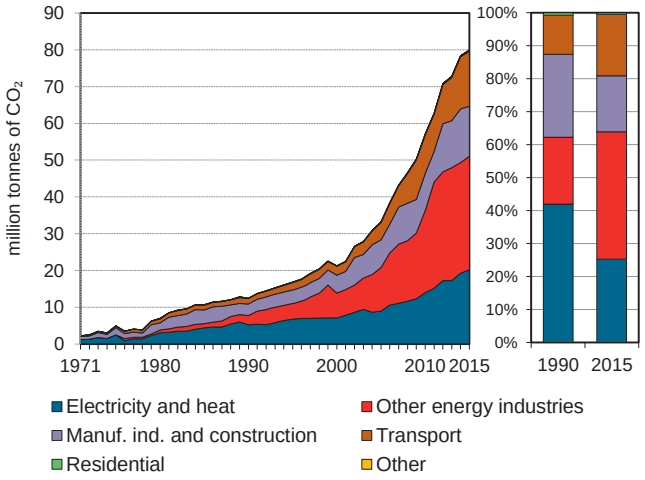


Figure 3. Electricity generation by fuel

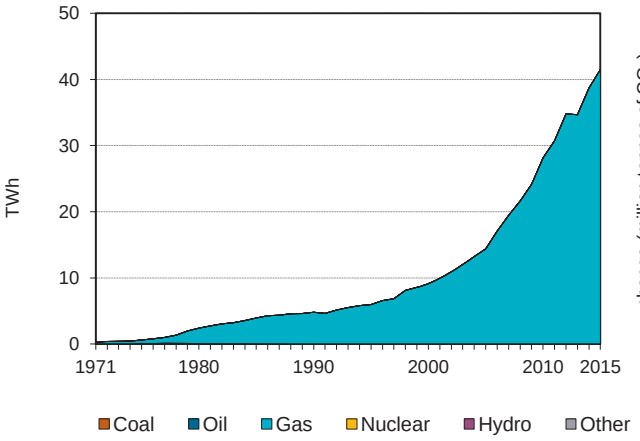


Figure 4. CO_2 from electricity generation: driving factors[1]

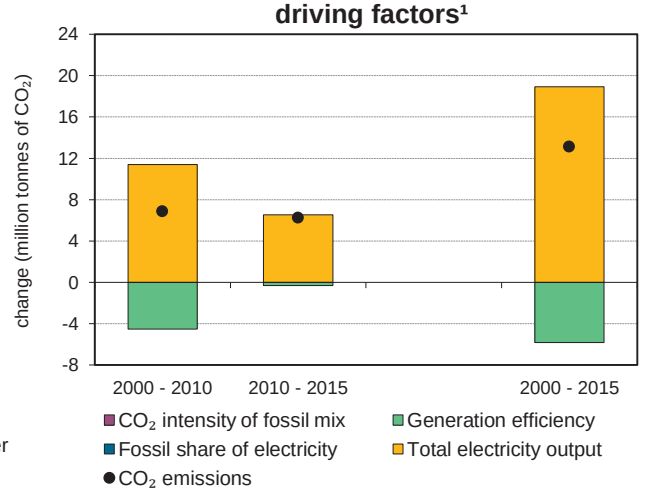


Figure 5. Changes in selected indicators

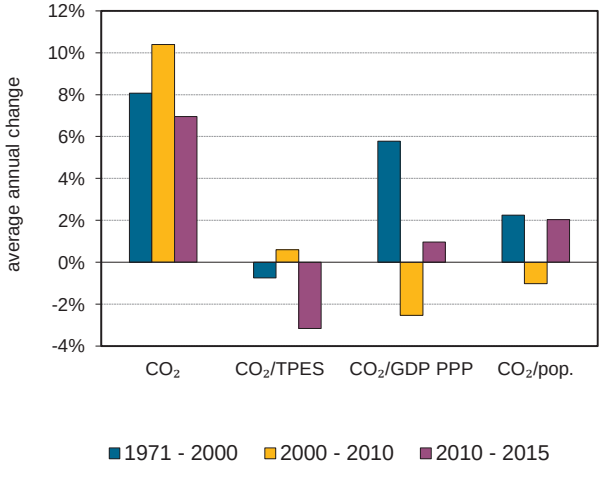
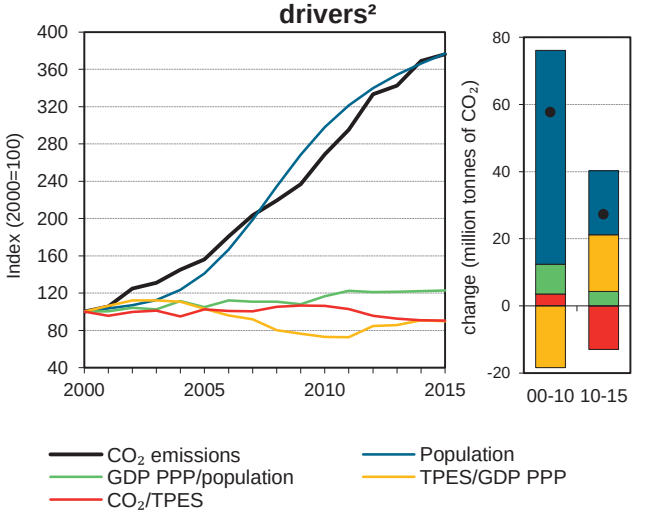


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Qatar

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	12.4	16.8	21.3	33.2	57.1	78.4	79.9	543%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	273	341	457	698	1 157	1 858	1 903	596%
GDP (billion 2010 USD)	18.9	21.2	36.0	53.4	125.1	161.2	167.0	784%
GDP PPP (billion 2010 USD)	33.4	37.4	63.6	94.2	220.8	284.6	294.7	784%
Population (millions)	0.5	0.5	0.6	0.8	1.8	2.2	2.2	370%
CO_2 / TPES (tCO_2 per TJ)	45.5	49.3	46.5	47.6	49.3	42.2	42.0	-8%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.66	0.8	0.6	0.6	0.5	0.5	0.5	-27%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.37	0.4	0.3	0.4	0.3	0.3	0.3	-27%
CO_2 / population (tCO_2 per capita)	26.1	33.6	35.8	39.7	32.3	36.1	35.8	37%
Share of electricity output from fossil fuels	100%	100%	100%	100%	100%	100%	100%	
CO_2 / kWh of electricity (gCO_2/kWh)	1082	1137	775	621	495	497	486	-55%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	135	171	267	459	631	643	543%
Population index	100	105	125	176	371	456	470	370%
GDP PPP per population index	100	107	153	161	178	187	188	88%
Energy intensity index - TPES / GDP PPP	100	111	88	90	64	80	79	-21%
Carbon intensity index - CO_2 / TPES	100	108	102	105	108	93	92	-8%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**17.2**	**62.8**	**-**	**79.9**	**543%**
Electricity and heat generation	-	-	20.2	-	20.2	287%
Other energy industry own use	-	0.4	30.5	-	30.9	+
Manufacturing industries and construction	-	1.5	12.1	-	13.6	334%
Transport	-	15.0	-	-	15.0	917%
of which: road	-	*15.0*	-	-	*15.0*	917%
Other	-	0.3	-	-	0.3	268%
of which: residential	-	*0.3*	-	-	*0.3*	268%
of which: services	-	-	-	-	-	-
Memo: international marine bunkers	-	..	-	-	..	..
Memo: international aviation bunkers	-	*3.9*	-	-	*3.9*	+

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Other energy industry own use - gas	30.5	+	17.9	17.9
Unallocated autoproducers - gas	18.1	352.8	10.7	28.6
Road - oil	15.0	916.6	8.8	37.4
Manufacturing industries - gas	12.1	286.5	7.1	44.5
Main activity prod. elec. and heat - gas	2.1	69.7	1.2	45.7
Manufacturing industries - oil	1.5	x	0.9	46.6
Other energy industry own use - oil	0.4	7.8	0.2	46.8
Residential - oil	0.3	267.6	0.2	47.0
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*79.9*	*543.2*	*47.0*	*47.0*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Romania [1]

Figure 1. CO_2 emissions by fuel

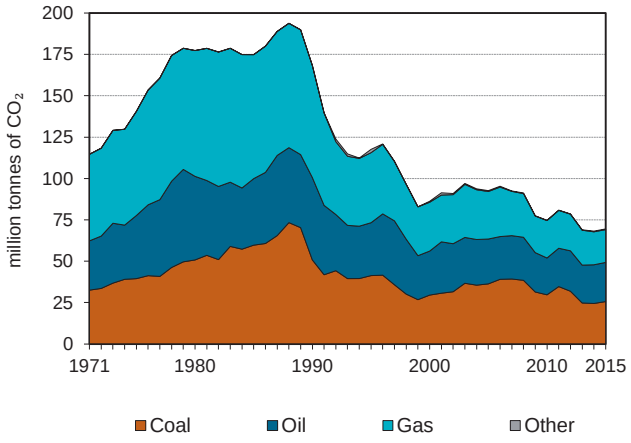


Figure 2. CO_2 emissions by sector

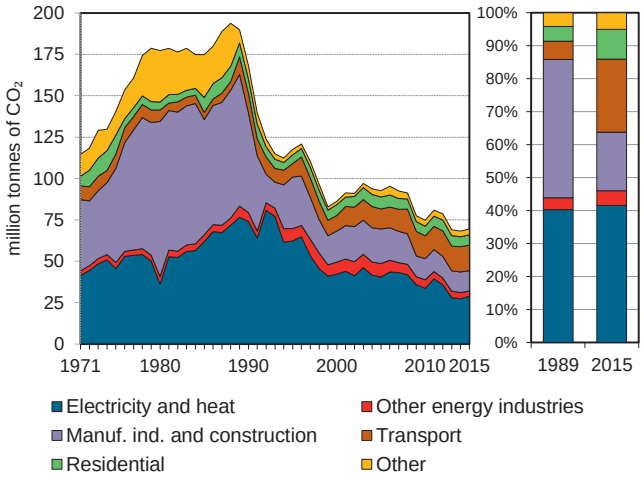


Figure 3. Electricity generation by fuel

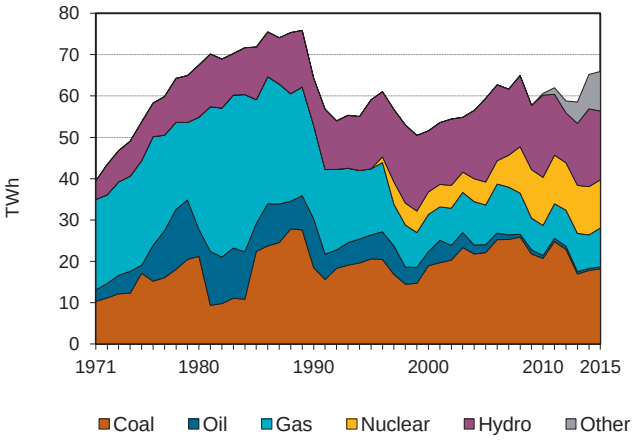


Figure 4. CO_2 from electricity generation: driving factors[2]

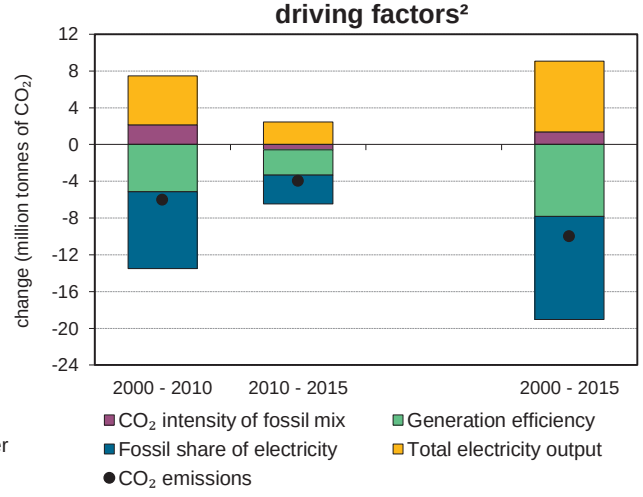


Figure 5. Changes in selected indicators

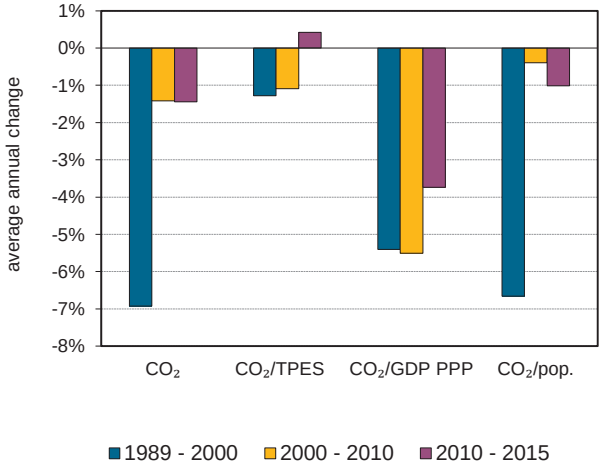
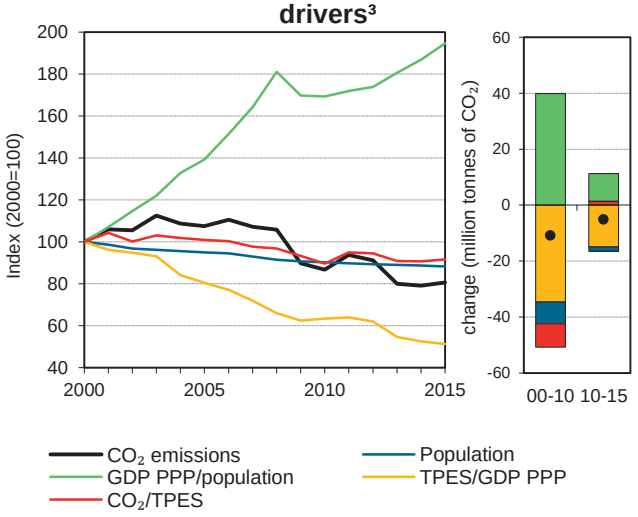


Figure 6. Total CO_2 emissions and drivers[3]



1. Under the Convention Romania is allowed to use 1989 as its base year.
2. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
3. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Romania [1]

Key indicators

	1989	1990	1995	2005	2010	2014	2015	%change 89-15
CO_2 fuel combustion ($MtCO_2$)	189.9	168.3	117.6	92.7	74.8	68.2	69.5	-63%
Share of World CO_2 from fuel combustion	1%	1%	1%	0%	0%	0%	0%	
TPES (PJ)	2897	2 606	1 951	1 616	1 467	1 322	1 336	-54%
GDP (billion 2010 USD)	131.4	124.0	111.4	145.5	168.0	182.3	189.0	44%
GDP PPP (billion 2010 USD)	262.6	247.8	222.6	290.7	335.7	364.3	377.7	44%
Population (millions)	23.2	23.2	22.7	21.3	20.2	19.9	19.8	-14%
CO_2 / TPES (tCO_2 per TJ)	65.5	64.6	60.3	57.3	51.0	51.6	52.0	-21%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	1.44	1.4	1.1	0.6	0.4	0.4	0.4	-75%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.72	0.7	0.5	0.3	0.2	0.2	0.2	-75%
CO_2 / population (tCO_2 per capita)	8.2	7.3	5.2	4.3	3.7	3.4	3.5	-57%
Share of electricity output from fossil fuels	82%	82%	72%	57%	47%	40%	43%	
CO_2 / kWh of electricity (gCO_2/kWh)	..	865	753	501	417	319	340	..
CO_2 emissions and drivers - Kaya decomposition (1989=100) [2]								
CO_2 emissions index	100	89	62	49	39	36	37	-63%
Population index	100	100	98	92	87	86	86	-14%
GDP PPP per population index	100	94	87	120	146	161	168	68%
Energy intensity index - TPES / GDP PPP	100	95	79	50	40	33	32	-68%
Carbon intensity index - CO_2 / TPES	100	99	92	87	78	79	79	-21%

1. Under the Convention Romania is allowed to use 1989 as its base year. 2. Please see Part I for methodological notes.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [3]	Total	%change 89-15
CO_2 fuel combustion	**25.6**	**23.6**	**19.8**	**0.4**	**69.5**	**-63%**
Electricity and heat generation	21.6	0.7	6.5	0.0	28.9	-62%
Other energy industry own use	0.0	2.2	0.9	-	3.1	-55%
Manufacturing industries and construction	3.7	3.0	5.3	0.4	12.4	-84%
Transport	-	15.4	0.0	-	15.4	46%
of which: road	-	*14.8*	-	-	*14.8*	64%
Other	0.4	2.2	7.2	0.0	9.8	-40%
of which: residential	*0.3*	*0.7*	*5.3*	-	*6.2*	-26%
of which: services	*0.0*	*0.2*	*1.8*	*0.0*	*2.0*	x
Memo: international marine bunkers	-	*0.1*	-	-	*0.1*	..
Memo: international aviation bunkers	-	*0.6*	-	-	*0.6*	*-20%*

3. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 89-15	Level assessment[4] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	20.5	-42.2	17.3	17.3
Road - oil	14.8	63.7	12.5	29.8
Residential - gas	5.3	3.2	4.4	34.2
Manufacturing industries - gas	5.3	-88.6	4.4	38.6
Main activity prod. elec. and heat - gas	4.0	-82.2	3.4	42.0
Manufacturing industries - coal	3.7	-84.5	3.1	45.1
Manufacturing industries - oil	3.0	-69.5	2.6	47.6
Unallocated autoproducers - gas	2.5	x	2.1	49.7
Other energy industry own use - oil	2.2	-61.8	1.9	51.6
Memo: total CO_2 from fuel combustion	*69.5*	*-63.4*	*58.5*	*58.5*

4. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Russian Federation

Figure 1. CO_2 emissions by fuel

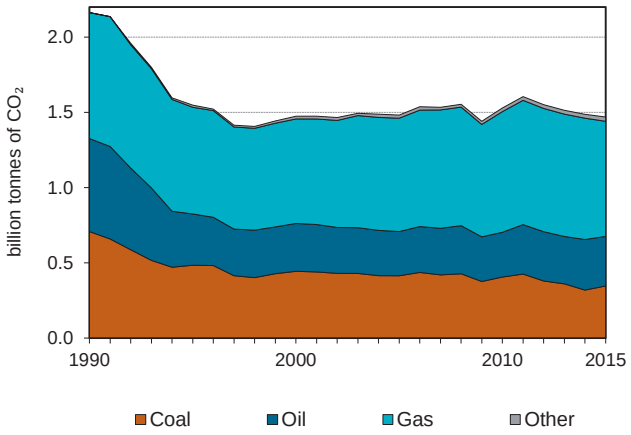


Figure 2. CO_2 emissions by sector

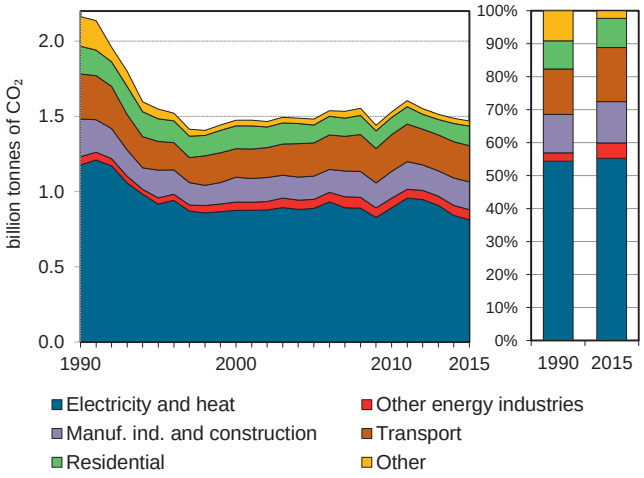


Figure 3. Electricity generation by fuel

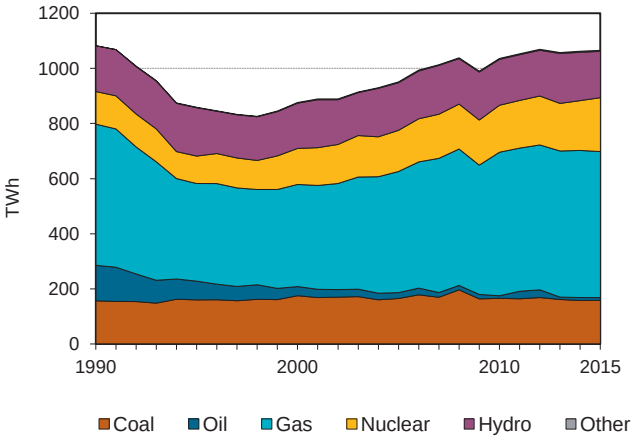


Figure 4. CO_2 from electricity generation: driving factors[1]

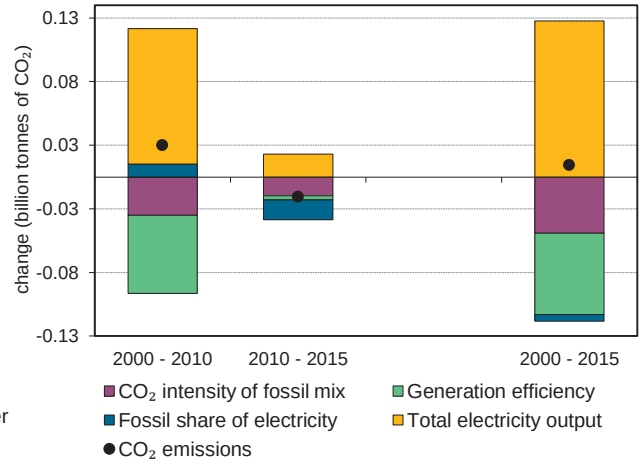


Figure 5. Changes in selected indicators

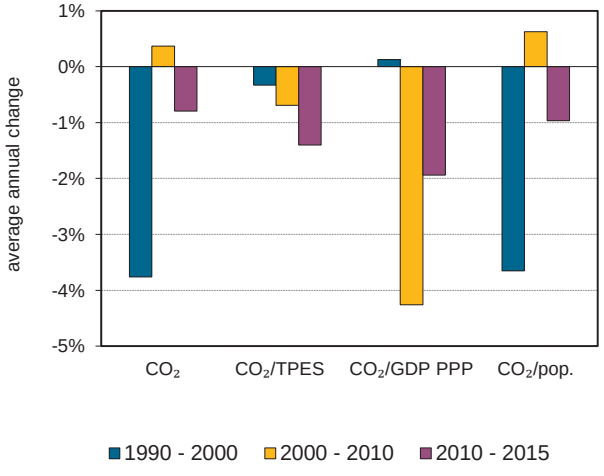
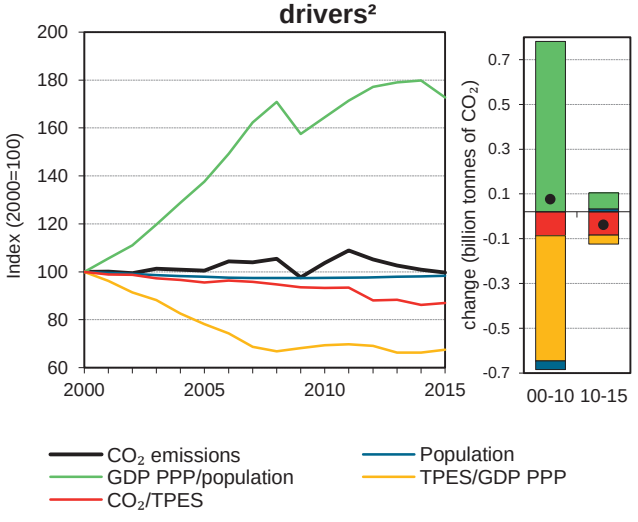


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Russian Federation

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	2163.2	1 548.0	1 474.2	1 481.7	1 528.9	1 486.9	1 469.0	-32%
Share of World CO_2 from fuel combustion	11%	7%	6%	5%	5%	5%	5%	
TPES (PJ)	36809	26 655	25 927	27 286	28 822	30 334	29 715	-19%
GDP (billion 2010 USD)	1509.3	937.6	1 015.0	1 366.7	1 626.6	1 790.6	1 723.9	14%
GDP PPP (billion 2010 USD)	2714.9	1 686.5	1 827.2	2 460.4	2 928.1	3 223.4	3 103.3	14%
Population (millions)	148.3	148.4	146.6	143.5	142.8	143.8	144.1	-3%
CO_2 / TPES (tCO_2 per TJ)	58.8	58.1	56.9	54.3	53.0	49.0	49.4	-16%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	1.43	1.7	1.5	1.1	0.9	0.8	0.9	-41%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.8	0.9	0.8	0.6	0.5	0.5	0.5	-41%
CO_2 / population (tCO_2 per capita)	14.6	10.4	10.1	10.3	10.7	10.3	10.2	-30%
Share of electricity output from fossil fuels	74%	68%	66%	66%	67%	66%	66%	
CO_2 / kWh of electricity (gCO_2/kWh)	412	368	400	444	418	385	395	-4%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	72	68	68	71	69	68	-32%
Population index	100	100	99	97	96	97	97	-3%
GDP PPP per population index	100	62	68	94	112	122	118	18%
Energy intensity index - TPES / GDP PPP	100	117	105	82	73	69	71	-29%
Carbon intensity index - CO_2 / TPES	100	99	97	92	90	83	84	-16%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**345.9**	**329.4**	**765.2**	**28.5**	**1 469.0**	**-32%**
Electricity and heat generation	272.0	32.9	485.7	21.2	811.9	-31%
Other energy industry own use	4.6	36.8	25.1	1.4	68.0	24%
Manufacturing industries and construction	55.1	41.4	83.4	4.8	184.6	-27%
Transport	-	176.7	63.9	-	240.6	-19%
of which: road	-	*150.2*	*0.2*	-	*150.4*	-2%
Other	14.2	41.7	107.1	1.0	164.0	-57%
of which: residential	*8.3*	*22.5*	*99.4*	-	*130.2*	-30%
of which: services	*5.5*	*7.2*	*5.1*	*0.7*	*18.5*	-82%
Memo: international marine bunkers	-	*49.1*	-	-	*49.1*	*728%*
Memo: international aviation bunkers	-	*15.2*	-	-	*15.2*	*-43%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - gas	331.2	-5.1	12.3	12.3
Main activity prod. elec. and heat - coal	197.4	-44.4	7.3	19.6
Unallocated autoproducers - gas	154.5	-16.9	5.7	25.3
Road - oil	150.2	-0.7	5.6	30.9
Residential - gas	99.4	-10.2	3.7	34.5
Manufacturing industries - gas	83.4	16.4	3.1	37.6
Unallocated autoproducers - coal	74.6	-14.9	2.8	40.4
Other transport - gas	63.7	-17.6	2.4	42.8
Manufacturing industries - coal	55.1	-46.6	2.0	44.8
Memo: total CO_2 from fuel combustion	*1469.0*	*-32.1*	*54.4*	*54.4*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Saudi Arabia

Figure 1. CO_2 emissions by fuel

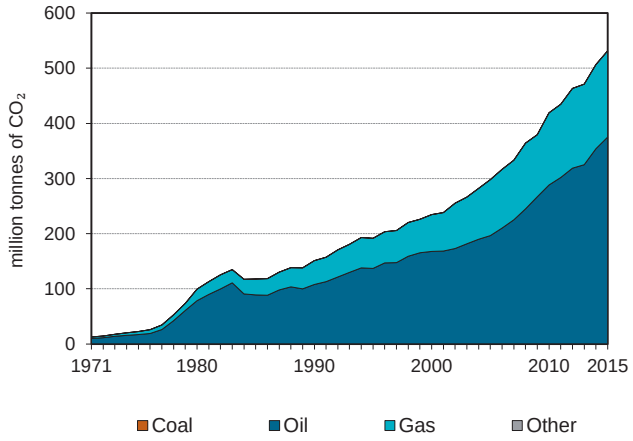


Figure 2. CO_2 emissions by sector

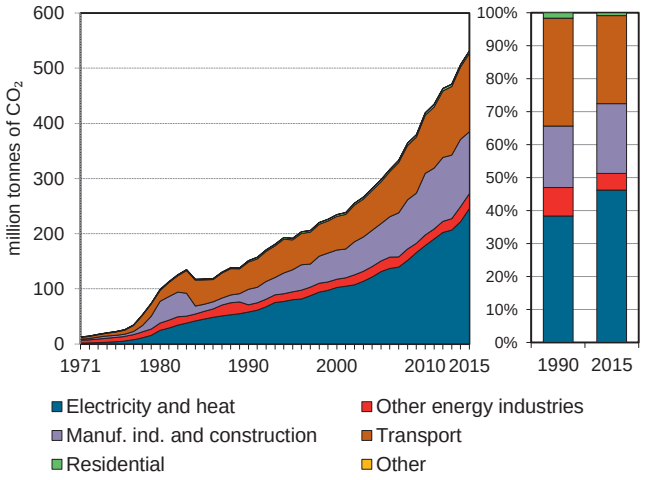


Figure 3. Electricity generation by fuel

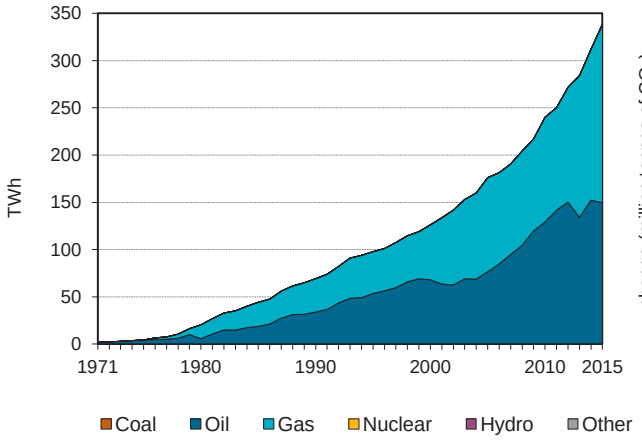


Figure 4. CO_2 from electricity generation: driving factors[1]

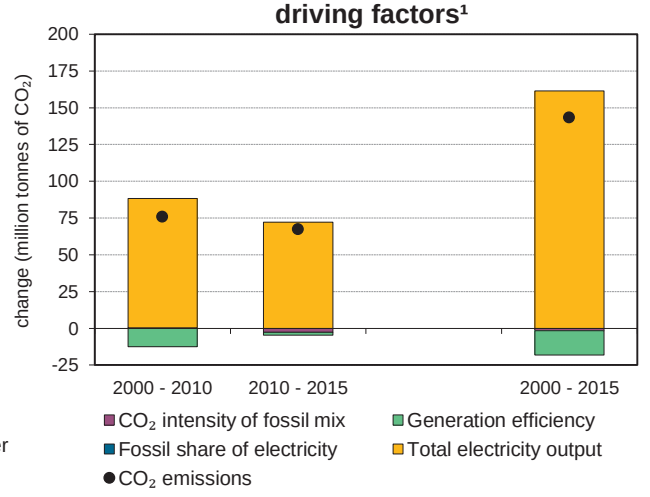


Figure 5. Changes in selected indicators

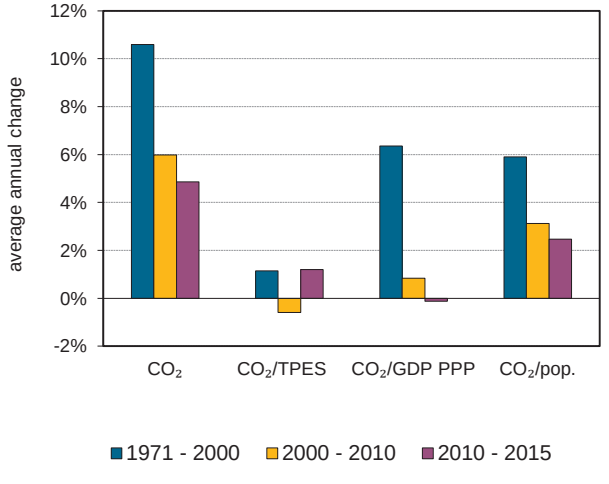
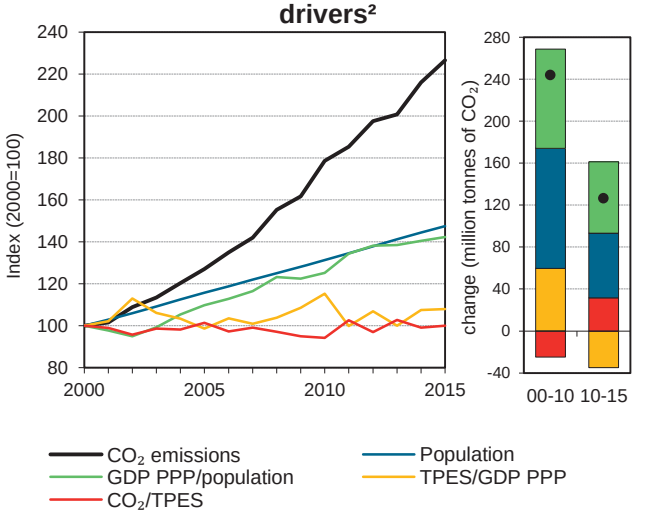


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Saudi Arabia

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	151.1	191.6	234.6	298.0	419.1	506.6	531.5	252%
Share of World CO_2 from fuel combustion	1%	1%	1%	1%	1%	2%	2%	
TPES (PJ)	2429	3 538	4 097	5 131	7 766	8 933	9 282	282%
GDP (billion 2010 USD)	245.1	282.3	320.5	407.0	526.8	649.6	672.2	174%
GDP PPP (billion 2010 USD)	566.6	652.5	740.8	940.8	1 217.8	1 501.6	1 553.9	174%
Population (millions)	16.4	18.9	21.4	24.7	28.1	30.9	31.5	93%
CO_2 / TPES (tCO_2 per TJ)	62.2	54.2	57.3	58.1	54.0	56.7	57.3	-8%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.62	0.7	0.7	0.7	0.8	0.8	0.8	28%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.27	0.3	0.3	0.3	0.3	0.3	0.3	28%
CO_2 / population (tCO_2 per capita)	9.2	10.2	11.0	12.0	14.9	16.4	16.9	82%
Share of electricity output from fossil fuels	100%	100%	100%	100%	100%	100%	100%	
CO_2 / kWh of electricity (gCO_2/kWh)	837	820	812	745	743	711	726	-13%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	127	155	197	277	335	352	252%
Population index	100	115	131	151	172	189	193	93%
GDP PPP per population index	100	100	100	110	125	140	142	42%
Energy intensity index - TPES / GDP PPP	100	126	129	127	149	139	139	39%
Carbon intensity index - CO_2 / TPES	100	87	92	93	87	91	92	-8%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**375.1**	**156.3**	**-**	**531.5**	**252%**
Electricity and heat generation	-	134.9	110.8	-	245.7	324%
Other energy industry own use	-	20.2	6.7	-	26.9	106%
Manufacturing industries and construction	-	73.3	38.9	-	112.1	298%
Transport	-	142.1	-	-	142.1	188%
of which: road	-	*139.3*	-	-	*139.3*	192%
Other	-	4.6	-	-	4.6	82%
of which: residential	-	*4.6*	-	-	*4.6*	82%
of which: services	-	-	-	-	-	-
Memo: international marine bunkers	-	*9.9*	-	-	*9.9*	*71%*
Memo: international aviation bunkers	-	*8.4*	-	-	*8.4*	*74%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	139.3	191.6	19.8	19.8
Main activity prod. elec. and heat - oil	115.8	305.2	16.5	36.3
Manufacturing industries - oil	73.3	354.1	10.4	46.7
Unallocated autoproducers - gas	64.3	262.3	9.1	55.9
Main activity prod. elec. and heat - gas	46.5	300.9	6.6	62.5
Manufacturing industries - gas	38.9	223.2	5.5	68.0
Other energy industry own use - oil	20.2	79.6	2.9	70.9
Unallocated autoproducers - oil	19.1	x	2.7	73.6
Other energy industry own use - gas	6.7	265.8	1.0	74.5
Memo: total CO_2 from fuel combustion	*531.5*	*251.8*	*75.6*	*75.6*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Senegal

Figure 1. CO_2 emissions by fuel

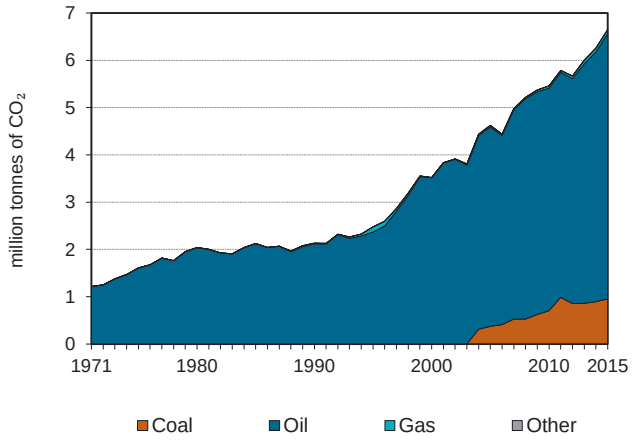


Figure 2. CO_2 emissions by sector

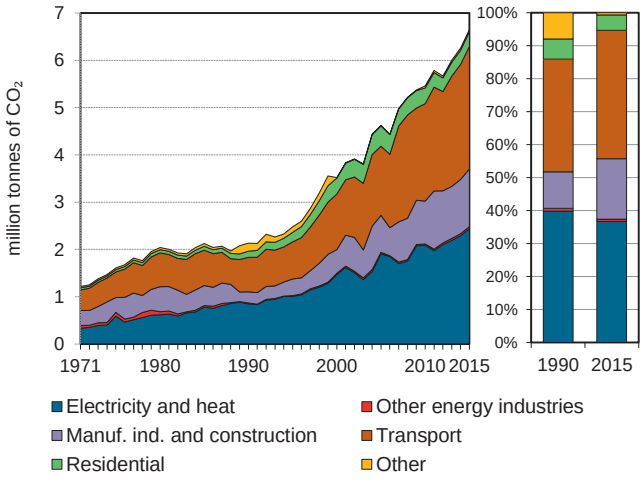


Figure 3. Electricity generation by fuel

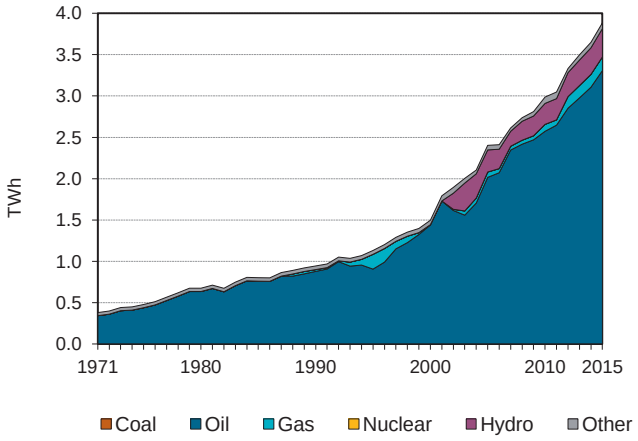


Figure 4. CO_2 from electricity generation: driving factors[1]

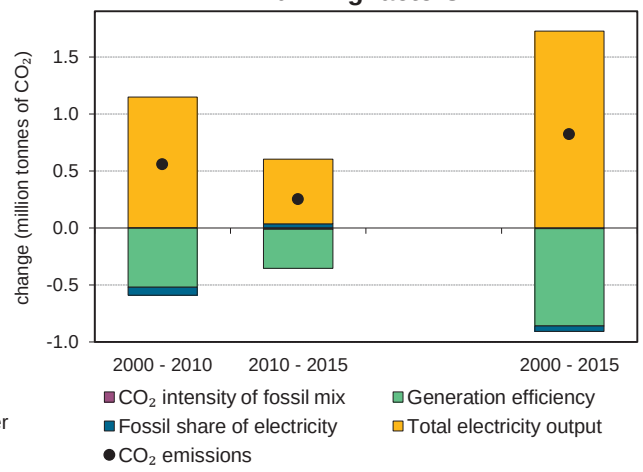


Figure 5. Changes in selected indicators

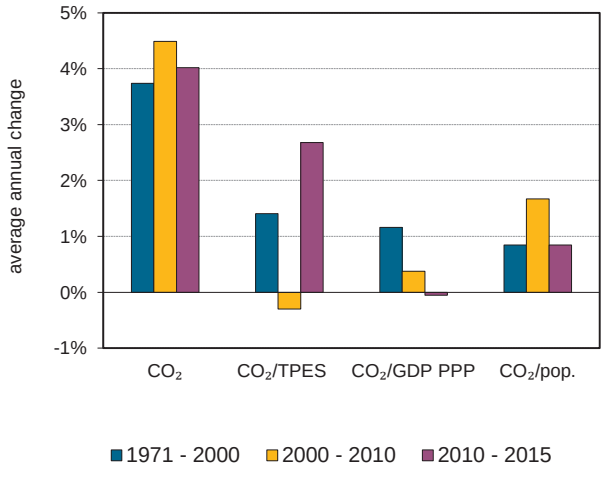
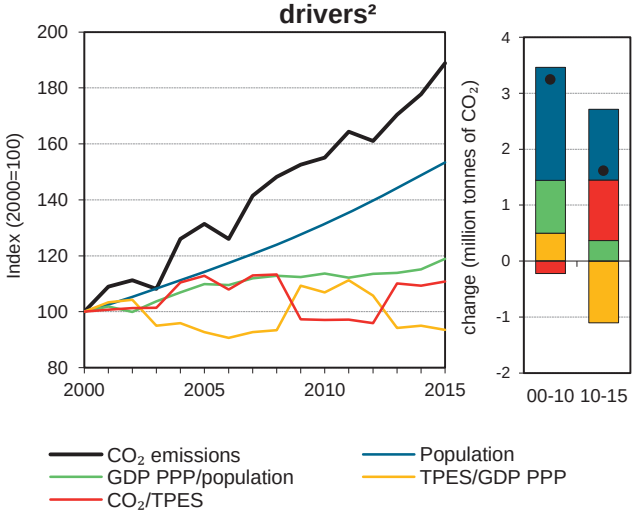


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Senegal

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	2.1	2.5	3.5	4.6	5.5	6.3	6.6	212%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	71	78	100	117	160	163	171	142%
GDP (billion 2010 USD)	6.4	7.1	8.6	10.9	12.9	14.8	15.8	147%
GDP PPP (billion 2010 USD)	13.7	15.2	18.6	23.3	27.8	31.8	33.9	147%
Population (millions)	7.5	8.7	9.9	11.3	13.0	14.7	15.1	101%
CO_2 / TPES (tCO_2 per TJ)	30.2	31.7	35.1	39.6	34.0	38.3	38.8	29%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.33	0.4	0.4	0.4	0.4	0.4	0.4	26%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.16	0.2	0.2	0.2	0.2	0.2	0.2	26%
CO_2 / population (tCO_2 per capita)	0.3	0.3	0.4	0.4	0.4	0.4	0.4	55%
Share of electricity output from fossil fuels	95%	96%	97%	87%	89%	90%	90%	
CO_2 / kWh of electricity (gCO_2/kWh)	898	889	914	749	680	616	617	-31%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	116	165	217	256	294	312	212%
Population index	100	116	131	150	172	195	201	101%
GDP PPP per population index	100	96	103	113	117	119	123	23%
Energy intensity index - TPES / GDP PPP	100	100	105	97	112	100	98	-2%
Carbon intensity index - CO_2 / TPES	100	105	116	131	113	127	129	29%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**1.0**	**5.6**	**0.1**	**-**	**6.6**	**212%**
Electricity and heat generation	-	2.4	0.1	-	2.4	187%
Other energy industry own use	-	0.0	-	-	0.0	129%
Manufacturing industries and construction	1.0	0.3	-	-	1.2	419%
Transport	-	2.6	-	-	2.6	255%
of which: road	-	*2.5*	-	-	*2.5*	270%
Other	-	0.4	-	-	0.4	18%
of which: residential	-	*0.3*	-	-	*0.3*	139%
of which: services	-	*0.0*	-	-	*0.0*	x
Memo: international marine bunkers	-	*0.2*	-	-	*0.2*	*112%*
Memo: international aviation bunkers	-	*0.9*	-	-	*0.9*	*90%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	2.5	269.6	10.6	10.6
Main activity prod. elec. and heat - oil	2.0	144.2	8.6	19.3
Manufacturing industries - coal	1.0	x	4.1	23.4
Unallocated autoproducers - oil	0.3	+	1.5	24.8
Residential - oil	0.3	139.3	1.3	26.2
Manufacturing industries - oil	0.3	13.3	1.1	27.3
Other transport - oil	0.1	99.7	0.5	27.9
Main activity prod. elec. and heat - gas	0.1	551.7	0.4	28.2
Other energy industry own use - oil	0.0	128.6	0.2	28.4
Memo: total CO_2 from fuel combustion	*6.6*	*211.8*	*28.6*	*28.6*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Serbia [1]

Figure 1. CO_2 emissions by fuel

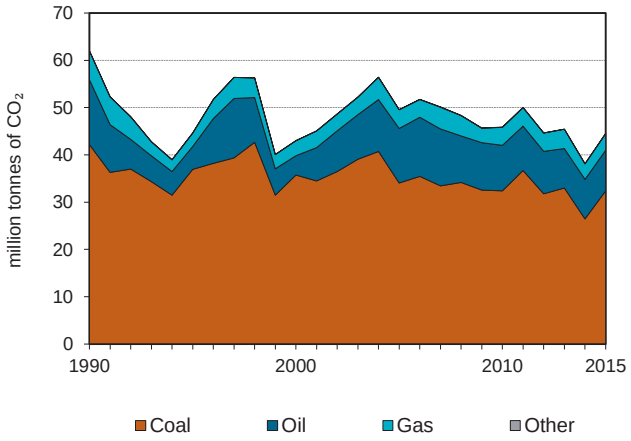


Figure 2. CO_2 emissions by sector

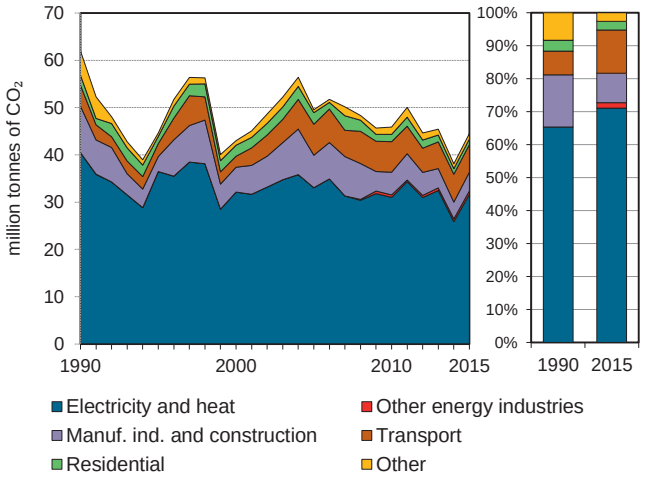


Figure 3. Electricity generation by fuel

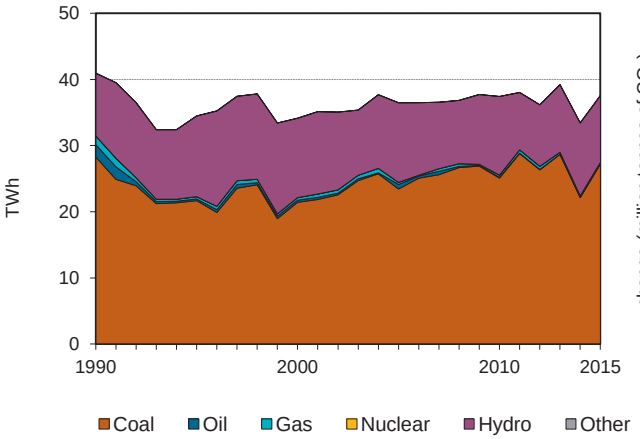


Figure 4. CO_2 from electricity generation: driving factors[2]

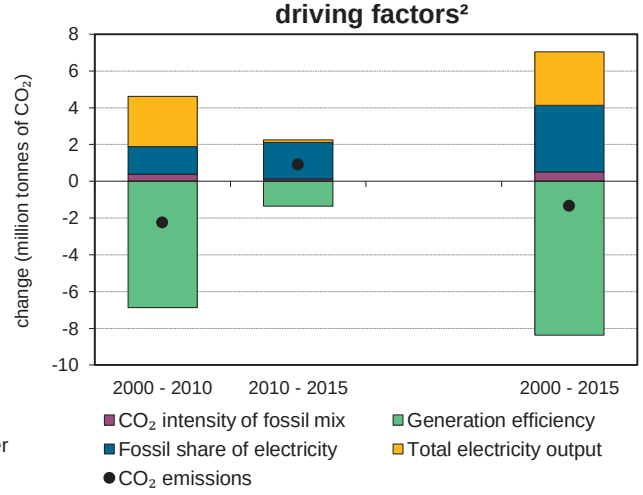


Figure 5. Changes in selected indicators

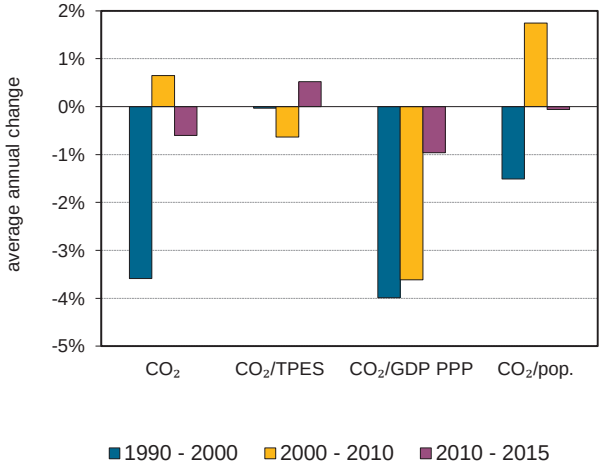
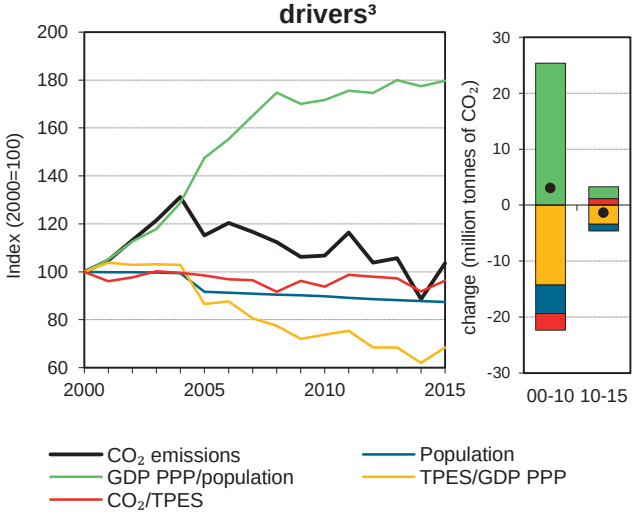


Figure 6. Total CO_2 emissions and drivers[3]



1. Data for Serbia include Montenegro until 2004 and Kosovo until 1999.
2. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
3. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Serbia [1]

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	62	44.6	43.0	49.6	45.9	38.1	44.5	-28%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	825	577	575	673	654	555	618	-25%
GDP (billion 2010 USD)	24.6	24.0	25.6	34.6	39.5	39.9	40.2	64%
GDP PPP (billion 2010 USD)	53.6	52.5	55.9	75.5	86.1	87.1	87.7	64%
Population (millions)	10.1	10.3	8.1	7.4	7.3	7.1	7.1	-29%
CO_2 / TPES (tCO_2 per TJ)	75.1	77.3	74.8	73.7	70.2	68.7	72.1	-4%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	2.52	1.9	1.7	1.4	1.2	1.0	1.1	-56%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	1.16	0.9	0.8	0.7	0.5	0.4	0.5	-56%
CO_2 / population (tCO_2 per capita)	6.2	4.3	5.3	6.7	6.3	5.3	6.3	2%
Share of electricity output from fossil fuels	77%	65%	65%	67%	68%	67%	73%	
CO_2 / kWh of electricity (gCO_2/kWh)	910	1022	904	779	722	693	757	-17%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [2]								
CO_2 emissions index	100	72	69	80	74	61	72	-28%
Population index	100	102	81	74	73	71	71	-29%
GDP PPP per population index	100	96	129	190	222	229	232	132%
Energy intensity index - TPES / GDP PPP	100	71	67	58	49	41	46	-54%
Carbon intensity index - CO_2 / TPES	100	103	100	98	93	91	96	-4%

1. Data for Serbia include Montenegro until 2004 and Kosovo until 1999. 2. Please see Part I for methodological notes.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [3]	Total	%change 90-15
CO_2 fuel combustion	**32.4**	**8.6**	**3.5**	**0.0**	**44.5**	**-28%**
Electricity and heat generation	29.6	0.7	1.4	0.0	31.7	-22%
Other energy industry own use	-	0.3	0.4	-	0.7	x
Manufacturing industries and construction	1.8	1.1	1.0	-	4.0	-59%
Transport	-	5.8	0.0	-	5.8	31%
of which: road	-	*5.8*	*0.0*	-	*5.8*	29%
Other	0.9	0.7	0.7	-	2.3	-68%
of which: residential	*0.7*	*0.2*	*0.4*	-	*1.2*	-44%
of which: services	*0.3*	*0.2*	*0.3*	-	*0.8*	x
Memo: international marine bunkers	-	*0.1*	-	-	*0.1*	..
Memo: international aviation bunkers	-	*0.2*	-	-	*0.2*	*-56%*

3. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[4] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	28.5	-25.4	..	..
Road - oil	5.8	28.9	..	..
Manufacturing industries - coal	1.8	18.6	..	..
Manufacturing industries - oil	1.1	-82.6	..	..
Main activity prod. elec. and heat - gas	1.1	105.5	..	..
Unallocated autoproducers - coal	1.1	x	..	..
Manufacturing industries - gas	1.0	-44.5	..	..
Residential - coal	0.7	-66.1	..	..
Non-specified other - oil	0.5	-46.5	..	..
Memo: total CO_2 from fuel combustion	*44.5*	*-28.2*	..	..

4. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Singapore

Figure 1. CO_2 emissions by fuel

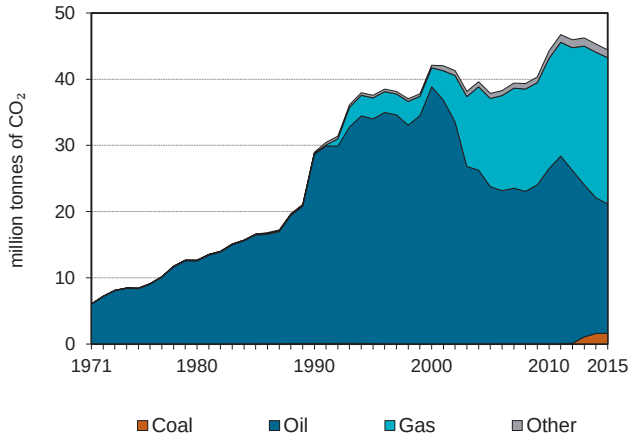


Figure 2. CO_2 emissions by sector

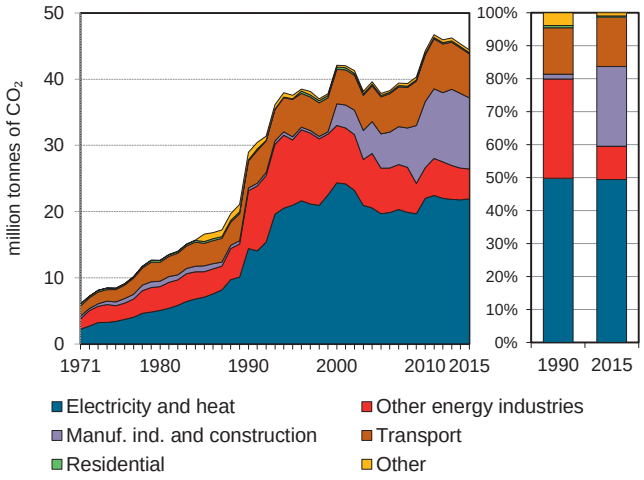


Figure 3. Electricity generation by fuel

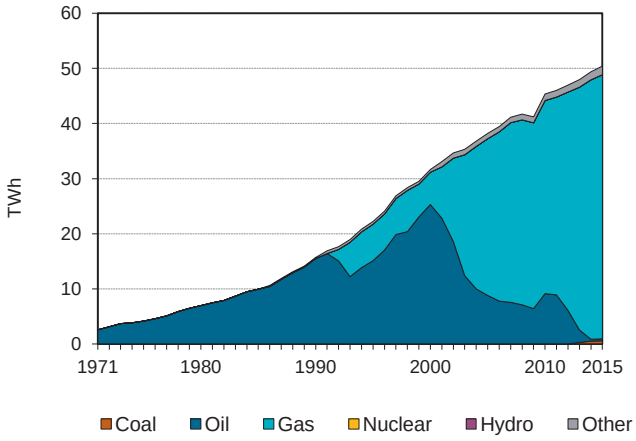


Figure 4. CO_2 from electricity generation: driving factors[1]

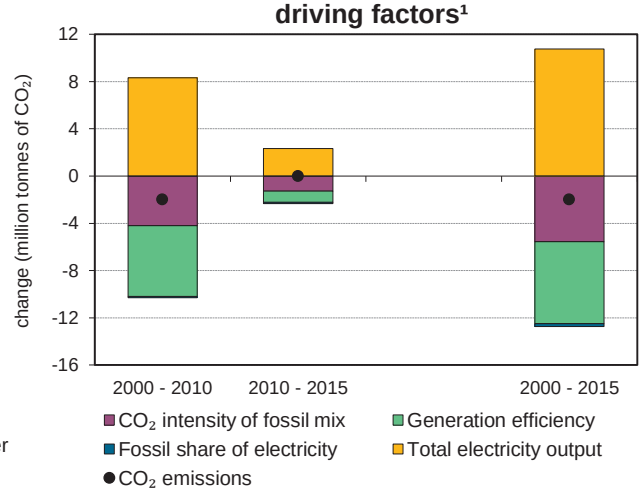


Figure 5. Changes in selected indicators

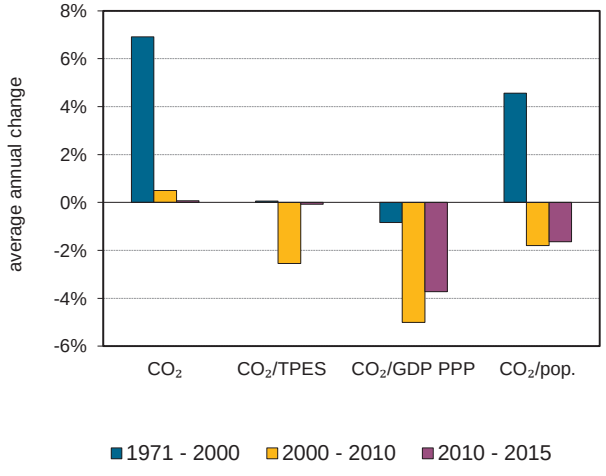
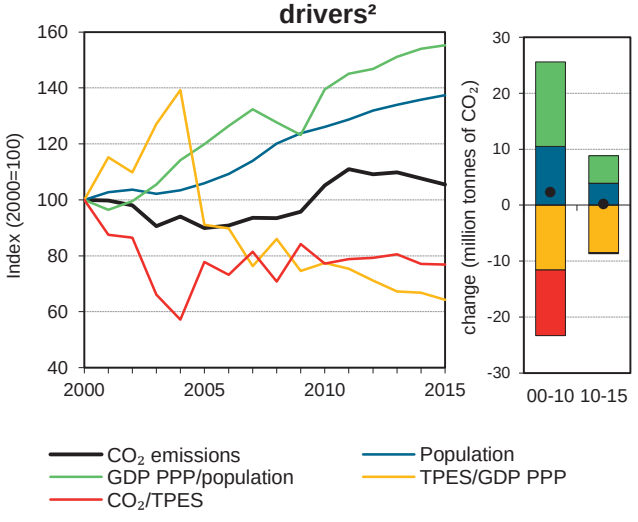


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Singapore

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	29	37.6	42.1	37.9	44.3	45.3	44.4	53%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	483	789	782	903	1 064	1 091	1 072	122%
GDP (billion 2010 USD)	67.6	102.2	134.5	170.7	236.4	281.4	287.0	325%
GDP PPP (billion 2010 USD)	102.4	154.9	203.8	258.7	358.2	426.3	434.9	325%
Population (millions)	3.1	3.5	4.0	4.3	5.1	5.5	5.5	82%
CO_2 / TPES (tCO_2 per TJ)	60	47.6	53.9	41.9	41.6	41.5	41.4	-31%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.43	0.4	0.3	0.2	0.2	0.2	0.2	-64%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.28	0.2	0.2	0.1	0.1	0.1	0.1	-64%
CO_2 / population (tCO_2 per capita)	9.5	10.7	10.5	8.9	8.7	8.3	8.0	-16%
Share of electricity output from fossil fuels	99%	99%	99%	99%	99%	98%	98%	
CO_2 / kWh of electricity (gCO_2/kWh)	917	942	769	515	485	441	435	-53%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	130	145	131	153	157	153	53%
Population index	100	116	132	140	167	180	182	82%
GDP PPP per population index	100	131	151	180	210	232	234	134%
Energy intensity index - TPES / GDP PPP	100	108	81	74	63	54	52	-48%
Carbon intensity index - CO_2 / TPES	100	79	90	70	69	69	69	-31%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**1.6**	**19.5**	**22.1**	**1.2**	**44.4**	**53%**
Electricity and heat generation	1.0	0.6	19.2	1.2	21.9	52%
Other energy industry own use	-	4.5	0.0	-	4.5	-48%
Manufacturing industries and construction	0.6	7.6	2.6	-	10.7	+
Transport	-	6.6	0.0	-	6.6	63%
of which: road	-	*6.4*	*0.0*	-	*6.5*	59%
Other	-	0.3	0.3	-	0.6	-53%
of which: residential	-	*0.1*	*0.1*	-	*0.2*	9%
of which: services	-	*0.2*	*0.2*	-	*0.4*	-61%
Memo: international marine bunkers	-	*140.6*	-	-	*140.6*	*311%*
Memo: international aviation bunkers	-	*22.1*	-	-	*22.1*	*288%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - gas	17.1	x	11.7	11.7
Manufacturing industries - oil	7.6	+	5.2	16.9
Road - oil	6.4	58.5	4.4	21.4
Other energy industry own use - oil	4.5	-48.6	3.1	24.5
Manufacturing industries - gas	2.6	x	1.8	26.2
Unallocated autoproducers - gas	2.1	x	1.4	27.7
Main activity prod. elec. and heat - other	1.2	777.0	0.8	28.5
Main activity prod. elec. and heat - coal	1.0	+	0.7	29.2
Manufacturing industries - coal	0.6	543.1	0.4	29.6
Memo: total CO_2 from fuel combustion	*44.4*	*53.4*	*30.6*	*30.6*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Slovak Republic

Figure 1. CO_2 emissions by fuel

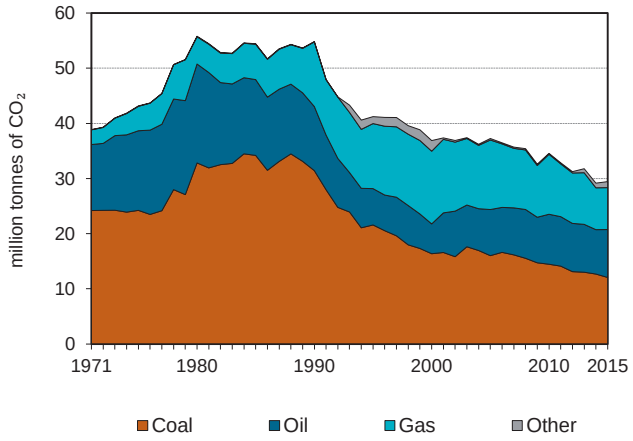


Figure 2. CO_2 emissions by sector

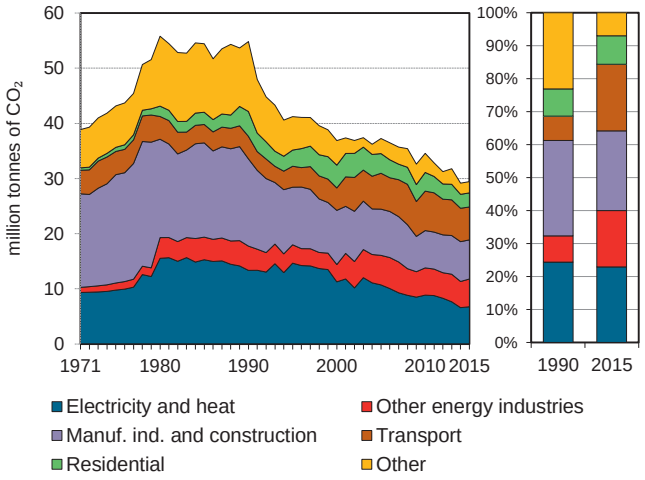


Figure 3. Electricity generation by fuel

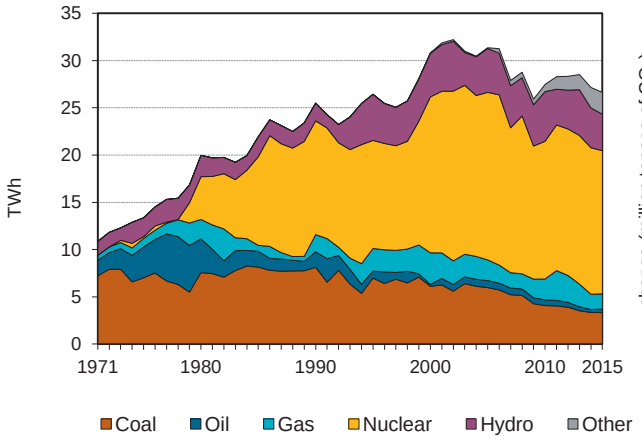


Figure 4. CO_2 from electricity generation: driving factors[1]

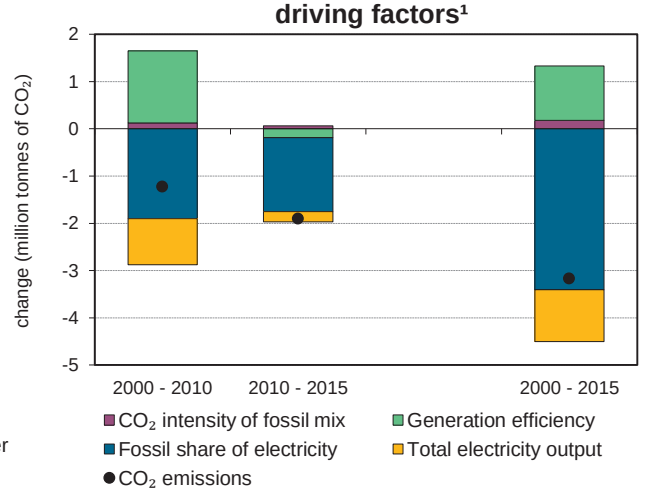


Figure 5. Changes in selected indicators

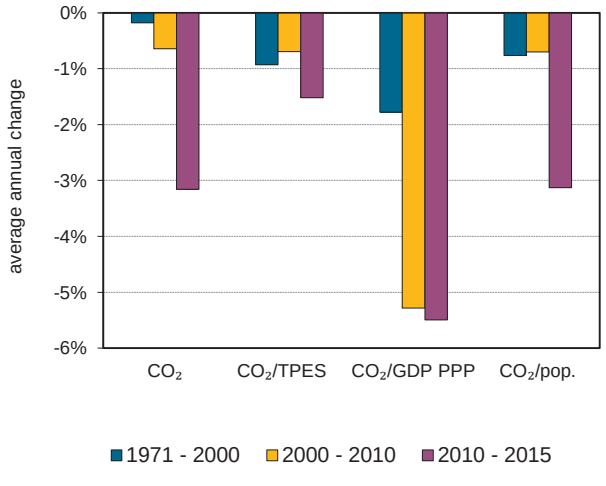
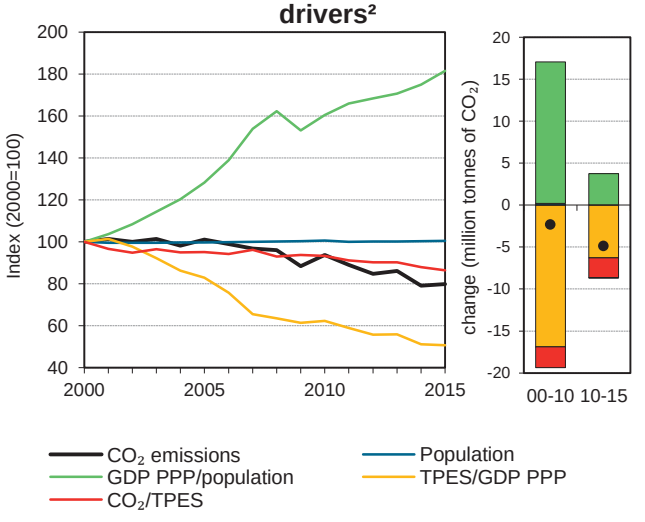


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Slovak Republic

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	54.8	41.2	36.9	37.3	34.6	29.2	29.4	-46%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	893	744	743	788	746	668	686	-23%
GDP (billion 2010 USD)	51.1	46.6	55.5	71.0	89.5	97.4	101.1	98%
GDP PPP (billion 2010 USD)	77	70.3	83.6	106.9	134.8	146.7	152.3	98%
Population (millions)	5.3	5.4	5.4	5.4	5.4	5.4	5.4	2%
CO_2 / TPES (tCO_2 per TJ)	61.4	55.4	49.6	47.3	46.3	43.7	42.9	-30%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	1.07	0.9	0.7	0.5	0.4	0.3	0.3	-73%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.71	0.6	0.4	0.3	0.3	0.2	0.2	-73%
CO_2 / population (tCO_2 per capita)	10.4	7.7	6.8	6.9	6.4	5.4	5.4	-48%
Share of electricity output from fossil fuels	45%	38%	31%	29%	25%	20%	20%	
CO_2 / kWh of electricity (gCO_2/kWh)	397	371	250	225	201	162	169	-57%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	75	67	68	63	53	54	-46%
Population index	100	101	102	102	102	102	102	2%
GDP PPP per population index	100	90	107	137	171	186	193	93%
Energy intensity index - TPES / GDP PPP	100	91	77	64	48	39	39	-61%
Carbon intensity index - CO_2 / TPES	100	90	81	77	75	71	70	-30%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**12.1**	**8.7**	**7.6**	**1.1**	**29.4**	**-46%**
Electricity and heat generation	4.4	0.7	1.6	0.1	6.7	-49%
Other energy industry own use	3.3	1.6	0.2	-	5.0	14%
Manufacturing industries and construction	3.8	0.4	1.9	1.0	7.1	-55%
Transport	-	5.7	0.2	-	6.0	46%
of which: road	-	*5.6*	-	-	*5.6*	38%
Other	0.5	0.3	3.8	0.1	4.6	-73%
of which: residential	*0.1*	*0.0*	*2.5*	-	*2.6*	-43%
of which: services	*0.5*	*0.0*	*1.2*	*0.1*	*1.8*	-84%
Memo: international marine bunkers	-	-	-	-	-	-
Memo: international aviation bunkers	-	*0.1*	-	-	*0.1*	*x*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	5.6	38.3	12.5	12.5
Manufacturing industries - coal	3.8	-54.3	8.5	20.9
Main activity prod. elec. and heat - coal	3.7	-55.4	8.2	29.1
Other energy industry - coal	3.3	-11.8	7.2	36.4
Residential - gas	2.5	-3.7	5.4	41.8
Manufacturing industries - gas	1.9	-40.8	4.1	45.9
Other energy industry own use - oil	1.6	268.9	3.5	49.4
Main activity prod. elec. and heat - gas	1.4	-32.4	3.1	52.4
Non-specified other - gas	1.3	-63.2	2.8	55.3
Memo: total CO_2 from fuel combustion	*29.4*	*-46.3*	*65.0*	*65.0*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Slovenia [1]

Figure 1. CO_2 emissions by fuel

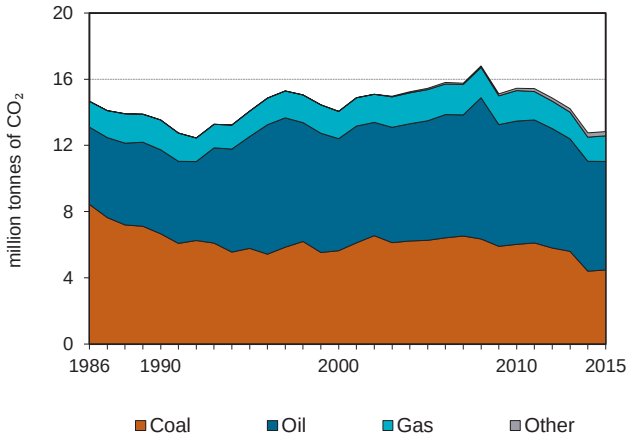


Figure 2. CO_2 emissions by sector

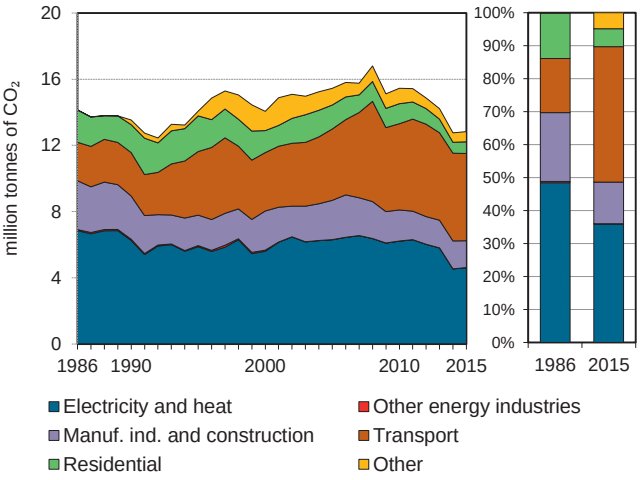


Figure 3. Electricity generation by fuel

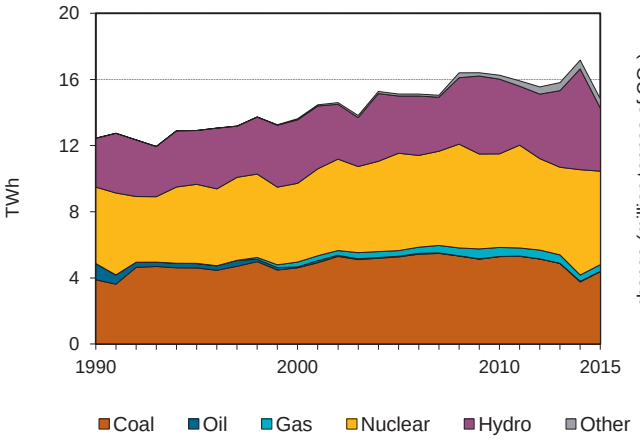


Figure 4. CO_2 from electricity generation: driving factors[2]

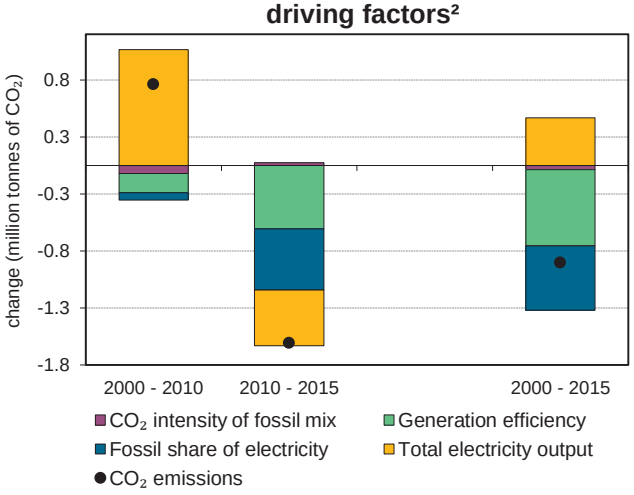


Figure 5. Changes in selected indicators

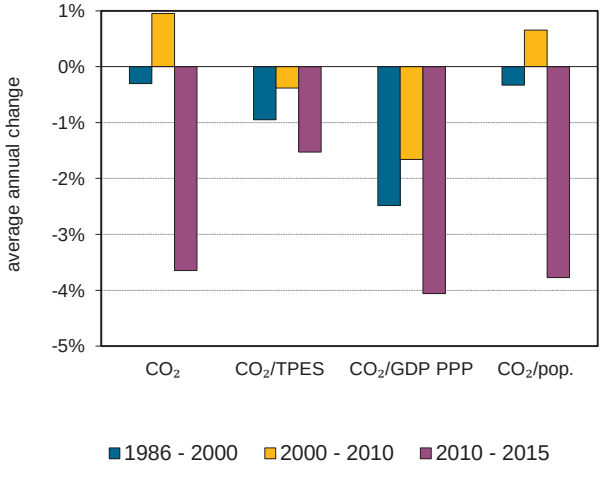
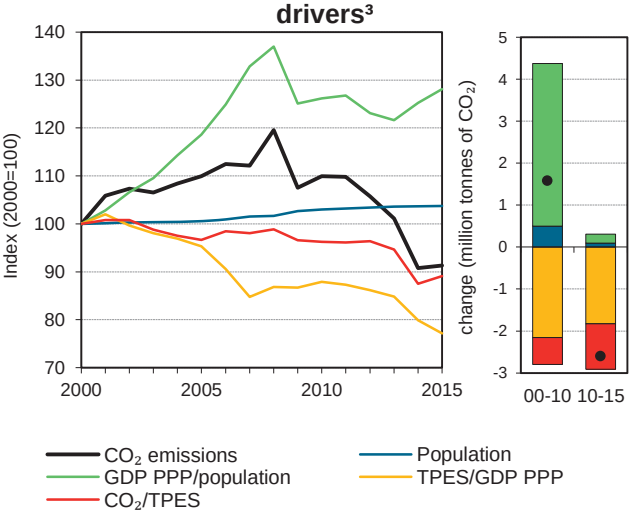


Figure 6. Total CO_2 emissions and drivers[3]



1. Under the Convention Slovenia is allowed to use 1986 as its base year.
2. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
3. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Slovenia [1]

Key indicators

	1986	1990	1995	2005	2010	2014	2015	%change 86-15
CO_2 fuel combustion ($MtCO_2$)	14.7e	13.5	14.1	15.4	15.5	12.8	12.8	-12%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	245e	239	254	305	307	278	275	12%
GDP (billion 2010 USD)	29.6e	30.9	30.0	44.1	48.0	48.0	49.1	66%
GDP PPP (billion 2010 USD)	32.1e	36.6	35.5	52.3	56.9	56.9	58.2	81%
Population (millions)	2e	2.0	2.0	2.0	2.0	2.1	2.1	4%
CO_2 / TPES (tCO_2 per TJ)	59.8e	56.6	55.4	50.6	50.4	45.8	46.7	-22%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.5e	0.4	0.5	0.4	0.3	0.3	0.3	-47%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.46e	0.4	0.4	0.3	0.3	0.2	0.2	-52%
CO_2 / population (tCO_2 per capita)	7.4e	6.8	7.1	7.7	7.5	6.2	6.2	-16%
Share of electricity output from fossil fuels	..	39%	38%	37%	36%	24%	32%	
CO_2 / kWh of electricity (gCO_2/kWh)	..	438	390	356	331	226	265	..
CO_2 emissions and drivers - Kaya decomposition (1986=100) [2]								
CO_2 emissions index	100	92	96	105	105	87	88	-12%
Population index	100	101	100	101	103	104	104	4%
GDP PPP per population index	100	113	110	161	171	170	174	74%
Energy intensity index - TPES / GDP PPP	100	86	94	77	71	64	62	-38%
Carbon intensity index - CO_2 / TPES	100	95	93	85	84	77	78	-22%

1. Under the Convention Slovenia is allowed to use 1986 as its base year. 2. Please see Part I for methodological notes.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [3]	Total	%change 86-15
CO_2 fuel combustion	**4.5**	**6.6**	**1.5**	**0.3**	**12.8**	**-12%**
Electricity and heat generation	4.3	0.0	0.2	0.0	4.6	-33%
Other energy industry own use	-	-	0.0	-	0.0	-90%
Manufacturing industries and construction	0.2	0.3	0.9	0.2	1.6	-45%
Transport	-	5.3	0.0	-	5.3	127%
of which: road	-	*5.2*	*0.0*	-	*5.2*	129%
Other	-	1.0	0.4	-	1.3	-33%
of which: residential	-	*0.5*	*0.2*	-	*0.7*	-64%
of which: services	-	*0.2*	*0.1*	-	*0.3*	x
Memo: international marine bunkers	-	*0.2*	-	-	*0.2*	..
Memo: international aviation bunkers	-	*0.1*	-	-	*0.1*	*-22%*

3. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 86-15	Level assessment[4] (%)	Cumulative total (%)
Road - oil	5.2	128.4	30.8	30.8
Main activity prod. elec. and heat - coal	4.3	-26.5	25.2	56.1
Manufacturing industries - gas	0.9	-17.1	5.6	61.6
Non-specified other - oil	0.5	x	2.9	64.6
Residential - oil	0.5	-32.4	2.7	67.3
Manufacturing industries - oil	0.3	-72.1	1.8	69.1
Residential - gas	0.2	590.6	1.4	70.5
Manufacturing industries -other	0.2	x	1.2	71.8
Main activity prod. elec. and heat - gas	0.2	320.4	1.2	72.9
Memo: total CO_2 from fuel combustion	*12.8*	*-12.5*	*75.7*	*75.7*

4. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

South Africa

Figure 1. CO_2 emissions by fuel

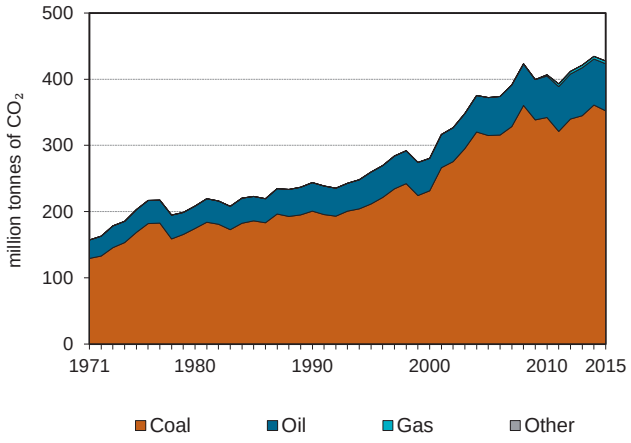


Figure 2. CO_2 emissions by sector

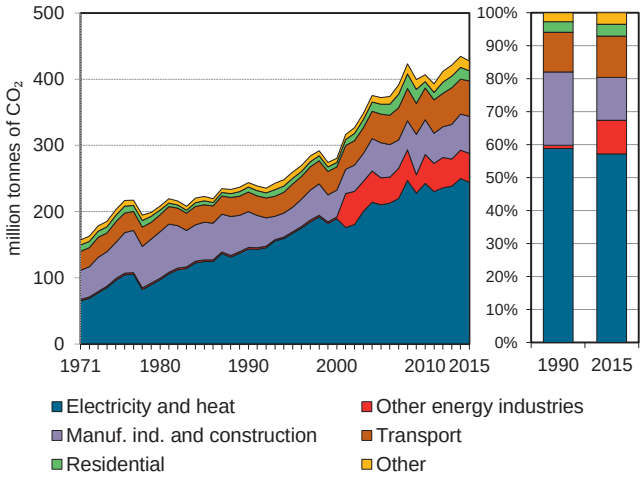


Figure 3. Electricity generation by fuel

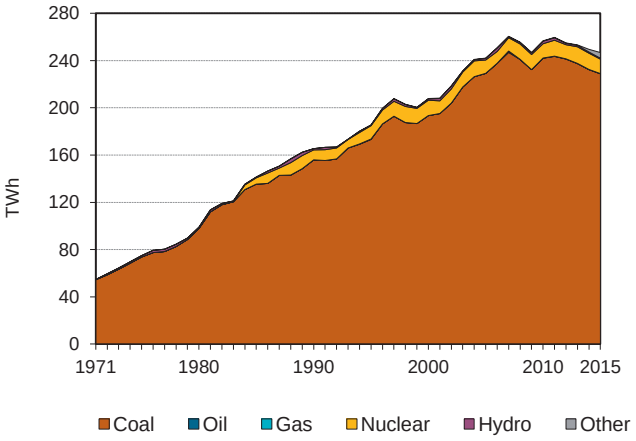


Figure 4. CO_2 from electricity generation: driving factors[1]

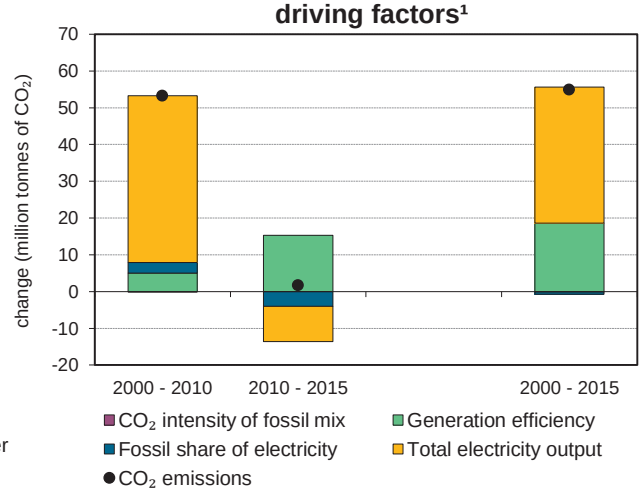


Figure 5. Changes in selected indicators

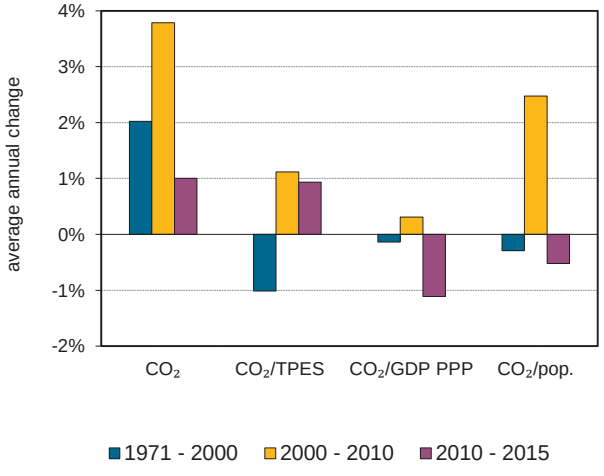
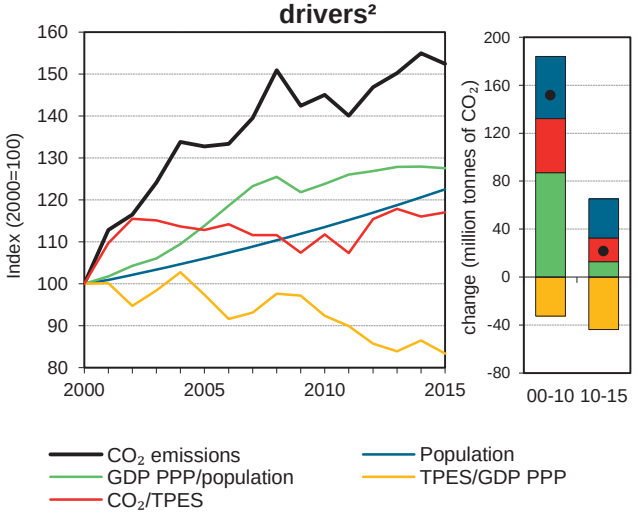


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

South Africa

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	243.8	259.8	280.5	372.3	406.7	434.6	427.6	75%
Share of World CO_2 from fuel combustion	1%	1%	1%	1%	1%	1%	1%	
TPES (PJ)	3808	4 335	4 565	5 369	5 925	6 096	5 946	56%
GDP (billion 2010 USD)	223	232.7	267.0	322.3	375.3	412.1	417.3	87%
GDP PPP (billion 2010 USD)	357.4	372.9	427.9	516.5	601.5	660.4	668.7	87%
Population (millions)	36.8	41.4	44.9	47.6	51.0	54.1	55.0	50%
CO_2 / TPES (tCO_2 per TJ)	64	59.9	61.4	69.3	68.6	71.3	71.9	12%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	1.09	1.1	1.1	1.2	1.1	1.1	1.0	-6%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.68	0.7	0.7	0.7	0.7	0.7	0.6	-6%
CO_2 / population (tCO_2 per capita)	6.6	6.3	6.2	7.8	8.0	8.0	7.8	17%
Share of electricity output from fossil fuels	94%	94%	93%	95%	94%	93%	93%	
CO_2 / kWh of electricity (gCO_2/kWh)	866	902	911	869	945	1002	990	14%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	107	115	153	167	178	175	75%
Population index	100	113	122	129	139	147	150	50%
GDP PPP per population index	100	93	98	112	121	126	125	25%
Energy intensity index - TPES / GDP PPP	100	109	100	98	92	87	83	-17%
Carbon intensity index - CO_2 / TPES	100	94	96	108	107	111	112	12%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**352.3**	**71.2**	**4.1**	**-**	**427.6**	**75%**
Electricity and heat generation	244.2	0.1	-	-	244.4	70%
Other energy industry own use	41.3	2.3	-	-	43.6	+
Manufacturing industries and construction	44.6	7.3	4.1	-	56.0	3%
Transport	-	53.6	0.0	-	53.6	81%
of which: road	-	*49.9*	*0.0*	-	*49.9*	77%
Other	22.2	7.9	0.0	-	30.1	110%
of which: residential	*13.7*	*1.6*	-	-	*15.3*	99%
of which: services	*6.9*	*0.6*	*0.0*	-	*7.4*	105%
Memo: international marine bunkers	-	*11.7*	-	-	*11.7*	*95%*
Memo: international aviation bunkers	-	*2.7*	-	-	*2.7*	*147%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	232.9	72.9	38.5	38.5
Road - oil	49.9	76.7	8.2	46.8
Manufacturing industries - coal	44.6	-5.9	7.4	54.1
Other energy industry - coal	41.3	+	6.8	61.0
Residential - coal	13.7	133.7	2.3	63.2
Unallocated autoproducers - coal	11.3	29.5	1.9	65.1
Non-specified other sectors - coal	8.5	127.5	1.4	66.5
Manufacturing industries - oil	7.3	8.3	1.2	67.7
Non-specified other - oil	6.3	116.3	1.0	68.8
Memo: total CO_2 from fuel combustion	*427.6*	*75.4*	*70.7*	*70.7*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

South Sudan [1]

Figure 1. CO_2 emissions by fuel

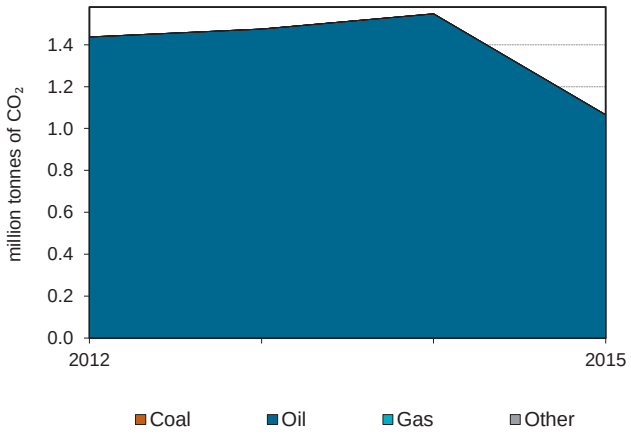


Figure 2. CO_2 emissions by sector

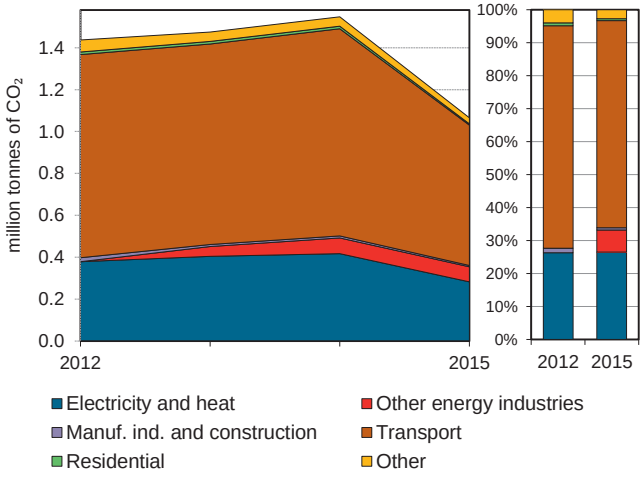


Figure 3. Electricity generation by fuel

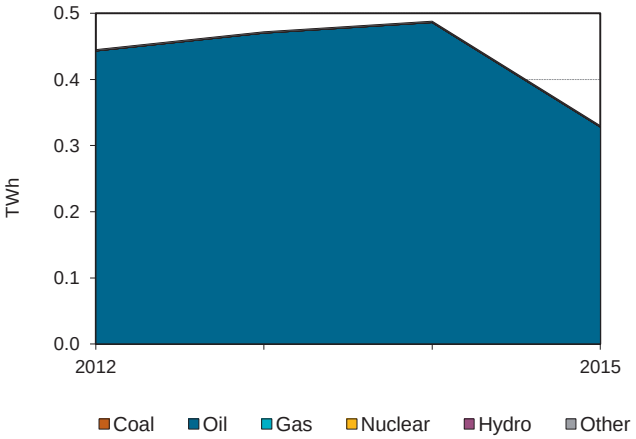


Figure 4. CO_2 from electricity generation: driving factors[2]

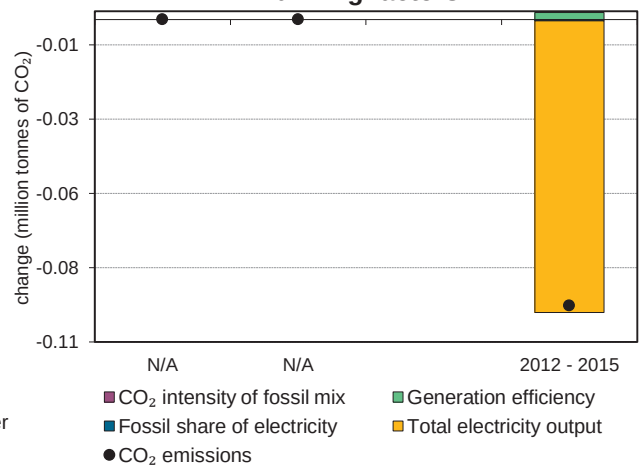


Figure 5. Changes in selected indicators

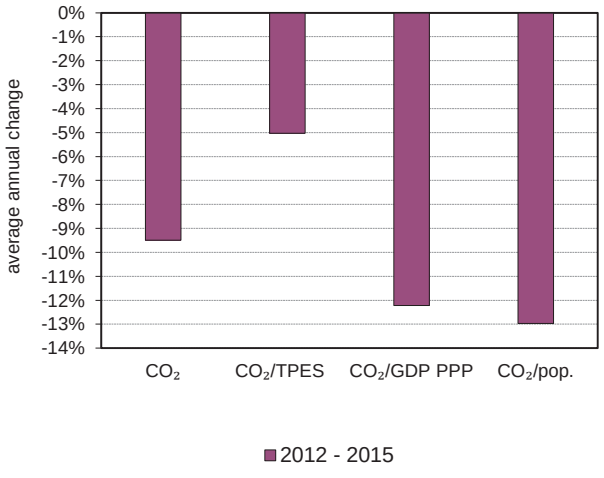
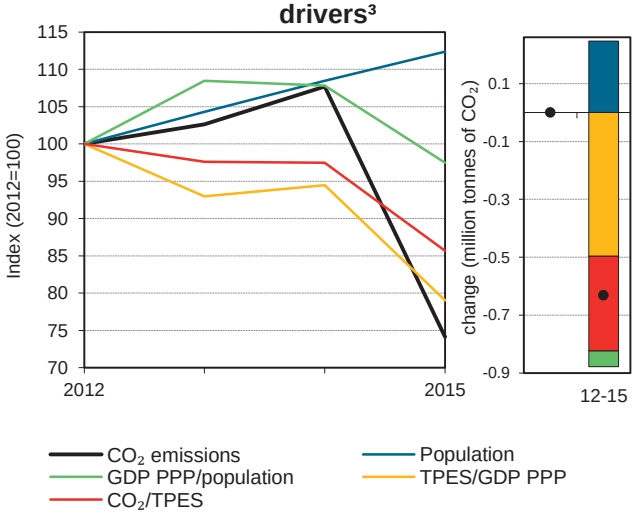


Figure 6. Total CO_2 emissions and drivers[3]



1. Prior to 2012, data for South Sudan were included in Sudan.
2. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
3. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

South Sudan [1]

Key indicators

	1990	2000	2005	2010	2012	2014	2015	%change 12-15
CO_2 fuel combustion ($MtCO_2$)	..	..	..	..	1.4	1.5	1.1	-26%
Share of World CO_2 from fuel combustion	..	..	..	..	0%	0%	0%	
TPES (PJ)	..	..	..	..	27	30	23	-13%
GDP (billion 2010 USD)	..	..	..	..	5.2	6.1	4.1	-21%
GDP PPP (billion 2010 USD)	..	..	..	..	19.2	22.5	21.1	10%
Population (millions)	..	..	..	..	11.0	11.9	12.3	12%
CO_2 / TPES (tCO_2 per TJ)	..	..	..	..	53.3	52.0	45.7	-14%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	..	..	..	..	0.3	0.3	0.3	-6%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	..	..	..	..	0.1	0.1	0.1	-32%
CO_2 / population (tCO_2 per capita)	..	..	..	..	0.1	0.1	0.1	-34%
Share of electricity output from fossil fuels	..	..	..	..	100%	100%	99%	
CO_2 / kWh of electricity (gCO_2/kWh)	..	..	..	..	850	854	855	1%
CO_2 emissions and drivers - Kaya decomposition (2012=100) [2]								
CO_2 emissions index	..	..	..	..	100	108	74	-26%
Population index	..	..	..	..	100	108	112	12%
GDP PPP per population index	..	..	..	..	100	108	97	-3%
Energy intensity index - TPES / GDP PPP	..	..	..	..	100	94	79	-21%
Carbon intensity index - CO_2 / TPES	..	..	..	..	100	97	86	-14%

1. Prior to 2012, data for South Sudan were included in Sudan. 2. Please see the chapter *Indicator sources and methods* in Part I for methodological notes.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [3]	Total	%change 12-15
CO_2 fuel combustion	**-**	**1.1**	**-**	**-**	**1.1**	**-26%**
Electricity and heat generation	-	0.3	-	-	0.3	-25%
Other energy industry own use	-	0.1	-	-	0.1	x
Manufacturing industries and construction	-	0.0	-	-	0.0	-66%
Transport	-	0.7	-	-	0.7	-31%
of which: road	-	*0.7*	-	-	*0.7*	-31%
Other	-	0.0	-	-	0.0	-50%
of which: residential	-	*0.0*	-	-	*0.0*	-50%
of which: services	-	-	-	-	-	-
Memo: international marine bunkers	-	-	-	-	-	-
Memo: international aviation bunkers	-	*0.1*	-	-	*0.1*	*-19%*

3. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 12-15	Level assessment[4] (%)	Cumulative total (%)
Road - oil	0.7	-31.1	..	..
Unallocated autoproducers - oil	0.1	-25.8	..	..
Main activity prod. elec. and heat - oil	0.1	-25.0	..	..
Other energy industry own use - oil	0.1	x	..	..
Non-specified other - oil	0.0	-49.9	..	..
Other transport - oil	0.0	-25.0	..	..
Manufacturing industries - oil	0.0	-66.3	..	..
Residential - oil	0.0	-50.0	..	..
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*1.1*	*-25.9*	..	..

4. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Spain

Figure 1. CO_2 emissions by fuel

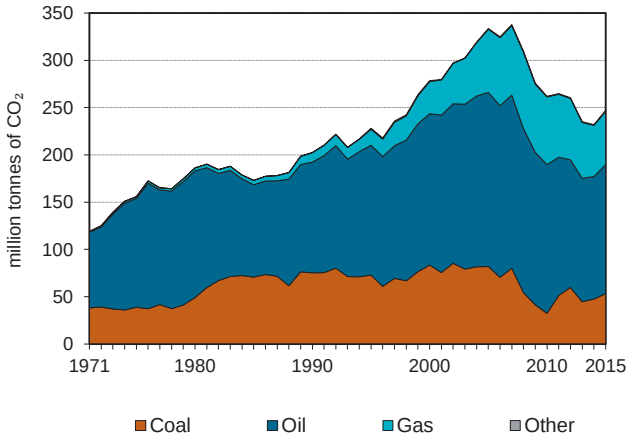


Figure 2. CO_2 emissions by sector

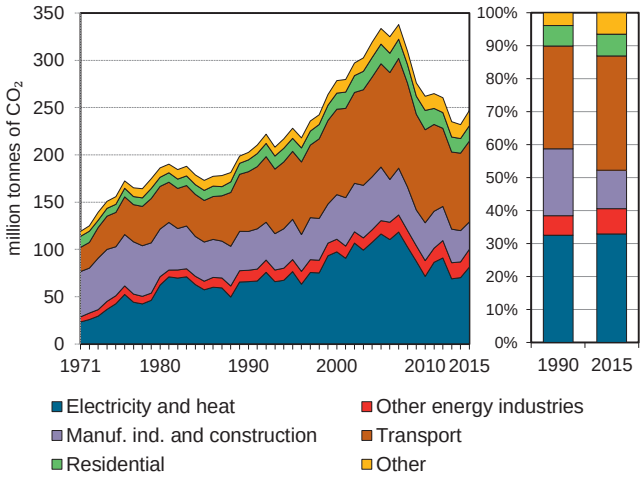


Figure 3. Electricity generation by fuel

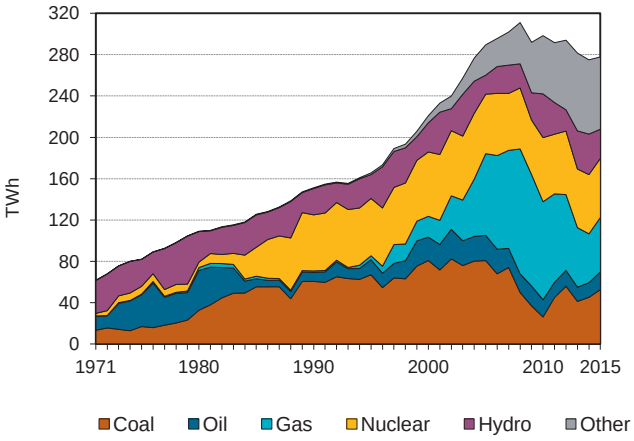


Figure 4. CO_2 from electricity generation: driving factors[1]

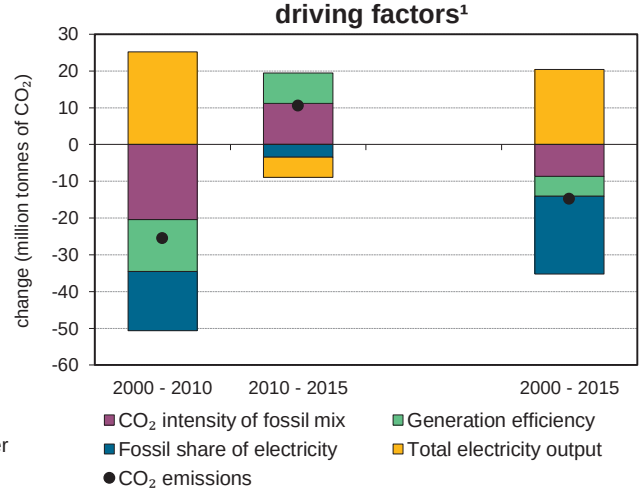


Figure 5. Changes in selected indicators

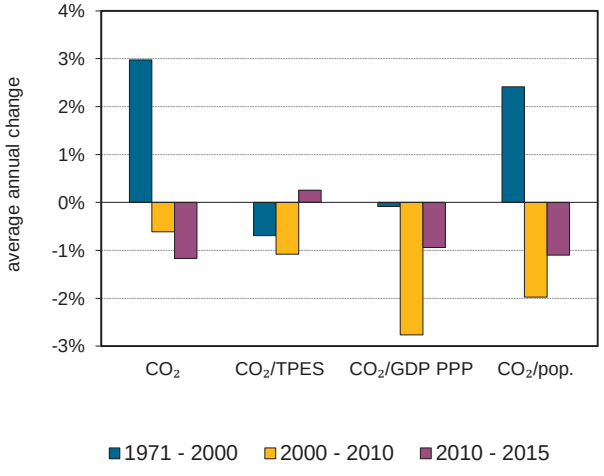
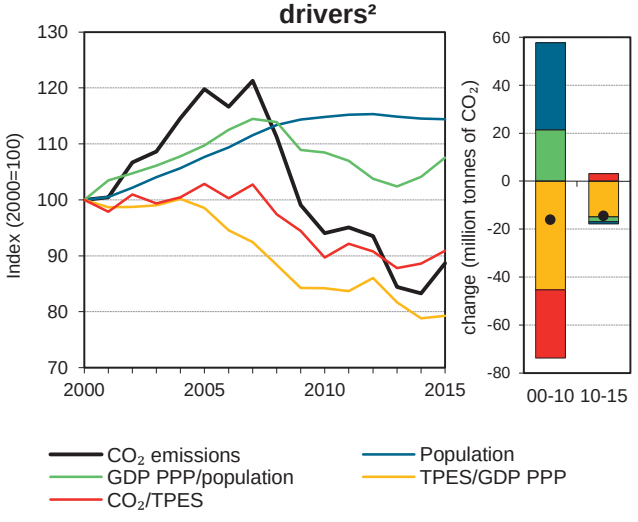


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Spain

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	202.6	228.2	278.5	333.6	262.0	232.0	247.0	22%
Share of World CO_2 from fuel combustion	1%	1%	1%	1%	1%	1%	1%	
TPES (PJ)	3771	4 220	5 102	5 942	5 349	4 796	4 979	32%
GDP (billion 2010 USD)	873.2	940.9	1 149.5	1 358.1	1 431.6	1 370.9	1 414.9	62%
GDP PPP (billion 2010 USD)	908.6	979.1	1 196.2	1 413.2	1 489.7	1 426.6	1 472.3	62%
Population (millions)	39.3	39.7	40.6	43.7	46.6	46.5	46.4	18%
CO_2 / TPES (tCO_2 per TJ)	53.7	54.1	54.6	56.1	49.0	48.4	49.6	-8%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.23	0.2	0.2	0.2	0.2	0.2	0.2	-25%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.22	0.2	0.2	0.2	0.2	0.2	0.2	-25%
CO_2 / population (tCO_2 per capita)	5.2	5.7	6.9	7.6	5.6	5.0	5.3	3%
Share of electricity output from fossil fuels	47%	52%	56%	66%	46%	39%	44%	
CO_2 / kWh of electricity (gCO_2/kWh)	436	462	441	402	240	255	293	-33%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	113	137	165	129	115	122	22%
Population index	100	101	103	111	118	118	118	18%
GDP PPP per population index	100	107	128	140	139	133	137	37%
Energy intensity index - TPES / GDP PPP	100	104	103	101	87	81	81	-19%
Carbon intensity index - CO_2 / TPES	100	101	102	105	91	90	92	-8%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**53.2**	**136.4**	**56.4**	**1.0**	**247.0**	**22%**
Electricity and heat generation	49.1	11.9	19.4	1.0	81.4	23%
Other energy industry own use	0.4	12.5	5.9	-	18.8	56%
Manufacturing industries and construction	3.3	9.5	16.2	-	28.9	-29%
Transport	-	84.8	0.7	-	85.5	35%
of which: road	-	*77.6*	*0.7*	-	*78.3*	47%
Other	0.5	17.7	14.1	0.0	32.4	59%
of which: residential	*0.4*	*8.8*	*7.1*	-	*16.2*	30%
of which: services	*0.0*	*3.2*	*6.2*	*0.0*	*9.4*	154%
Memo: international marine bunkers	-	*23.8*	-	-	*23.8*	*105%*
Memo: international aviation bunkers	-	*11.6*	-	-	*11.6*	*244%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	77.6	45.6	23.1	23.1
Main activity prod. elec. and heat - coal	48.7	-15.1	14.5	37.6
Manufacturing industries - gas	16.2	103.0	4.8	42.5
Other energy industry own use - oil	12.5	24.6	3.7	46.2
Main activity prod. elec. and heat - gas	12.0	+	3.6	49.8
Main activity prod. elec. and heat - oil	10.1	67.3	3.0	52.8
Manufacturing industries - oil	9.5	-51.4	2.8	55.6
Non-specified other - oil	9.0	21.8	2.7	58.3
Residential - oil	8.8	-12.5	2.6	60.9
Memo: total CO_2 from fuel combustion	*247.0*	*21.9*	*73.6*	*73.6*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Sri Lanka

Figure 1. CO_2 emissions by fuel

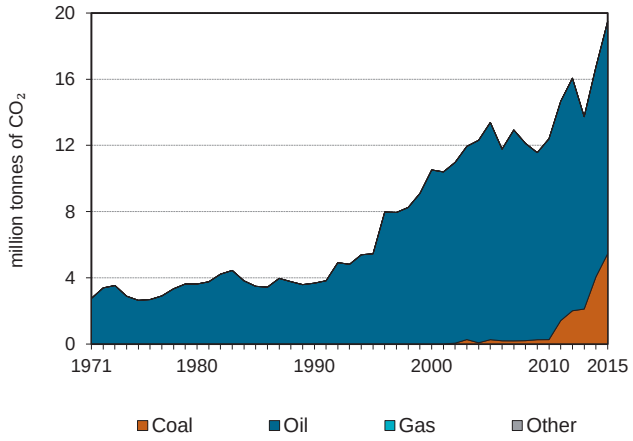


Figure 2. CO_2 emissions by sector

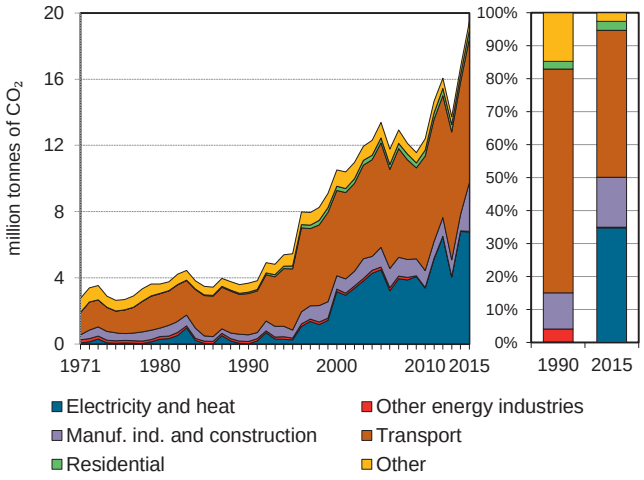


Figure 3. Electricity generation by fuel

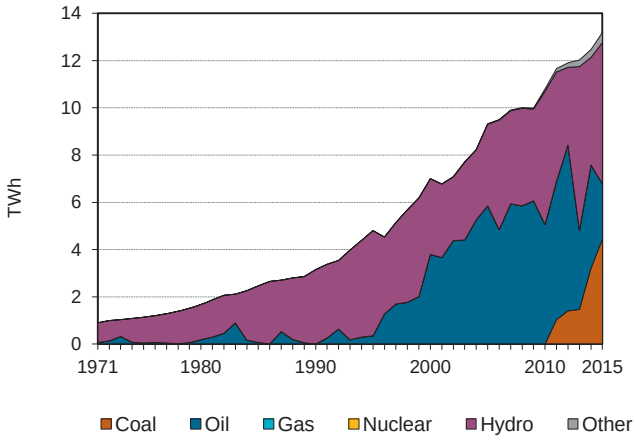


Figure 4. CO_2 from electricity generation: driving factors[1]

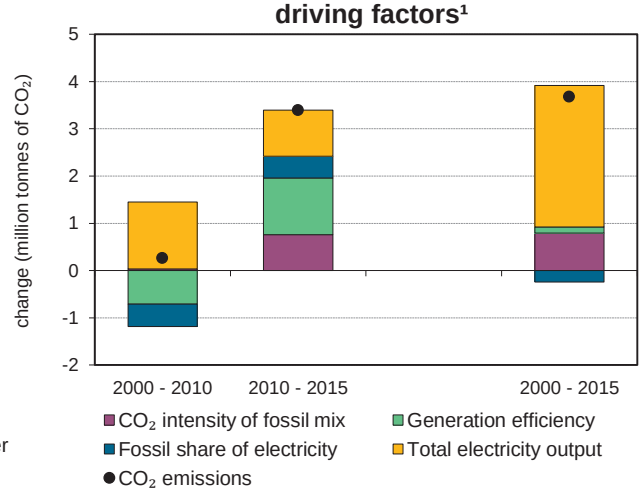


Figure 5. Changes in selected indicators

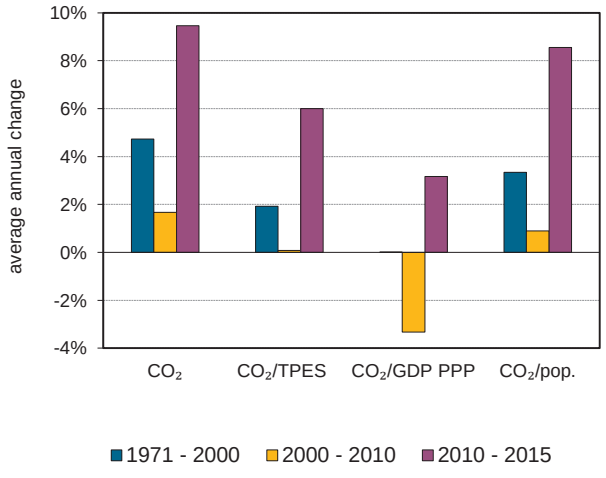
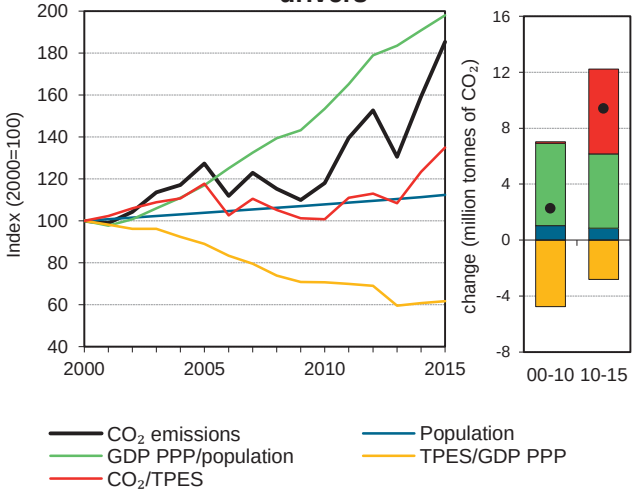


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Sri Lanka

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	3.7	5.5	10.5	13.4	12.4	16.7	19.5	430%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	231	251	349	377	408	450	479	107%
GDP (billion 2010 USD)	20.6	26.8	34.3	41.6	56.7	72.8	76.3	270%
GDP PPP (billion 2010 USD)	61.3	79.8	102.0	123.9	168.8	216.6	226.9	270%
Population (millions)	17.1	18.1	18.7	19.4	20.1	20.8	21.0	23%
CO_2 / TPES (tCO_2 per TJ)	15.9	21.7	30.2	35.5	30.4	37.2	40.7	156%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.18	0.2	0.3	0.3	0.2	0.2	0.3	43%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.06	0.1	0.1	0.1	0.1	0.1	0.1	43%
CO_2 / population (tCO_2 per capita)	0.2	0.3	0.6	0.7	0.6	0.8	0.9	332%
Share of electricity output from fossil fuels	0%	7%	54%	63%	47%	61%	52%	
CO_2 / kWh of electricity (gCO_2/kWh)	2	51	450	481	312	545	514	25921%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	148	286	364	338	456	530	430%
Population index	100	106	109	113	118	122	123	23%
GDP PPP per population index	100	123	152	178	234	290	301	201%
Energy intensity index - TPES / GDP PPP	100	84	91	81	64	55	56	-44%
Carbon intensity index - CO_2 / TPES	100	136	190	223	191	234	256	156%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**5.5**	**14.0**	**-**	**-**	**19.5**	**430%**
Electricity and heat generation	5.2	1.6	-	-	6.8	+
Other energy industry own use	-	0.0	-	-	0.0	-73%
Manufacturing industries and construction	0.2	2.7	-	-	3.0	635%
Transport	-	8.7	-	-	8.7	248%
of which: road	-	*8.4*	-	-	*8.4*	278%
Other	-	1.0	-	-	1.0	66%
of which: residential	-	*0.5*	-	-	*0.5*	530%
of which: services	-	*0.1*	-	-	*0.1*	619%
Memo: international marine bunkers	-	*1.3*	-	-	*1.3*	*6%*
Memo: international aviation bunkers	-	*1.2*	-	-	*1.2*	*x*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	8.4	278.0	24.7	24.7
Main activity prod. elec. and heat - coal	5.2	x	15.3	40.0
Manufacturing industries - oil	2.7	609.4	8.0	48.0
Main activity prod. elec. and heat - oil	1.6	+	4.6	52.6
Residential - oil	0.5	530.0	1.5	54.1
Non-specified other - oil	0.5	-5.4	1.5	55.6
Other transport - oil	0.3	3.0	0.8	56.5
Manufacturing industries - coal	0.2	+	0.7	57.2
Other energy industry own use - oil	0.0	-73.2	0.1	57.3
Memo: total CO_2 from fuel combustion	*19.5*	*430.3*	*57.3*	*57.3*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Sudan [1]

Figure 1. CO_2 emissions by fuel

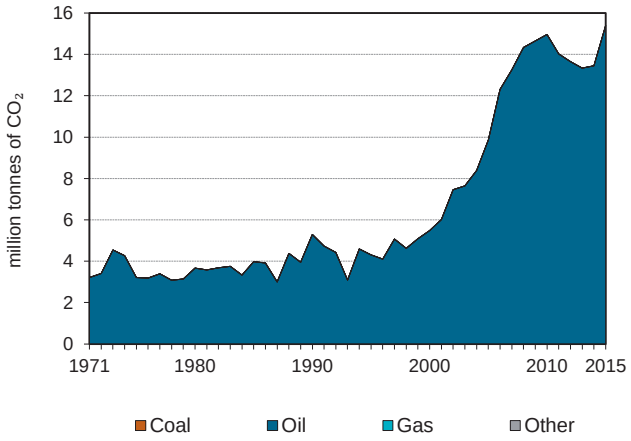


Figure 2. CO_2 emissions by sector

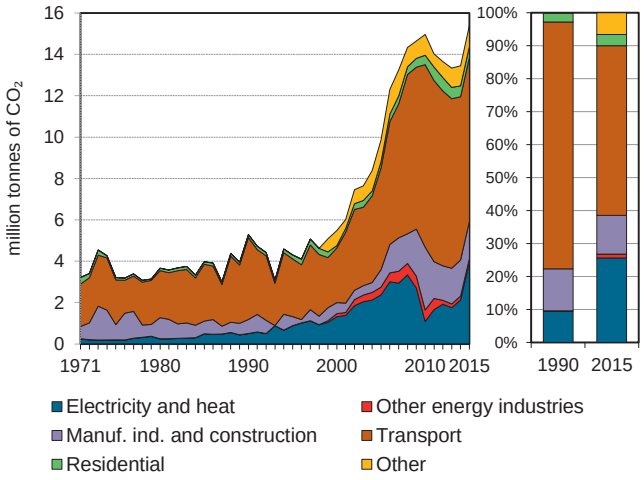


Figure 3. Electricity generation by fuel

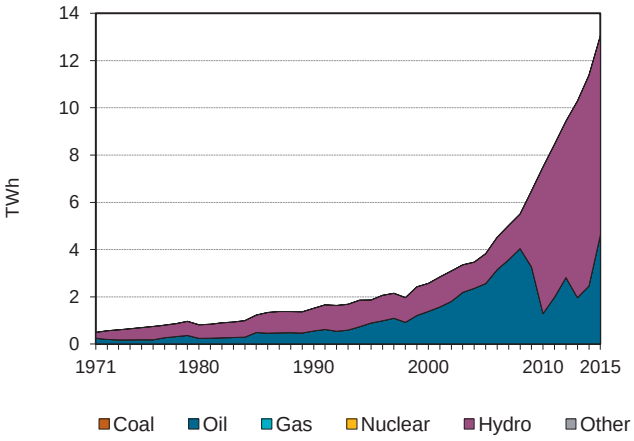


Figure 4. CO_2 from electricity generation: driving factors[2]

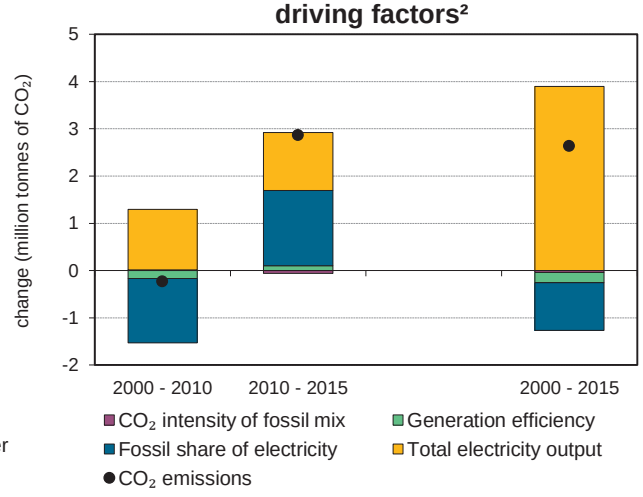


Figure 5. Changes in selected indicators

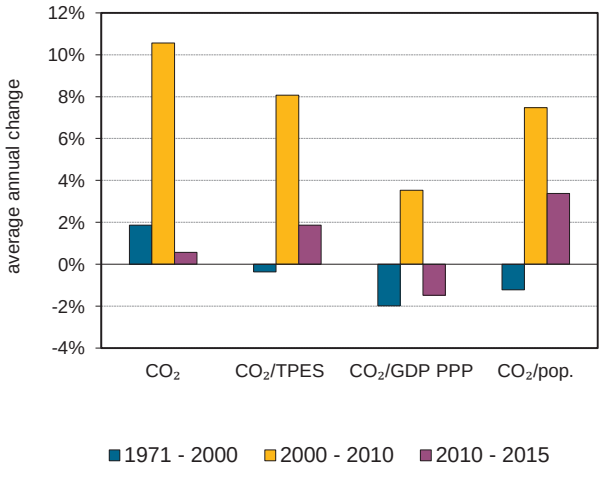
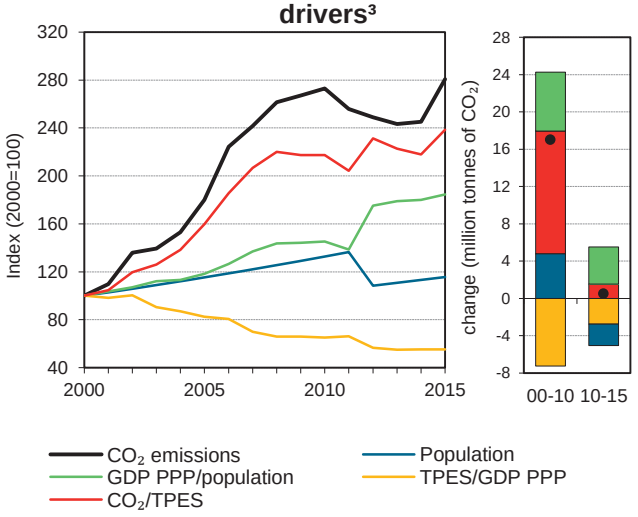


Figure 6. Total CO_2 emissions and drivers[3]



1. Data for Sudan include South Sudan until 2011.
2. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
3. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Sudan [1]

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	5.3	4.3	5.5	9.9	15.0	13.4	15.4	191%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	445	502	557	627	700	627	656	47%
GDP (billion 2010 USD)	19.8	25.4	34.1	46.4	65.6	69.3	72.7	267%
GDP PPP (billion 2010 USD)	44.3	56.8	76.1	103.7	146.6	154.9	162.5	267%
Population (millions)	25.8	30.1	34.8	40.1	46.2	39.4	40.2	56%
CO_2 / TPES (tCO_2 per TJ)	11.9	8.6	9.8	15.7	21.4	21.4	23.5	97%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.27	0.2	0.2	0.2	0.2	0.2	0.2	-21%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.12	0.1	0.1	0.1	0.1	0.1	0.1	-21%
CO_2 / population (tCO_2 per capita)	0.2	0.1	0.2	0.2	0.3	0.3	0.4	86%
Share of electricity output from fossil fuels	37%	48%	54%	67%	17%	22%	35%	
CO_2 / kWh of electricity (gCO_2/kWh)	328	470	513	621	145	187	303	-8%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [2]								
CO_2 emissions index	100	81	104	186	283	254	291	191%
Population index	100	117	135	156	179	153	156	56%
GDP PPP per population index	100	110	127	151	185	229	235	135%
Energy intensity index - TPES / GDP PPP	100	88	73	60	47	40	40	-60%
Carbon intensity index - CO_2 / TPES	100	72	83	132	180	180	197	97%

1. Data for Sudan include South Sudan until 2011. 2. Please see the chapter *Indicator sources and methods* in Part I for methodological notes.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [3]	Total	%change 90-15
CO_2 fuel combustion	**-**	**15.4**	**-**	**-**	**15.4**	**191%**
Electricity and heat generation	-	4.0	-	-	4.0	694%
Other energy industry own use	-	0.2	-	-	0.2	+
Manufacturing industries and construction	-	1.8	-	-	1.8	166%
Transport	-	7.9	-	-	7.9	100%
of which: road	-	*7.9*	-	-	*7.9*	98%
Other	-	1.5	-	-	1.5	938%
of which: residential	-	*0.5*	-	-	*0.5*	271%
of which: services	-	*0.3*	-	-	*0.3*	x
Memo: international marine bunkers	-	*0.1*	-	-	*0.1*	*200%*
Memo: international aviation bunkers	-	*0.8*	-	-	*0.8*	*734%*

3. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[4] (%)	Cumulative total (%)
Road - oil	7.9	98.5	1.7	1.7
Main activity prod. elec. and heat - oil	4.0	694.2	0.8	2.5
Manufacturing industries - oil	1.8	166.4	0.4	2.9
Non-specified other - oil	1.0	+	0.2	3.1
Residential - oil	0.5	270.9	0.1	3.2
Other energy industry own use - oil	0.2	+	0.0	3.2
Other transport - oil	0.1	x	0.0	3.2
-	-	-	-	-
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*15.4*	*190.8*	*3.2*	*3.2*

4. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Suriname [1]

Figure 1. CO_2 emissions by fuel

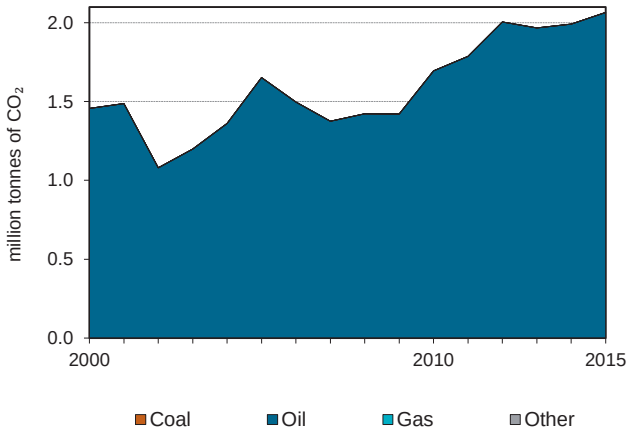


Figure 2. CO_2 emissions by sector

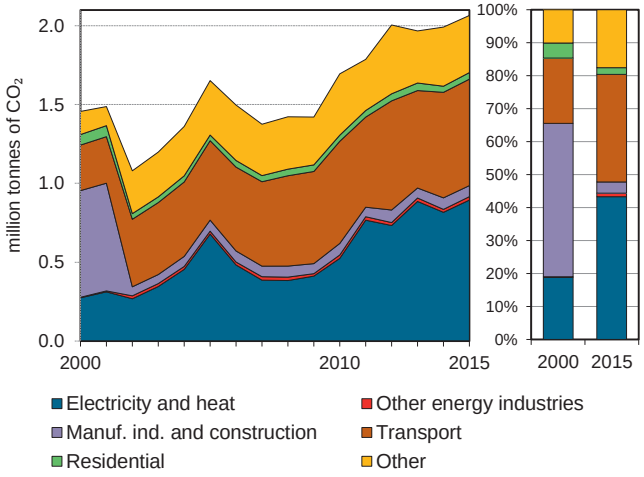


Figure 3. Electricity generation by fuel

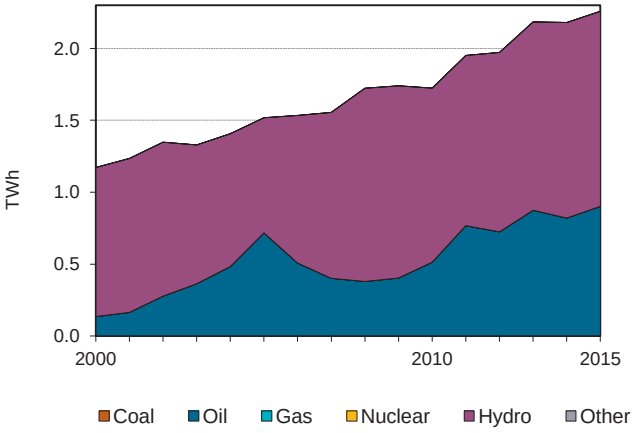


Figure 4. CO_2 from electricity generation: driving factors[2]

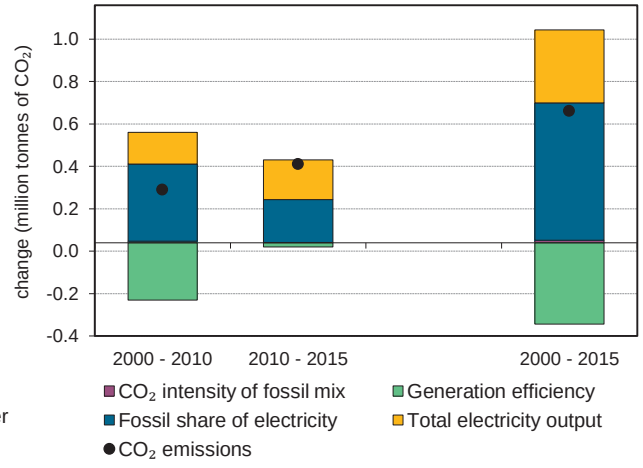


Figure 5. Changes in selected indicators

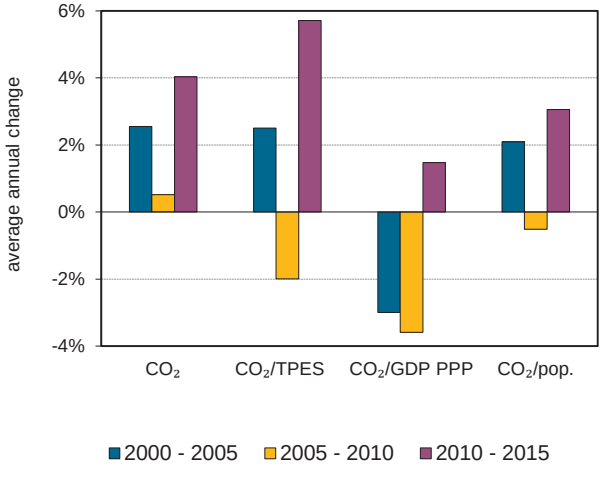
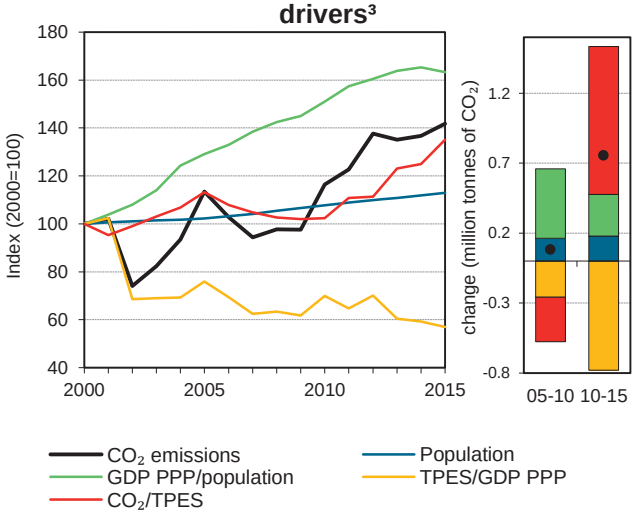


Figure 6. Total CO_2 emissions and drivers[3]



1. Prior to 2000, data for Suriname were included in Other non-OECD Americas.
2. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
3. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Suriname [1]

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 00-15
CO_2 fuel combustion ($MtCO_2$)	..	..	1.5	1.7	1.7	2.0	2.1	..
Share of World CO_2 from fuel combustion	..	..	0%	0%	0%	0%	0%	
TPES (PJ)	..	..	26	26	30	29	28	..
GDP (billion 2010 USD)	..	..	2.7	3.5	4.4	5.0	4.9	..
GDP PPP (billion 2010 USD)	..	..	4.5	6.0	7.4	8.4	8.3	..
Population (millions)	..	..	0.5	0.5	0.5	0.5	0.5	..
CO_2 / TPES (tCO_2 per TJ)	..	..	55.2	62.4	56.4	68.9	74.5	..
CO_2 / GDP ($kgCO_2$ per 2010 USD)	..	..	0.5	0.5	0.4	0.4	0.4	..
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	..	..	0.3	0.3	0.2	0.2	0.2	..
CO_2 / population (tCO_2 per capita)	..	..	3.0	3.4	3.3	3.7	3.8	..
Share of electricity output from fossil fuels	..	..	12%	47%	30%	38%	40%	
CO_2 / kWh of electricity (gCO_2/kWh)	..	..	234	447	304	375	396	..
CO_2 emissions and drivers - Kaya decomposition (2000=100) [2]								
CO_2 emissions index	..	..	100	113	116	137	142	..
Population index	..	..	100	102	108	112	113	..
GDP PPP per population index	..	..	100	129	151	165	163	..
Energy intensity index - TPES / GDP PPP	..	..	100	76	70	59	57	..
Carbon intensity index - CO_2 / TPES	..	..	100	113	102	125	135	..

1. Prior to 2000, data for Suriname were included in Other non-OECD Americas. 2. Please see Part I for methodological notes.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [3]	Total	%change 00-15
CO_2 fuel combustion	**-**	**2.1**	**-**	**-**	**2.1**	**..**
Electricity and heat generation	-	0.9	-	-	0.9	..
Other energy industry own use	-	0.0	-	-	0.0	..
Manufacturing industries and construction	-	0.1	-	-	0.1	..
Transport	-	0.7	-	-	0.7	..
of which: road	-	*0.4*	-	-	*0.4*	..
Other	-	0.4	-	-	0.4	..
of which: residential	-	*0.0*	-	-	*0.0*	..
of which: services	-	*0.0*	-	-	*0.0*	..
Memo: international marine bunkers	-	*0.2*	-	-	*0.2*	..
Memo: international aviation bunkers	-	-	-	-	-	..

3. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 00-15	Level assessment[4] (%)	Cumulative total (%)
Main activity prod. elec. and heat - oil	0.6	..	..	..
Road - oil	0.4	..	..	..
Non-specified other - oil	0.4	..	..	..
Other transport - oil	0.3	..	..	..
Unallocated autoproducers - oil	0.2	..	..	..
Manufacturing industries - oil	0.1	..	..	..
Residential - oil	0.0	..	..	..
Other energy industry own use - oil	0.0	..	..	..
-	-	..	-	-
Memo: total CO_2 from fuel combustion	*2.1*	..	..	..

4. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Sweden

Figure 1. CO_2 emissions by fuel

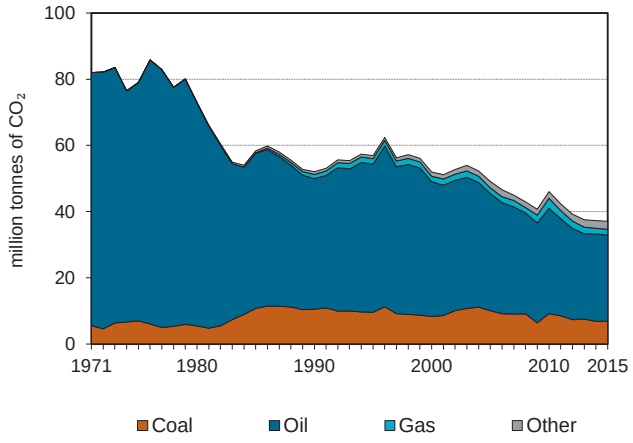


Figure 2. CO_2 emissions by sector

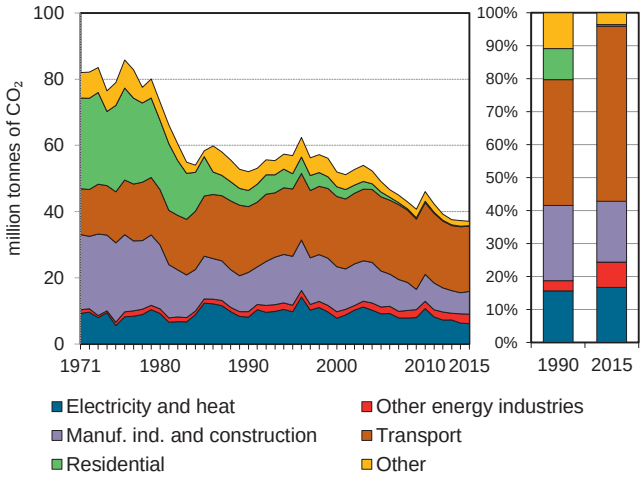


Figure 3. Electricity generation by fuel

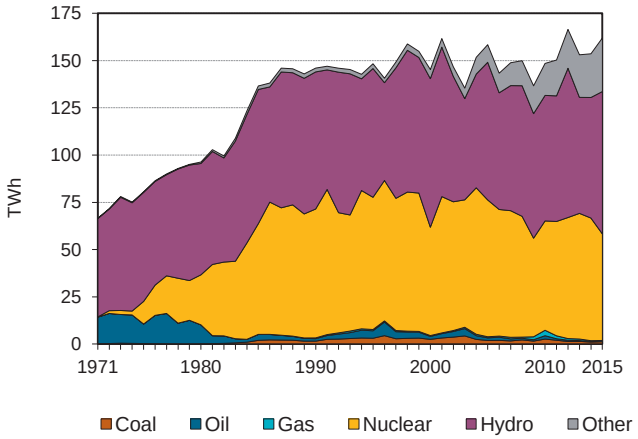


Figure 4. CO_2 from electricity generation: driving factors[1]

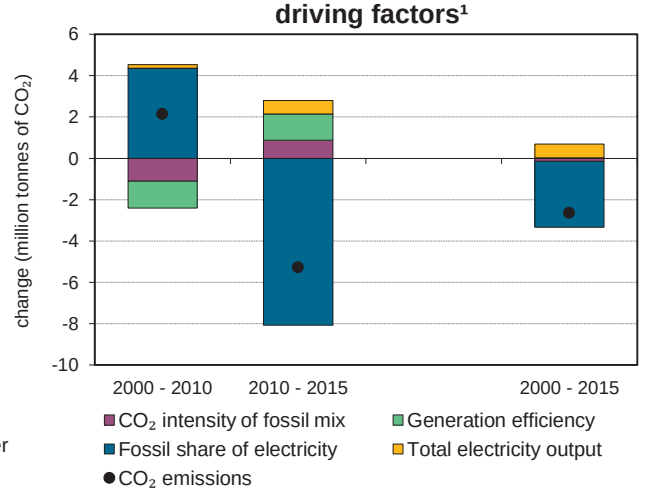


Figure 5. Changes in selected indicators

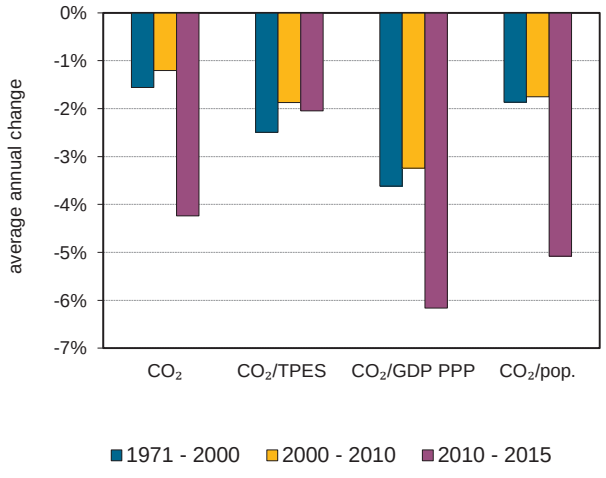
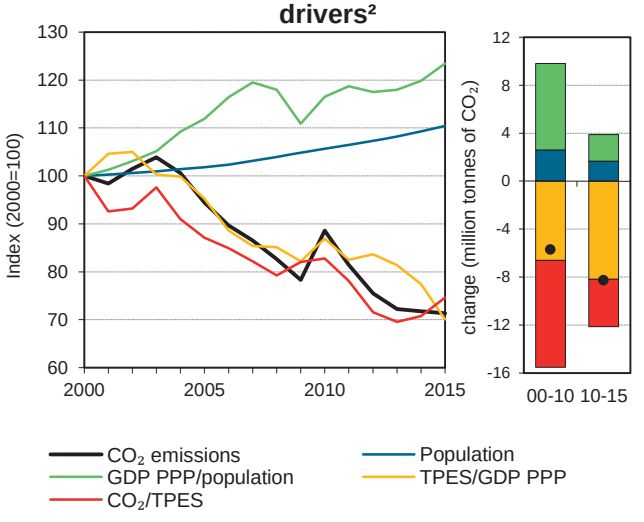


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Sweden

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	52.1	56.9	52.0	49.1	46.0	37.3	37.1	-29%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	1976	2 107	1 991	2 159	2 131	2 019	1 903	-4%
GDP (billion 2010 USD)	321.1	332.7	396.5	451.4	488.4	519.3	540.6	68%
GDP PPP (billion 2010 USD)	256.9	266.2	317.3	361.2	390.8	415.5	432.5	68%
Population (millions)	8.6	8.8	8.9	9.0	9.4	9.7	9.8	14%
CO_2 / TPES (tCO_2 per TJ)	26.4	27.0	26.1	22.7	21.6	18.5	19.5	-26%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.16	0.2	0.1	0.1	0.1	0.1	0.1	-58%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.2	0.2	0.2	0.1	0.1	0.1	0.1	-58%
CO_2 / population (tCO_2 per capita)	6.1	6.4	5.9	5.4	4.9	3.8	3.8	-38%
Share of electricity output from fossil fuels	2%	5%	3%	3%	6%	2%	2%	
CO_2 / kWh of electricity (gCO_2/kWh)	12	22	22	20	26	11	11	-9%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	109	100	94	88	72	71	-29%
Population index	100	103	104	106	110	113	114	14%
GDP PPP per population index	100	100	119	133	139	143	147	47%
Energy intensity index - TPES / GDP PPP	100	103	82	78	71	63	57	-43%
Carbon intensity index - CO_2 / TPES	100	103	99	86	82	70	74	-26%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**6.9**	**26.0**	**1.8**	**2.4**	**37.1**	**-29%**
Electricity and heat generation	3.0	0.3	0.4	2.4	6.2	-24%
Other energy industry own use	0.4	2.5	0.0	-	2.8	73%
Manufacturing industries and construction	3.5	2.4	0.9	-	6.9	-42%
Transport	-	19.6	0.1	-	19.7	-1%
of which: road	-	*19.0*	*0.1*	-	*19.1*	6%
Other	0.0	1.2	0.3	-	1.5	-86%
of which: residential	*0.0*	*0.1*	*0.1*	-	*0.2*	-97%
of which: services	*0.0*	*0.8*	*0.2*	-	*1.0*	-77%
Memo: international marine bunkers	-	*5.8*	-	-	*5.8*	*172%*
Memo: international aviation bunkers	-	*2.2*	-	-	*2.2*	*104%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	19.0	5.6	35.4	35.4
Manufacturing industries - coal	3.5	-23.5	6.5	41.9
Main activity prod. elec. and heat - coal	2.6	-51.6	4.8	46.7
Other energy industry own use - oil	2.5	84.0	4.6	51.3
Main activity prod. elec. and heat - other	2.4	202.0	4.5	55.8
Manufacturing industries - oil	2.4	-63.8	4.5	60.3
Non-specified other - oil	1.1	-79.8	2.0	62.3
Manufacturing industries - gas	0.9	59.6	1.8	64.1
Other transport - oil	0.6	-67.2	1.1	65.2
Memo: total CO_2 from fuel combustion	*37.1*	*-28.8*	*69.0*	*69.0*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Switzerland

Figure 1. CO_2 emissions by fuel

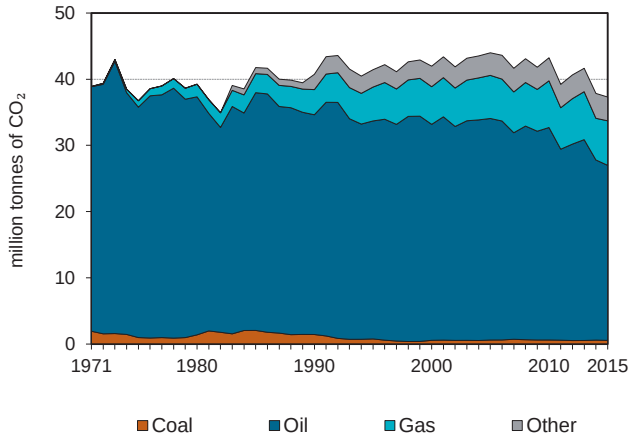


Figure 2. CO_2 emissions by sector

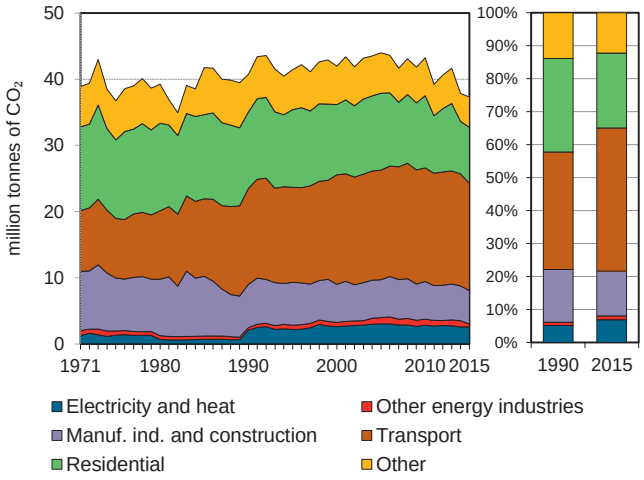


Figure 3. Electricity generation by fuel

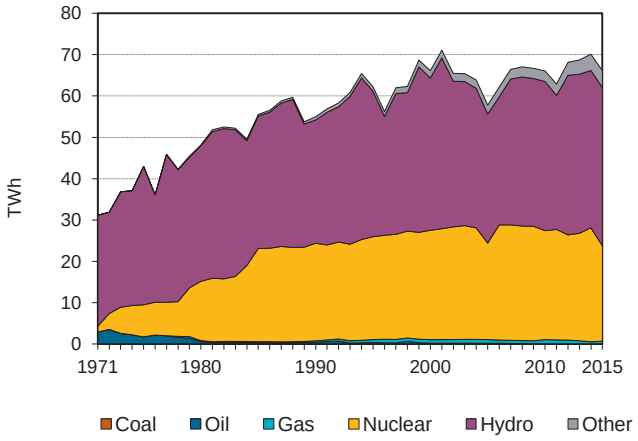


Figure 4. CO_2 from electricity generation: driving factors[1]

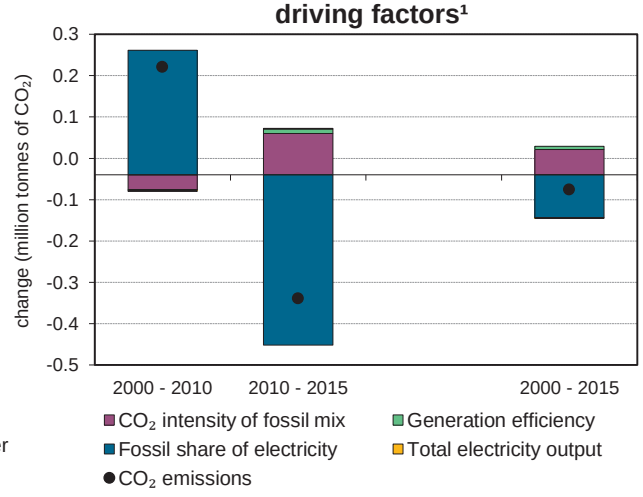


Figure 5. Changes in selected indicators

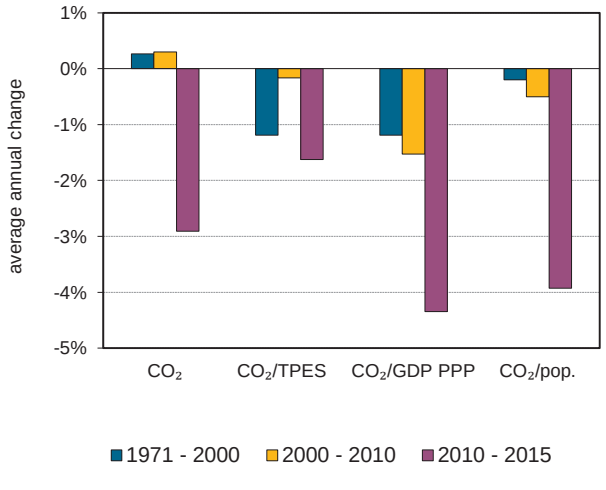
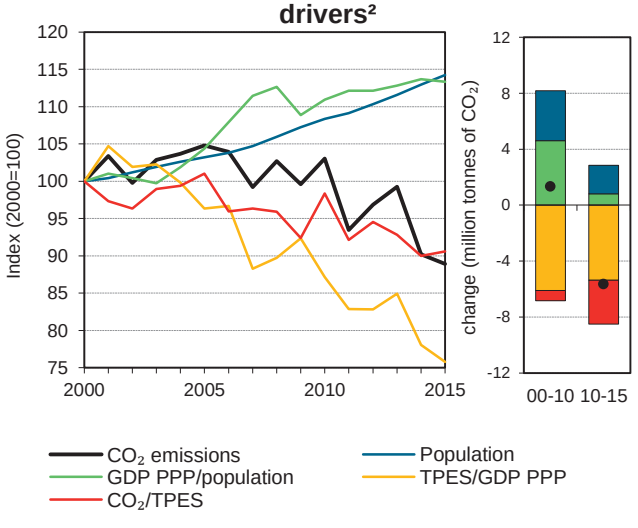


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Switzerland

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	40.7	41.4	42.0	44.0	43.2	37.9	37.3	-8%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	1020	1 009	1 047	1 086	1 097	1 049	1 027	1%
GDP (billion 2010 USD)	429	431.8	483.4	520.7	581.2	620.7	625.9	46%
GDP PPP (billion 2010 USD)	305.7	307.7	344.5	371.1	414.2	442.4	446.1	46%
Population (millions)	6.8	7.1	7.2	7.5	7.9	8.2	8.3	22%
CO_2 / TPES (tCO_2 per TJ)	39.9	41.1	40.1	40.5	39.4	36.1	36.3	-9%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-37%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.13	0.1	0.1	0.1	0.1	0.1	0.1	-37%
CO_2 / population (tCO_2 per capita)	6	5.8	5.8	5.9	5.5	4.6	4.5	-25%
Share of electricity output from fossil fuels	2%	3%	3%	4%	3%	3%	3%	
CO_2 / kWh of electricity (gCO_2/kWh)	22	21	23	29	25	23	24	10%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	102	103	108	106	93	92	-8%
Population index	100	104	107	110	116	120	122	22%
GDP PPP per population index	100	96	106	110	117	120	120	20%
Energy intensity index - TPES / GDP PPP	100	98	91	88	79	71	69	-31%
Carbon intensity index - CO_2 / TPES	100	103	100	101	99	90	91	-9%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**0.5**	**26.5**	**6.7**	**3.6**	**37.3**	**-8%**
Electricity and heat generation	-	0.0	0.4	2.1	2.6	22%
Other energy industry own use	-	0.4	0.0	-	0.4	16%
Manufacturing industries and construction	0.5	1.0	2.2	1.3	5.1	-22%
Transport	-	16.1	0.1	-	16.2	12%
of which: road	-	*15.9*	*0.0*	-	*15.9*	14%
Other	0.0	8.8	4.0	0.2	13.0	-24%
of which: residential	*0.0*	*5.8*	*2.6*	-	*8.5*	-27%
of which: services	-	*2.5*	*1.4*	*0.2*	*4.1*	-20%
Memo: international marine bunkers	-	*0.0*	-	-	*0.0*	*-67%*
Memo: international aviation bunkers	-	*4.9*	-	-	*4.9*	*60%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	15.9	13.4	32.6	32.6
Residential - oil	5.8	-42.5	12.0	44.6
Non-specified other - oil	3.0	-36.0	6.1	50.6
Residential - gas	2.6	93.0	5.3	55.9
Manufacturing industries - gas	2.2	119.4	4.5	60.4
Unallocated autoproducers - other	2.0	88.2	4.2	64.6
Non-specified other - gas	1.4	59.1	3.0	67.6
Manufacturing industries -other	1.3	12.2	2.7	70.3
Manufacturing industries - oil	1.0	-66.8	2.1	72.4
Memo: total CO_2 from fuel combustion	*37.3*	*-8.4*	*76.5*	*76.5*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Syrian Arab Republic

Figure 1. CO_2 emissions by fuel

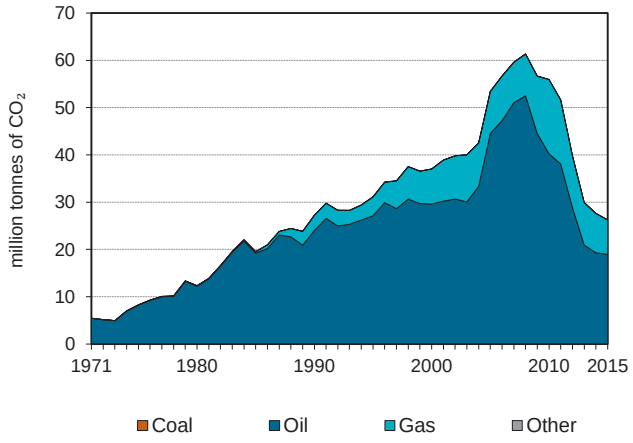


Figure 2. CO_2 emissions by sector

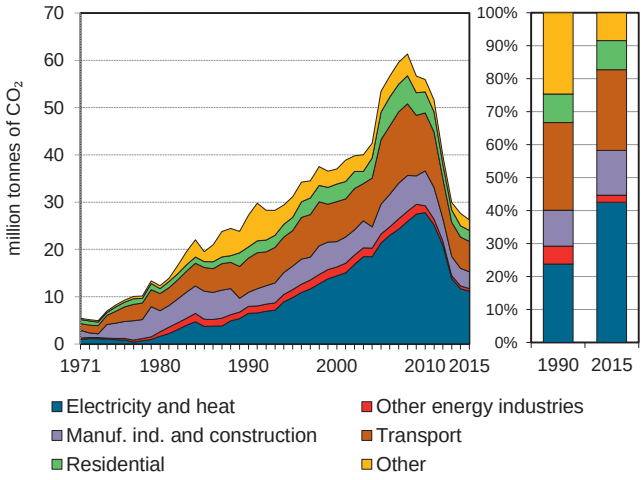


Figure 3. Electricity generation by fuel

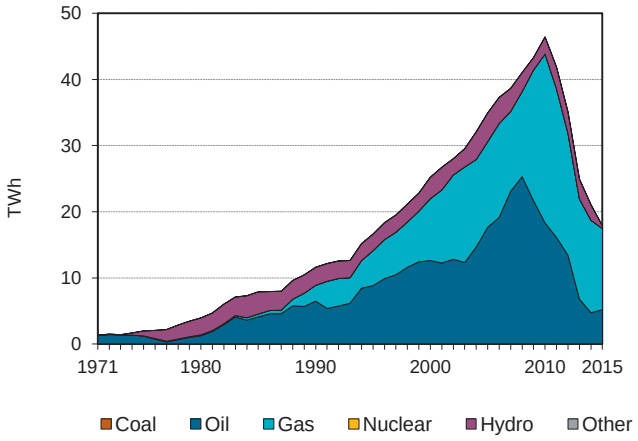


Figure 4. CO_2 from electricity generation: driving factors[1]

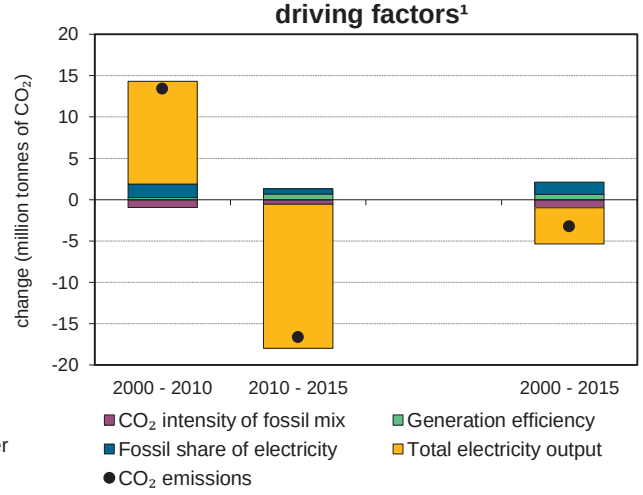


Figure 5. Changes in selected indicators

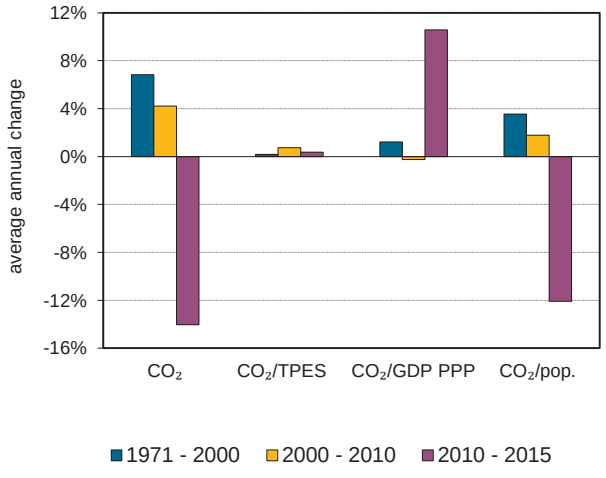
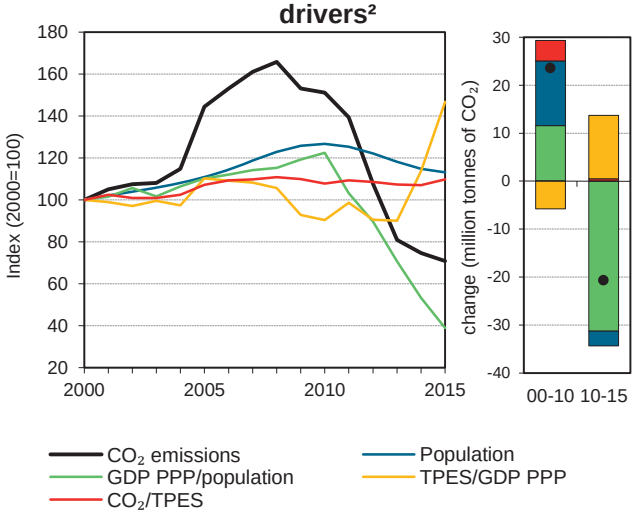


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Syrian Arab Republic

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	27.2	31.1	37.0	53.4	55.9	27.6	26.2	-4%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	438	507	646	871	907	450	418	-5%
GDP (billion 2010 USD)	24.2	36.2	38.6	47.2	59.9	23.7	17.0	-30%
GDP PPP (billion 2010 USD)	53.4	80.0	85.3	104.1	132.3	52.2	37.5	-30%
Population (millions)	12.5	14.3	16.4	18.1	20.7	18.8	18.5	49%
CO_2 / TPES (tCO_2 per TJ)	62.1	61.4	57.3	61.4	61.7	61.3	62.8	1%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	1.13	0.9	1.0	1.1	0.9	1.2	1.5	37%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.51	0.4	0.4	0.5	0.4	0.5	0.7	37%
CO_2 / population (tCO_2 per capita)	2.2	2.2	2.3	2.9	2.7	1.5	1.4	-35%
Share of electricity output from fossil fuels	77%	85%	87%	88%	94%	89%	98%	
CO_2 / kWh of electricity (gCO_2/kWh)	558	590	572	612	599	554	624	12%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	114	136	196	206	101	96	-4%
Population index	100	115	131	146	166	151	149	49%
GDP PPP per population index	100	130	122	134	149	65	47	-53%
Energy intensity index - TPES / GDP PPP	100	77	92	102	84	105	136	36%
Carbon intensity index - CO_2 / TPES	100	99	92	99	99	99	101	1%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**0.0**	**18.9**	**7.3**	**-**	**26.2**	**-4%**
Electricity and heat generation	-	4.5	6.7	-	11.2	72%
Other energy industry own use	-	0.4	0.1	-	0.6	-61%
Manufacturing industries and construction	0.0	3.1	0.5	-	3.6	20%
Transport	-	6.4	-	-	6.4	-12%
of which: road	-	*6.3*	-	-	*6.3*	-13%
Other	-	4.5	-	-	4.5	-50%
of which: residential	-	*2.3*	-	-	*2.3*	-2%
of which: services	-	*0.6*	-	-	*0.6*	-2%
Memo: international marine bunkers	-	*0.6*	-	-	*0.6*	*-81%*
Memo: international aviation bunkers	-	*0.1*	-	-	*0.1*	*-94%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - gas	6.7	414.6	15.4	15.4
Road - oil	6.3	-12.9	14.6	30.0
Main activity prod. elec. and heat - oil	3.8	-10.0	8.8	38.8
Manufacturing industries - oil	3.1	3.8	7.1	45.9
Residential - oil	2.3	-1.7	5.3	51.2
Non-specified other - oil	2.2	-54.9	5.1	56.3
Unallocated autoproducers - oil	0.7	-31.0	1.5	57.9
Manufacturing industries - gas	0.5	x	1.1	59.0
Other energy industry own use - oil	0.4	-66.1	1.0	60.0
Memo: total CO_2 from fuel combustion	*26.2*	*-3.6*	*60.5*	*60.5*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Chinese Taipei

Figure 1. CO_2 emissions by fuel

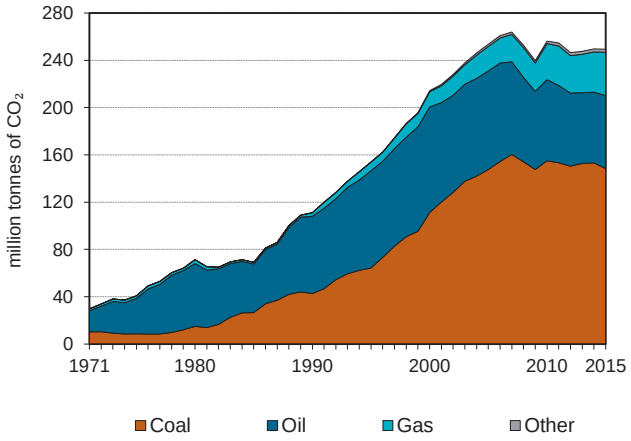


Figure 2. CO_2 emissions by sector

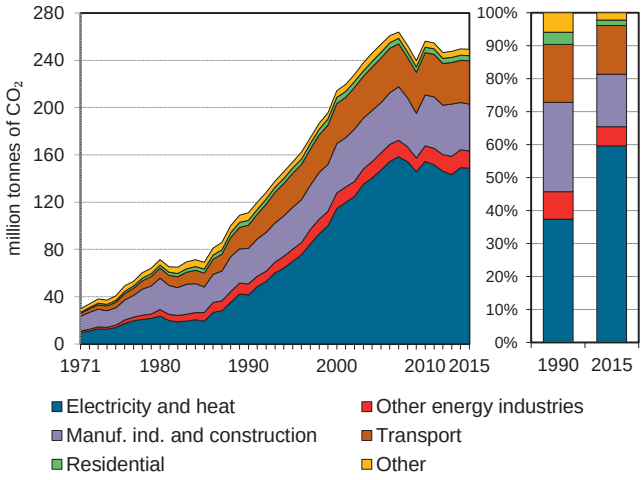


Figure 3. Electricity generation by fuel

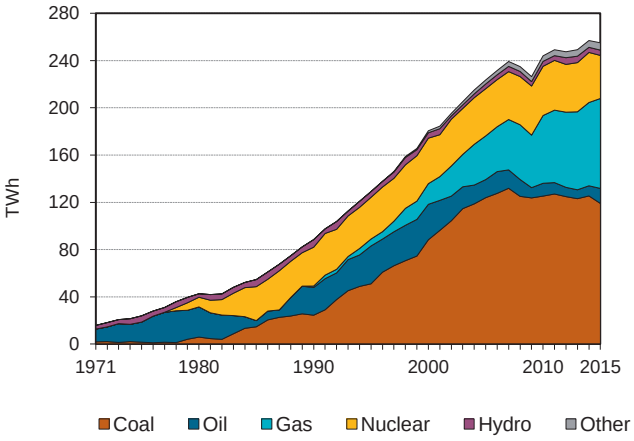


Figure 4. CO_2 from electricity generation: driving factors[1]

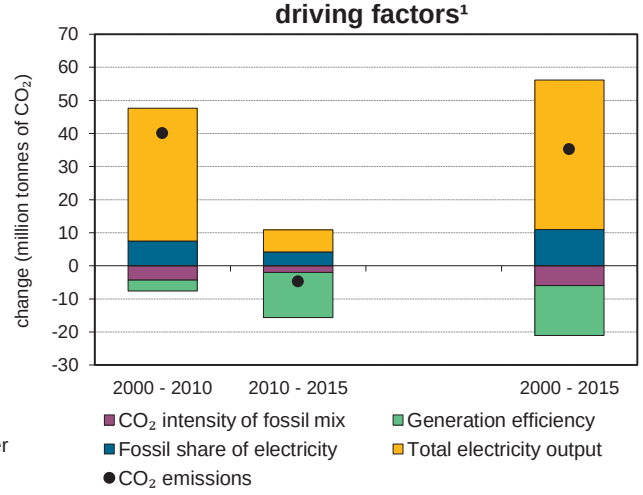


Figure 5. Changes in selected indicators

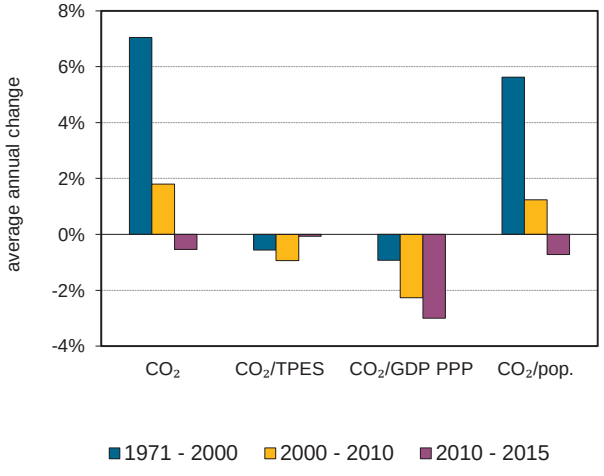
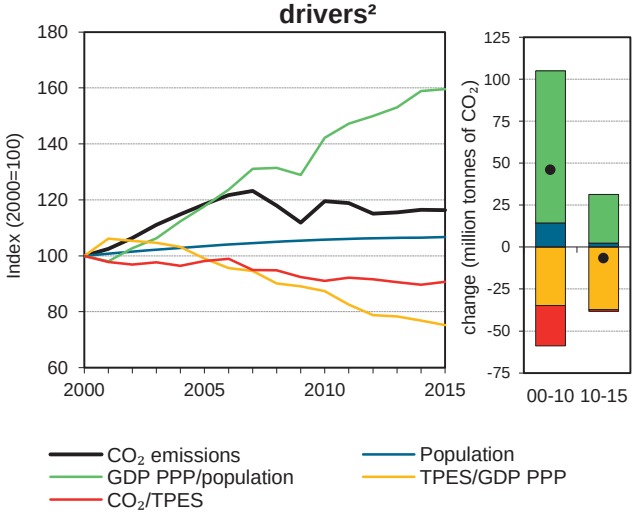


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Chinese Taipei

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	111.1	154.0	214.3	253.6	256.2	249.7	249.4	124%
Share of World CO_2 from fuel combustion	1%	1%	1%	1%	1%	1%	1%	
TPES (PJ)	1999	2 660	3 552	4 286	4 666	4 615	4 556	128%
GDP (billion 2010 USD)	155.1	222.5	296.7	361.6	446.1	502.0	505.8	226%
GDP PPP (billion 2010 USD)	302.4	433.9	578.6	705.1	870.0	979.0	986.3	226%
Population (millions)	20.2	21.2	21.9	22.7	23.2	23.4	23.4	16%
CO_2 / TPES (tCO_2 per TJ)	55.6	57.9	60.3	59.2	54.9	54.1	54.7	-1%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.72	0.7	0.7	0.7	0.6	0.5	0.5	-31%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.37	0.4	0.4	0.4	0.3	0.3	0.3	-31%
CO_2 / population (tCO_2 per capita)	5.5	7.3	9.8	11.2	11.0	10.7	10.6	94%
Share of electricity output from fossil fuels	56%	69%	76%	79%	80%	80%	82%	
CO_2 / kWh of electricity (gCO_2/kWh)	470	542	635	659	633	581	583	24%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	139	193	228	231	225	224	124%
Population index	100	105	108	112	115	115	116	16%
GDP PPP per population index	100	137	176	208	251	280	282	182%
Energy intensity index - TPES / GDP PPP	100	93	93	92	81	71	70	-30%
Carbon intensity index - CO_2 / TPES	100	104	109	106	99	97	99	-1%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**148.4**	**61.8**	**36.6**	**2.6**	**249.4**	**124%**
Electricity and heat generation	107.9	9.0	29.2	2.6	148.7	258%
Other energy industry own use	10.3	3.6	0.7	-	14.6	58%
Manufacturing industries and construction	30.2	5.7	3.7	0.0	39.7	32%
Transport	-	36.6	-	-	36.6	87%
of which: road	-	*35.9*	-	-	*35.9*	94%
Other	-	6.9	2.9	-	9.8	-8%
of which: residential	-	*2.8*	*1.5*	-	*4.3*	5%
of which: services	-	*2.5*	*1.4*	-	*3.9*	25%
Memo: international marine bunkers	-	*3.4*	-	-	*3.4*	*-31%*
Memo: international aviation bunkers	-	*8.1*	-	-	*8.1*	*350%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	78.5	288.7	29.6	29.6
Road - oil	35.9	94.2	13.5	43.2
Manufacturing industries - coal	30.2	115.6	11.4	54.5
Unallocated autoproducers - coal	29.5	569.3	11.1	65.7
Main activity prod. elec. and heat - gas	29.1	+	11.0	76.6
Other energy industry - coal	10.3	153.9	3.9	80.5
Main activity prod. elec. and heat - oil	7.7	-50.6	2.9	83.4
Manufacturing industries - oil	5.7	-63.5	2.2	85.6
Non-specified other - oil	4.1	-34.9	1.5	87.1
Memo: total CO_2 from fuel combustion	*249.4*	*124.5*	*94.1*	*94.1*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Tajikistan

Figure 1. CO_2 emissions by fuel

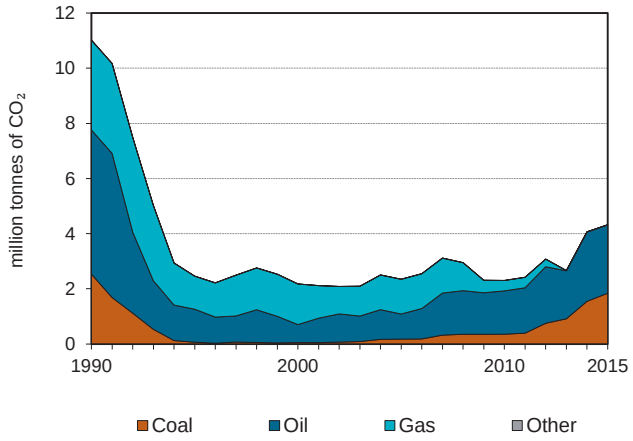


Figure 2. CO_2 emissions by sector

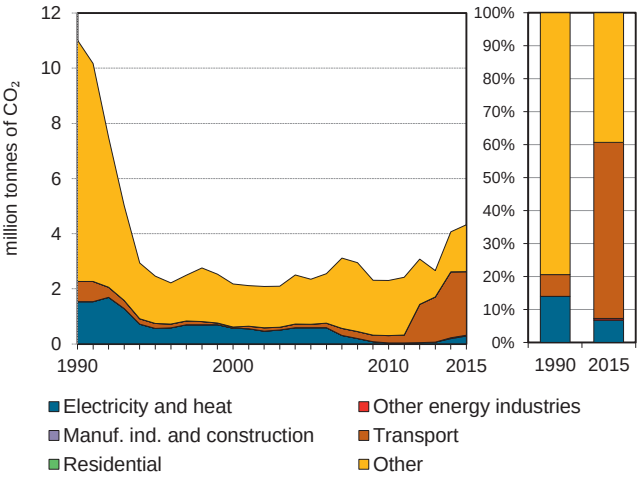


Figure 3. Electricity generation by fuel

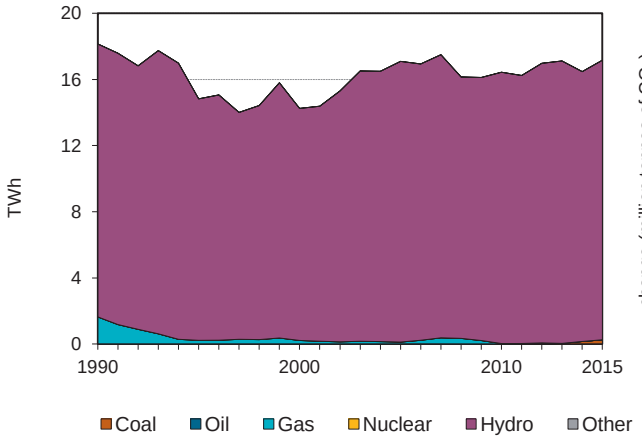


Figure 4. CO_2 from electricity generation: driving factors[1]

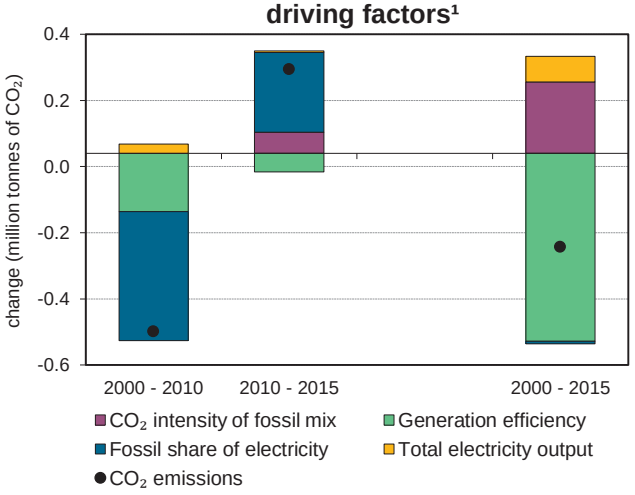


Figure 5. Changes in selected indicators

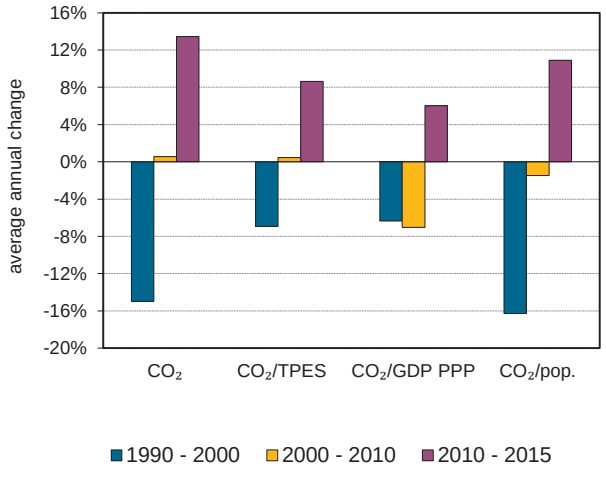
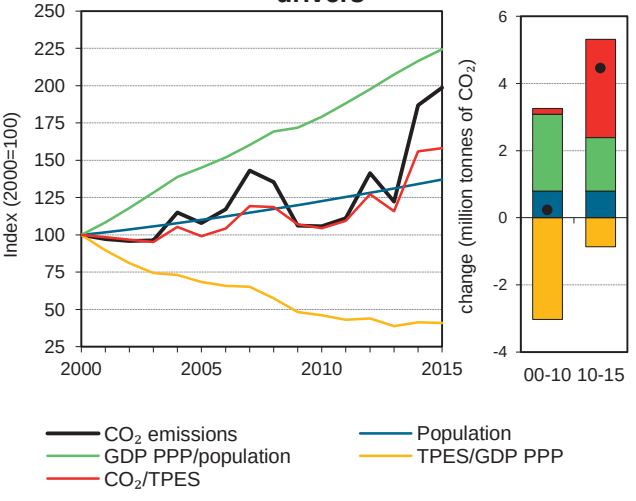


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Tajikistan

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	11	2.5	2.2	2.3	2.3	4.1	4.3	-61%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	222	93	90	98	91	108	113	-49%
GDP (billion 2010 USD)	6.8	2.6	2.6	4.1	5.6	7.5	7.9	17%
GDP PPP (billion 2010 USD)	18.9	7.2	7.2	11.5	15.8	20.9	22.1	17%
Population (millions)	5.3	5.8	6.2	6.8	7.6	8.3	8.5	60%
CO_2 / TPES (tCO_2 per TJ)	49.6	26.4	24.2	24.0	25.3	37.7	38.2	-23%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	1.63	1.0	0.8	0.6	0.4	0.5	0.5	-67%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.58	0.3	0.3	0.2	0.1	0.2	0.2	-67%
CO_2 / population (tCO_2 per capita)	2.1	0.4	0.4	0.3	0.3	0.5	0.5	-75%
Share of electricity output from fossil fuels	9%	2%	2%	1%	0%	1%	2%	
CO_2 / kWh of electricity (gCO_2/kWh)	68	25	26	21	1	5	8	-89%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	22	20	21	21	37	39	-61%
Population index	100	109	117	128	143	157	160	60%
GDP PPP per population index	100	35	33	47	58	71	73	-27%
Energy intensity index - TPES / GDP PPP	100	110	106	73	49	44	43	-57%
Carbon intensity index - CO_2 / TPES	100	53	49	48	51	76	77	-23%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**1.8**	**2.5**	**0.0**	**-**	**4.3**	**-61%**
Electricity and heat generation	0.3	-	-	-	0.3	-81%
Other energy industry own use	-	0.0	-	-	0.0	x
Manufacturing industries and construction	-	0.0	-	-	0.0	x
Transport	-	2.3	-	-	2.3	215%
of which: road	-	*2.3*	-	-	*2.3*	215%
Other	1.6	0.1	0.0	-	1.7	-81%
of which: residential	-	-	-	-	-	-
of which: services	-	-	-	-	-	-
Memo: international marine bunkers	-	-	-	-	-	-
Memo: international aviation bunkers	-	*0.2*	-	-	*0.2*	*260%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	2.3	215.0	16.8	16.8
Non-specified other sectors - coal	1.6	-38.8	11.3	28.1
Main activity prod. elec. and heat - coal	0.3	x	2.1	30.2
Non-specified other - oil	0.1	-96.8	1.0	31.2
Other energy industry own use - oil	0.0	x	0.2	31.4
Non-specified other - gas	0.0	-99.5	0.1	31.4
Manufacturing industries - oil	0.0	x	0.0	31.5
-	-	-	-	-
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*4.3*	*-60.8*	*31.5*	*31.5*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

United Republic of Tanzania

Figure 1. CO_2 emissions by fuel

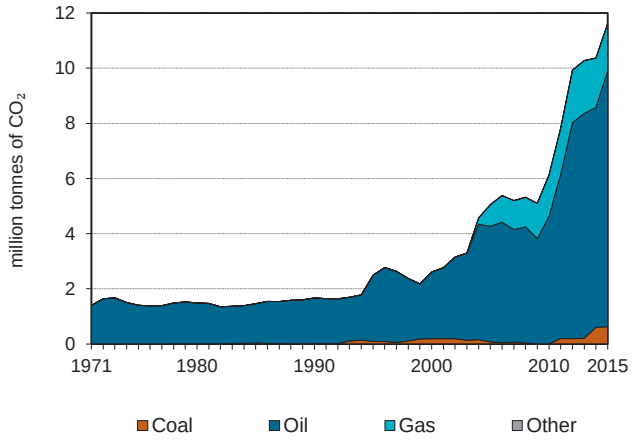


Figure 2. CO_2 emissions by sector

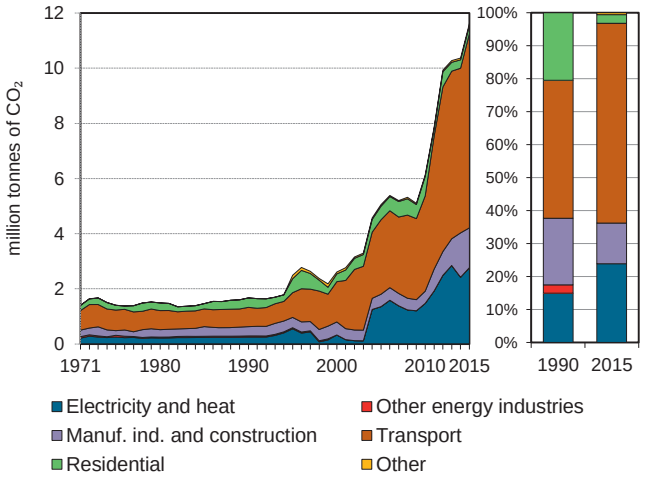


Figure 3. Electricity generation by fuel

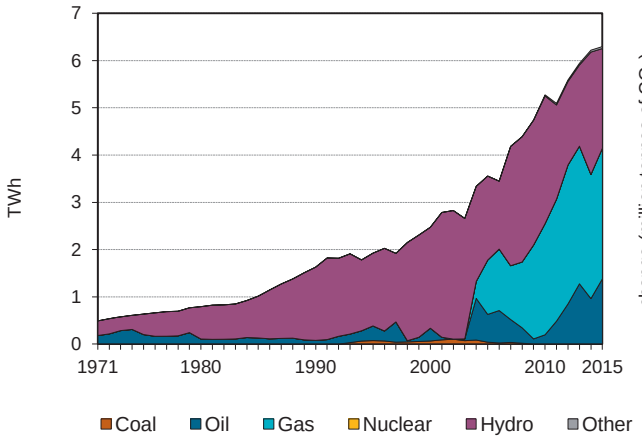


Figure 4. CO_2 from electricity generation: driving factors[1]

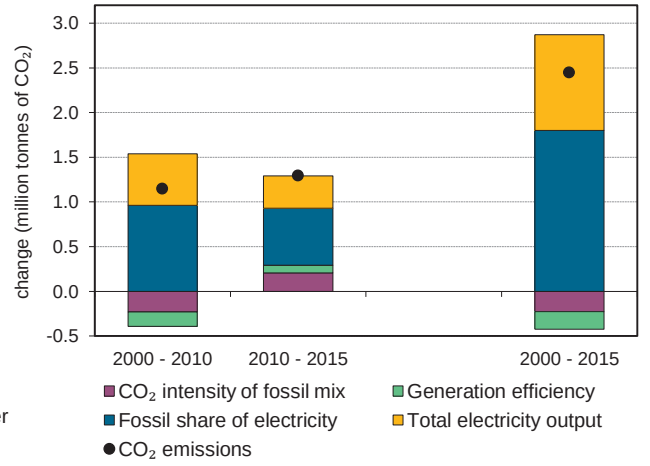


Figure 5. Changes in selected indicators

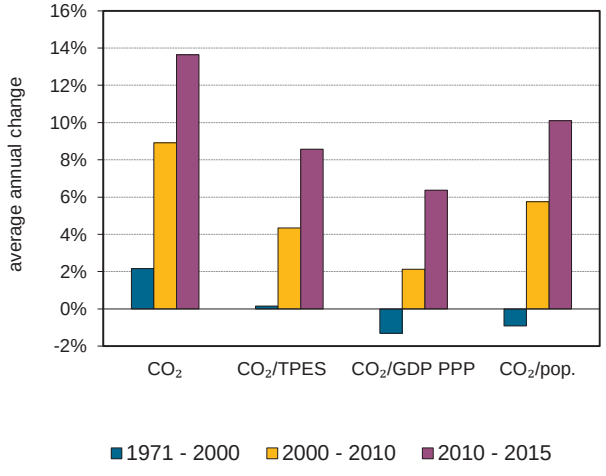
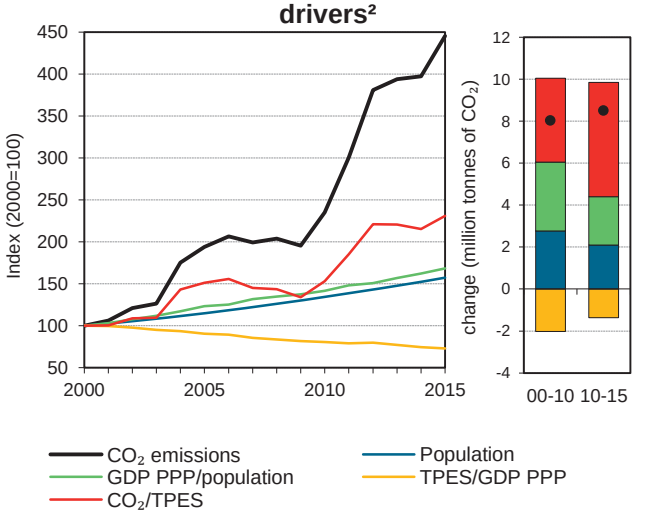


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

United Republic of Tanzania

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	1.7	2.5	2.6	5.1	6.1	10.4	11.6	596%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	408	461	564	722	865	1 040	1 087	167%
GDP (billion 2010 USD)	12.2	13.4	16.5	23.4	31.4	40.9	43.7	257%
GDP PPP (billion 2010 USD)	35.7	39.0	48.2	68.3	91.7	119.4	127.7	257%
Population (millions)	25.5	29.9	34.0	39.1	45.6	51.8	53.5	110%
CO_2 / TPES (tCO_2 per TJ)	4.1	5.4	4.6	7.0	7.1	10.0	10.7	161%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.14	0.2	0.2	0.2	0.2	0.3	0.3	95%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.05	0.1	0.1	0.1	0.1	0.1	0.1	94%
CO_2 / population (tCO_2 per capita)	0.1	0.1	0.1	0.1	0.1	0.2	0.2	231%
Share of electricity output from fossil fuels	5%	20%	14%	50%	48%	58%	66%	
CO_2 / kWh of electricity (gCO_2/kWh)	154	286	132	381	279	389	440	186%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	149	156	303	367	621	696	596%
Population index	100	117	134	153	179	204	210	110%
GDP PPP per population index	100	93	101	125	143	164	170	70%
Energy intensity index - TPES / GDP PPP	100	104	102	93	83	76	75	-25%
Carbon intensity index - CO_2 / TPES	100	132	113	171	173	243	261	161%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**0.6**	**9.3**	**1.7**	**-**	**11.6**	**596%**
Electricity and heat generation	-	1.4	1.4	-	2.8	+
Other energy industry own use	-	-	-	-	-	-100%
Manufacturing industries and construction	0.6	0.5	0.3	-	1.4	328%
Transport	-	7.0	-	-	7.0	906%
of which: road	-	*7.0*	-	-	*7.0*	906%
Other	-	0.4	-	-	0.4	7%
of which: residential	-	*0.3*	-	-	*0.3*	-12%
of which: services	-	-	-	-	-	-
Memo: international marine bunkers	-	*0.2*	-	-	*0.2*	*150%*
Memo: international aviation bunkers	-	*0.5*	-	-	*0.5*	*112%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	7.0	906.4	3.3	3.3
Main activity prod. elec. and heat - gas	1.4	x	0.7	4.0
Main activity prod. elec. and heat - oil	1.4	449.8	0.6	4.6
Manufacturing industries - coal	0.6	+	0.3	4.9
Manufacturing industries - oil	0.5	50.5	0.2	5.2
Manufacturing industries - gas	0.3	x	0.2	5.3
Residential - oil	0.3	-12.3	0.1	5.4
Non-specified other - oil	0.1	x	0.0	5.5
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*11.6*	*595.6*	*5.5*	*5.5*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Thailand

Figure 1. CO_2 emissions by fuel

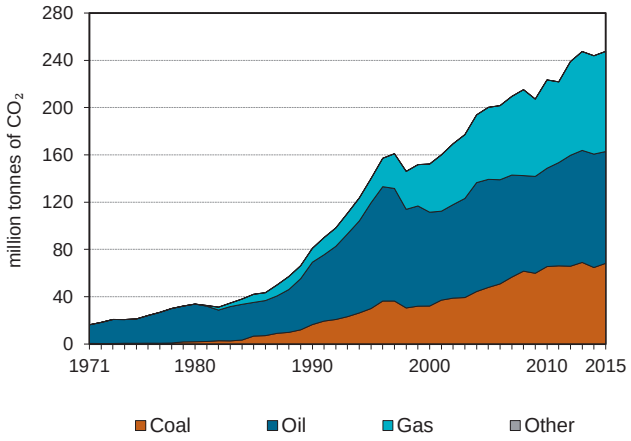


Figure 2. CO_2 emissions by sector

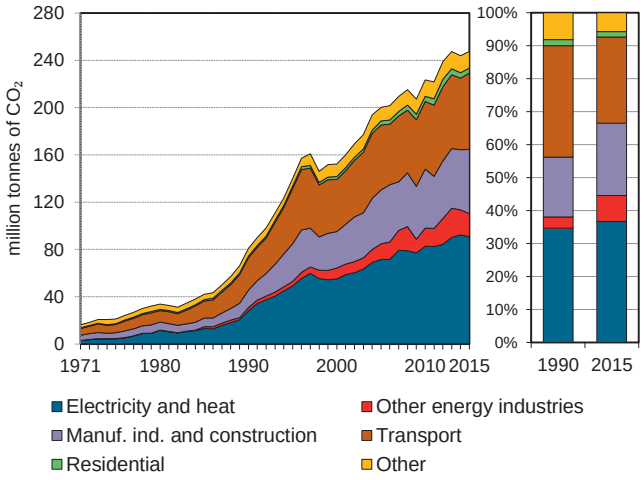


Figure 3. Electricity generation by fuel

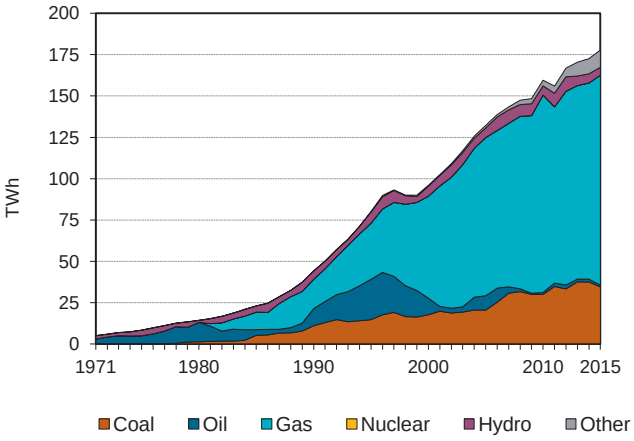


Figure 4. CO_2 from electricity generation: driving factors[1]

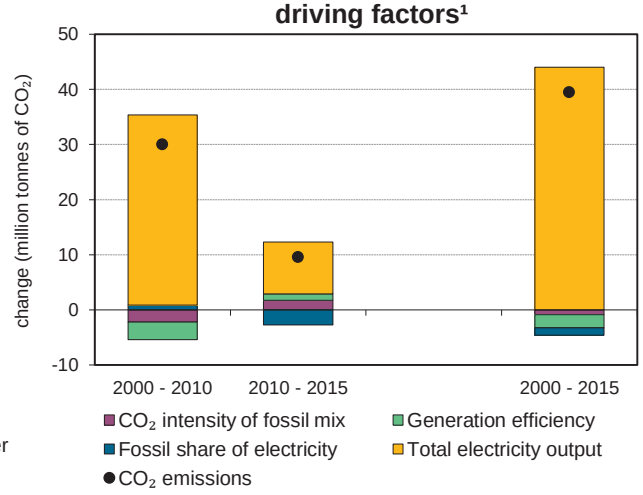


Figure 5. Changes in selected indicators

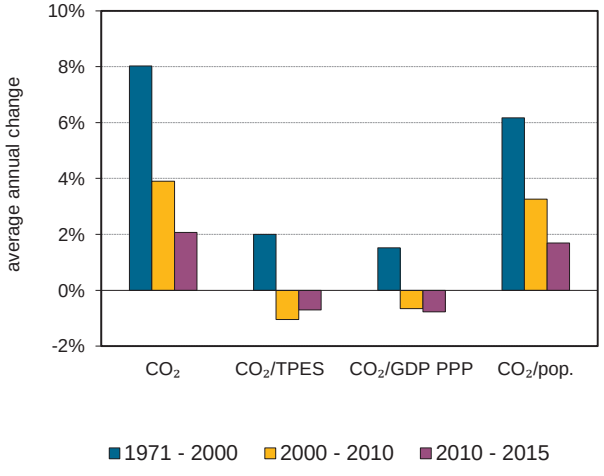
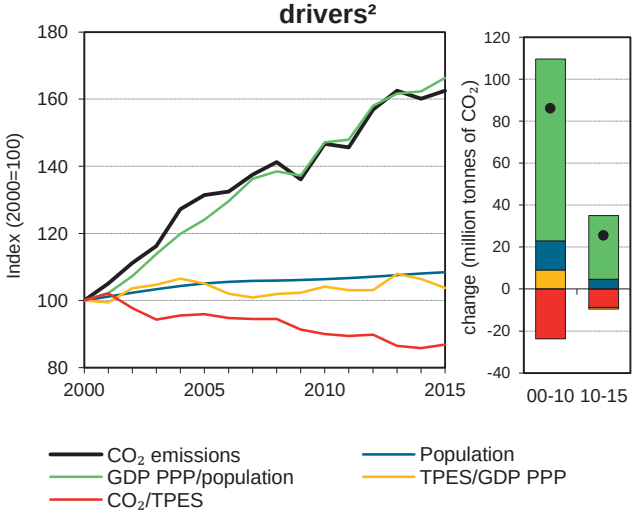


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Thailand

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	80.9	139.9	152.3	200.2	223.4	243.9	247.5	206%
Share of World CO_2 from fuel combustion	0%	1%	1%	1%	1%	1%	1%	
TPES (PJ)	1756	2 593	3 026	4 145	4 934	5 647	5 662	222%
GDP (billion 2010 USD)	141.6	210.0	217.7	283.8	340.9	381.7	392.5	177%
GDP PPP (billion 2010 USD)	368.7	546.8	566.8	738.8	887.6	993.7	1 021.9	177%
Population (millions)	56.6	59.3	62.7	65.9	66.7	67.7	68.0	20%
CO_2 / TPES (tCO_2 per TJ)	46.1	54.0	50.3	48.3	45.3	43.2	43.7	-5%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.57	0.7	0.7	0.7	0.7	0.6	0.6	10%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.22	0.3	0.3	0.3	0.3	0.2	0.2	10%
CO_2 / population (tCO_2 per capita)	1.4	2.4	2.4	3.0	3.3	3.6	3.6	155%
Share of electricity output from fossil fuels	89%	91%	93%	94%	94%	91%	91%	
CO_2 / kWh of electricity (gCO_2/kWh)	634	613	573	541	518	535	511	-19%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	173	188	247	276	301	306	206%
Population index	100	105	111	116	118	120	120	20%
GDP PPP per population index	100	142	139	172	204	225	231	131%
Energy intensity index - TPES / GDP PPP	100	100	112	118	117	119	116	16%
Carbon intensity index - CO_2 / TPES	100	117	109	105	98	94	95	-5%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**68.2**	**94.6**	**84.7**	**-**	**247.5**	**206%**
Electricity and heat generation	35.7	0.7	54.4	-	90.8	224%
Other energy industry own use	-	2.0	17.5	-	19.5	612%
Manufacturing industries and construction	32.5	14.7	7.1	-	54.4	269%
Transport	-	58.9	5.8	-	64.6	136%
of which: road	-	*55.8*	*5.8*	-	*61.6*	138%
Other	-	18.3	0.0	-	18.3	127%
of which: residential	-	*4.2*	-	-	*4.2*	185%
of which: services	-	*2.0*	*0.0*	-	*2.0*	104%
Memo: international marine bunkers	-	*3.8*	-	-	*3.8*	*120%*
Memo: international aviation bunkers	-	*12.1*	-	-	*12.1*	*114%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	55.8	115.3	12.2	12.2
Main activity prod. elec. and heat - gas	47.2	425.0	10.3	22.4
Manufacturing industries - coal	32.5	480.2	7.1	29.5
Main activity prod. elec. and heat - coal	29.8	176.3	6.5	36.0
Other energy industry own use - gas	17.5	620.5	3.8	39.8
Manufacturing industries - oil	14.7	66.5	3.2	43.0
Non-specified other - oil	14.1	113.8	3.1	46.1
Unallocated autoproducers - gas	7.2	x	1.6	47.6
Manufacturing industries - gas	7.1	+	1.6	49.2
Memo: total CO_2 from fuel combustion	*247.5*	*206.0*	*53.9*	*53.9*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Togo

Figure 1. CO_2 emissions by fuel

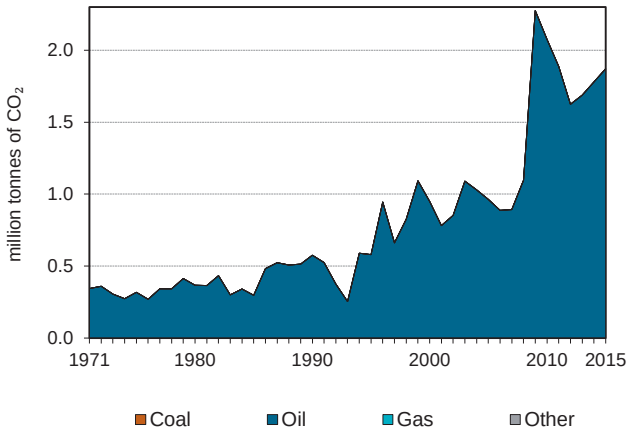


Figure 2. CO_2 emissions by sector

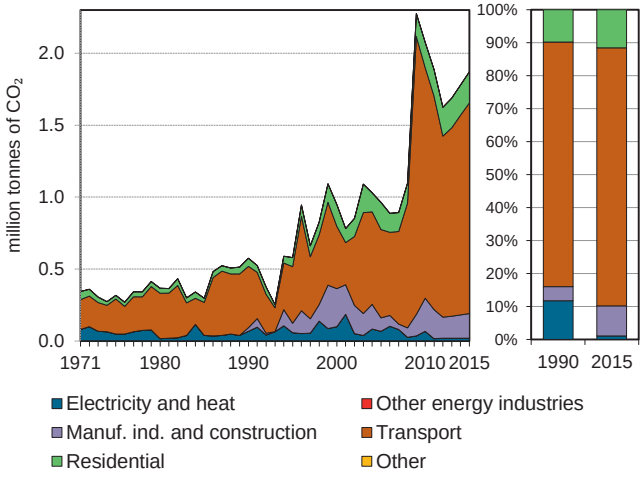


Figure 3. Electricity generation by fuel

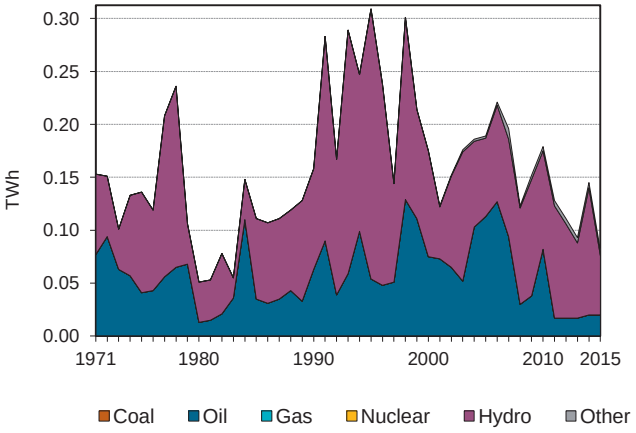


Figure 4. CO_2 from electricity generation: driving factors[1]

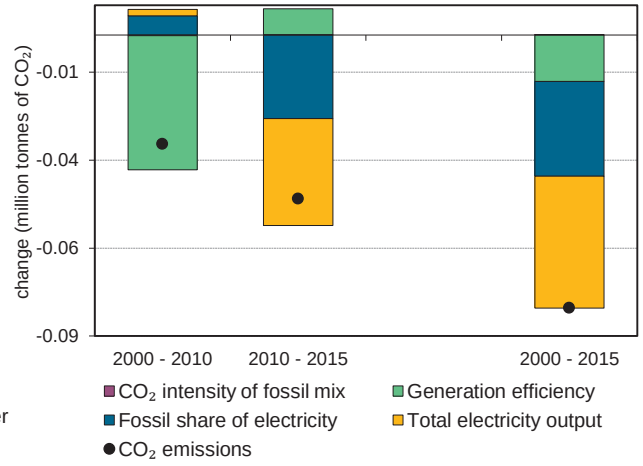


Figure 5. Changes in selected indicators

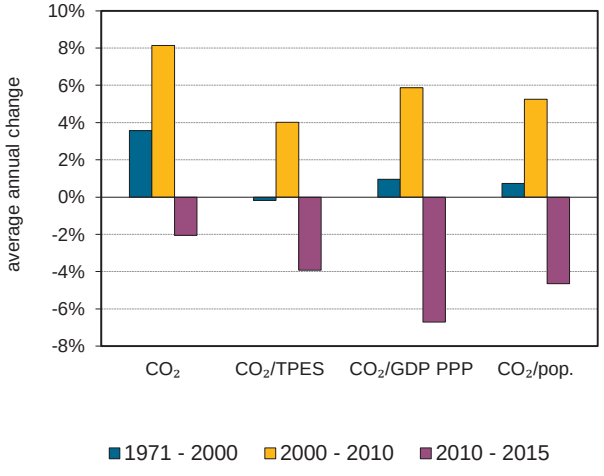
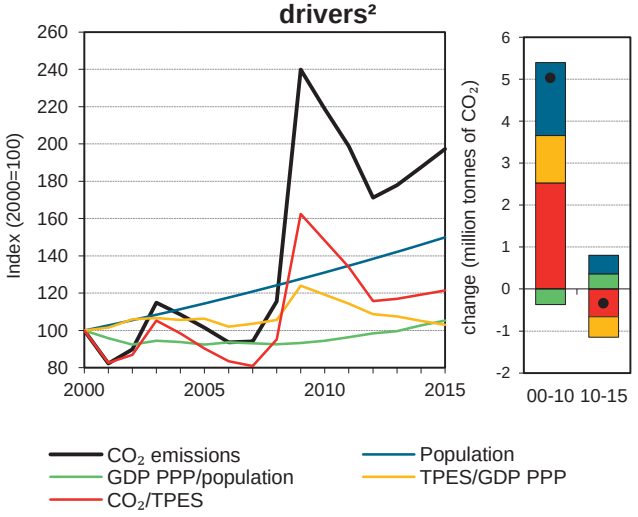


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Togo

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	0.6	0.6	0.9	1.0	2.1	1.8	1.9	225%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	53	66	88	99	130	139	144	172%
GDP (billion 2010 USD)	2.1	2.1	2.6	2.7	3.2	3.8	4.0	96%
GDP PPP (billion 2010 USD)	5	5.0	6.2	6.6	7.7	9.3	9.8	96%
Population (millions)	3.8	4.3	4.9	5.6	6.4	7.1	7.3	93%
CO_2 / TPES (tCO_2 per TJ)	10.9	8.8	10.7	9.7	15.9	12.8	13.0	20%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.28	0.3	0.4	0.4	0.7	0.5	0.5	66%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.11	0.1	0.2	0.1	0.3	0.2	0.2	66%
CO_2 / population (tCO_2 per capita)	0.2	0.1	0.2	0.2	0.3	0.3	0.3	69%
Share of electricity output from fossil fuels	40%	17%	43%	60%	46%	14%	25%	
CO_2 / kWh of electricity (gCO_2/kWh)	426	187	567	356	375	132	237	-44%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	101	165	167	361	309	325	225%
Population index	100	113	129	147	169	188	193	93%
GDP PPP per population index	100	89	96	89	91	99	102	2%
Energy intensity index - TPES / GDP PPP	100	123	135	143	160	141	139	39%
Carbon intensity index - CO_2 / TPES	100	81	99	89	146	118	120	20%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**1.9**	**-**	**-**	**1.9**	**225%**
Electricity and heat generation	-	0.0	-	-	0.0	-71%
Other energy industry own use	-	-	-	-	-	-
Manufacturing industries and construction	-	0.2	-	-	0.2	588%
Transport	-	1.5	-	-	1.5	244%
of which: road	-	*1.5*	-	-	*1.5*	244%
Other	-	0.2	-	-	0.2	282%
of which: residential	-	*0.2*	-	-	*0.2*	282%
of which: services	-	-	-	-	-	-
Memo: international marine bunkers	-	*0.1*	-	-	*0.1*	..
Memo: international aviation bunkers	-	*0.3*	-	-	*0.3*	*148%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	1.5	243.5	9.5	9.5
Residential - oil	0.2	282.4	1.4	10.9
Manufacturing industries - oil	0.2	588.3	1.1	12.0
Main activity prod. elec. and heat - oil	0.0	-79.0	0.1	12.1
Unallocated autoproducers - oil	0.0	-	0.0	12.2
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*1.9*	*225.4*	*12.2*	*12.2*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Trinidad and Tobago

Figure 1. CO_2 emissions by fuel

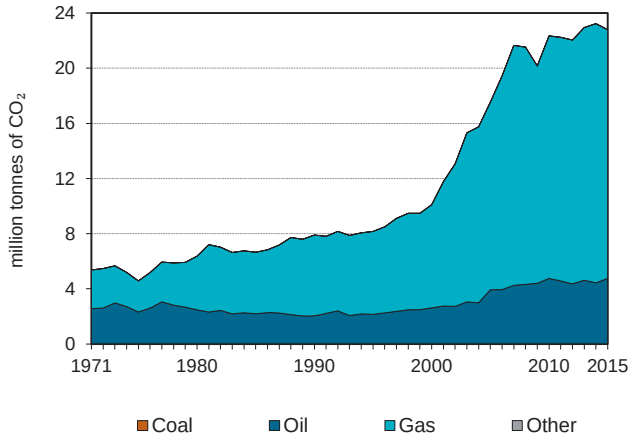


Figure 2. CO_2 emissions by sector

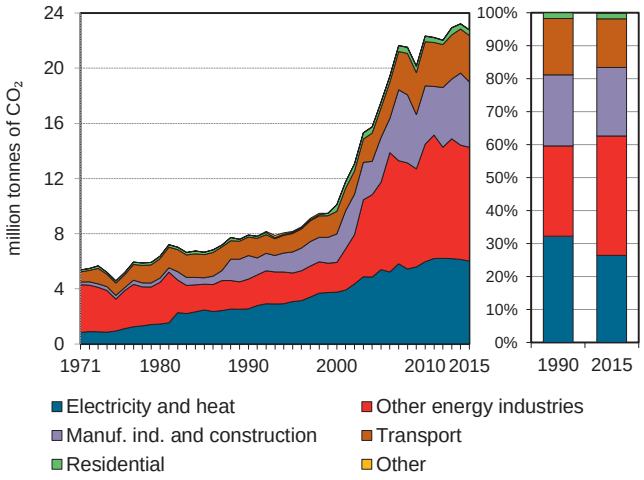


Figure 3. Electricity generation by fuel

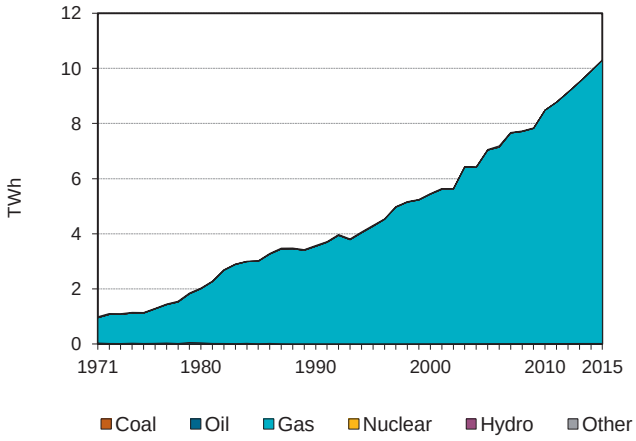


Figure 4. CO_2 from electricity generation: driving factors[1]

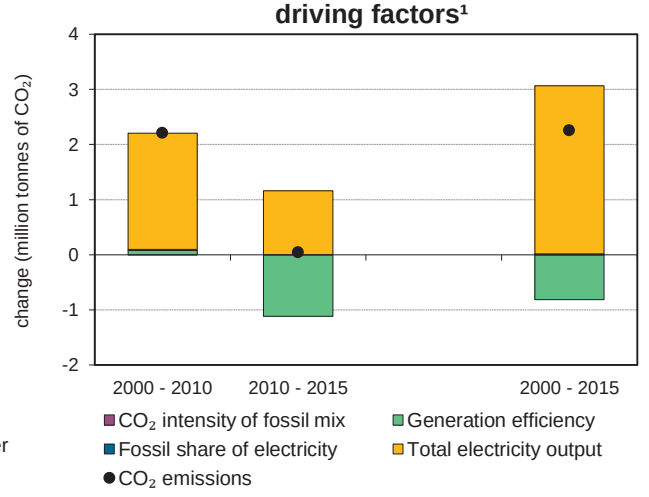


Figure 5. Changes in selected indicators

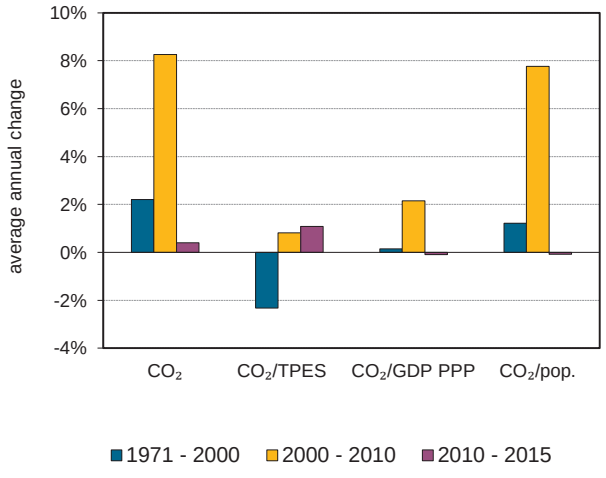
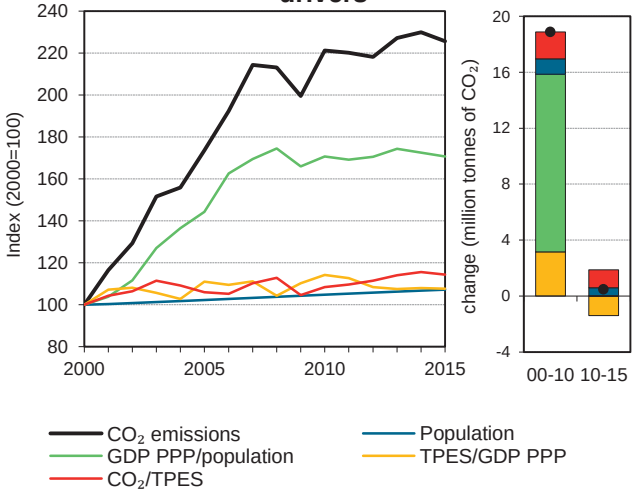


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Trinidad and Tobago

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	7.9	8.2	10.1	17.5	22.3	23.2	22.8	189%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	251	257	412	675	840	819	812	224%
GDP (billion 2010 USD)	8	8.6	12.4	18.3	22.2	22.8	22.7	184%
GDP PPP (billion 2010 USD)	14	15.0	21.8	32.1	38.9	40.1	39.9	184%
Population (millions)	1.2	1.3	1.3	1.3	1.3	1.4	1.4	11%
CO_2 / TPES (tCO_2 per TJ)	31.5	31.7	24.5	26.0	26.6	28.4	28.1	-11%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.99	1.0	0.8	1.0	1.0	1.0	1.0	2%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.56	0.5	0.5	0.5	0.6	0.6	0.6	2%
CO_2 / population (tCO_2 per capita)	6.5	6.5	8.0	13.5	16.8	17.2	16.8	159%
Share of electricity output from fossil fuels	99%	99%	100%	100%	100%	100%	100%	
CO_2 / kWh of electricity (gCO_2/kWh)	712	714	689	764	703	620	584	-18%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	103	128	222	283	294	289	189%
Population index	100	103	104	106	109	111	111	11%
GDP PPP per population index	100	104	150	216	255	258	255	155%
Energy intensity index - TPES / GDP PPP	100	96	106	118	121	114	114	14%
Carbon intensity index - CO_2 / TPES	100	101	78	82	84	90	89	-11%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**4.8**	**18.0**	**-**	**22.8**	**189%**
Electricity and heat generation	-	0.0	6.0	-	6.0	136%
Other energy industry own use	-	0.6	7.6	-	8.2	282%
Manufacturing industries and construction	-	0.5	4.2	-	4.7	177%
Transport	-	3.4	-	-	3.4	151%
of which: road	-	*3.0*	-	-	*3.0*	132%
Other	-	0.2	0.2	-	0.4	197%
of which: residential	-	*0.2*	*0.2*	-	*0.4*	179%
of which: services	-	*0.0*	-	-	*0.0*	x
Memo: international marine bunkers	-	*1.7*	-	-	*1.7*	+
Memo: international aviation bunkers	-	*0.8*	-	-	*0.8*	*285%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Other energy industry own use - gas	7.6	307.8	12.1	12.1
Main activity prod. elec. and heat - gas	5.9	146.0	9.4	21.4
Manufacturing industries - gas	4.2	196.3	6.7	28.1
Road - oil	3.0	131.6	4.7	32.9
Other energy industry own use - oil	0.6	113.3	1.0	33.8
Manufacturing industries - oil	0.5	81.6	0.8	34.6
Other transport - oil	0.4	686.0	0.6	35.2
Residential - oil	0.2	48.3	0.3	35.5
Residential - gas	0.2	x	0.3	35.8
Memo: total CO_2 from fuel combustion	*22.8*	*188.5*	*36.0*	*36.0*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Tunisia

Figure 1. CO_2 emissions by fuel

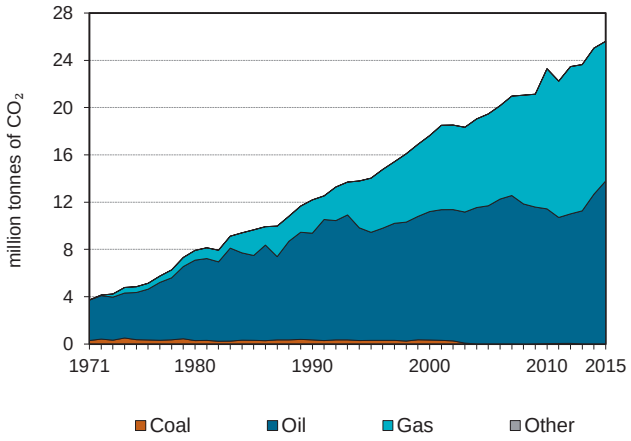


Figure 2. CO_2 emissions by sector

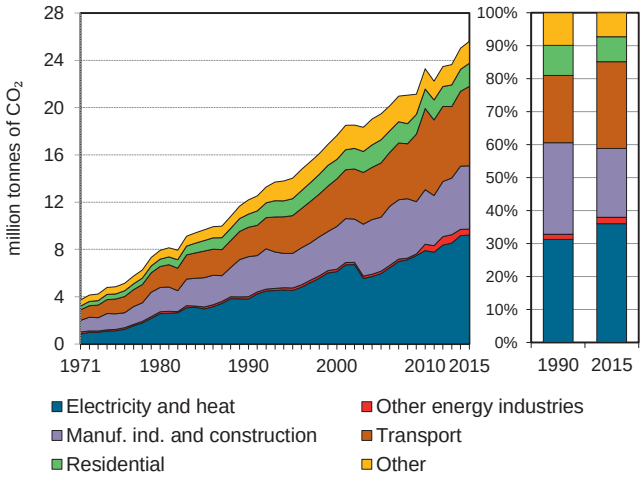


Figure 3. Electricity generation by fuel

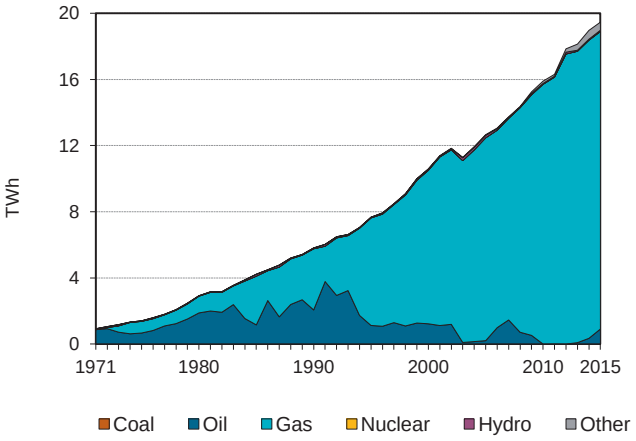


Figure 4. CO_2 from electricity generation: driving factors[1]

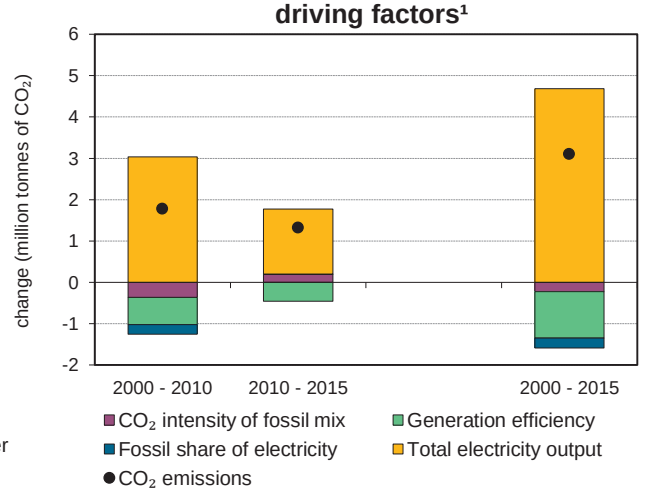


Figure 5. Changes in selected indicators

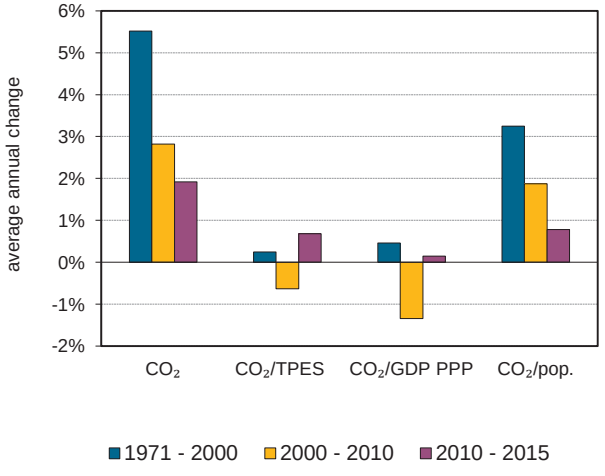
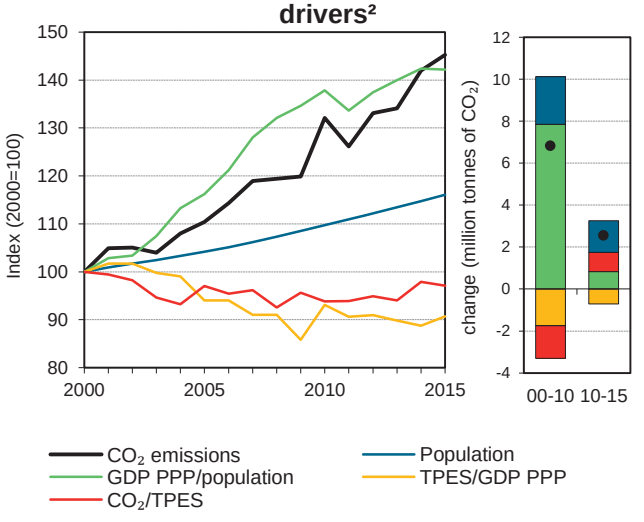


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Tunisia

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	12.2	14.0	17.6	19.5	23.3	25.0	25.6	110%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	207	243	306	348	430	443	458	121%
GDP (billion 2010 USD)	18.3	22.2	29.1	35.3	44.1	47.6	48.1	162%
GDP PPP (billion 2010 USD)	45.5	55.0	72.3	87.5	109.3	118.1	119.3	162%
Population (millions)	8.2	9.1	9.7	10.1	10.6	11.1	11.3	37%
CO_2 / TPES (tCO_2 per TJ)	58.9	57.7	57.6	55.9	54.1	56.4	56.0	-5%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.66	0.6	0.6	0.6	0.5	0.5	0.5	-20%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.27	0.3	0.2	0.2	0.2	0.2	0.2	-20%
CO_2 / population (tCO_2 per capita)	1.5	1.5	1.8	1.9	2.2	2.2	2.3	54%
Share of electricity output from fossil fuels	99%	99%	99%	99%	99%	97%	97%	
CO_2 / kWh of electricity (gCO_2/kWh)	656	591	578	471	483	477	469	-29%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	115	145	160	191	205	210	110%
Population index	100	111	118	123	129	135	137	37%
GDP PPP per population index	100	109	135	157	186	192	192	92%
Energy intensity index - TPES / GDP PPP	100	97	93	87	87	82	84	-16%
Carbon intensity index - CO_2 / TPES	100	98	98	95	92	96	95	-5%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**13.8**	**11.8**	**-**	**25.6**	**110%**
Electricity and heat generation	-	0.8	8.5	-	9.2	142%
Other energy industry own use	-	0.2	0.3	-	0.5	162%
Manufacturing industries and construction	-	3.5	1.9	-	5.4	58%
Transport	-	6.5	0.2	-	6.7	170%
of which: road	-	*6.5*	-	-	*6.5*	163%
Other	-	2.9	1.0	-	3.8	65%
of which: residential	-	*1.5*	*0.5*	-	*2.0*	77%
of which: services	-	*0.3*	*0.4*	-	*0.7*	33%
Memo: international marine bunkers	-	*0.0*	-	-	*0.0*	*-86%*
Memo: international aviation bunkers	-	*0.6*	-	-	*0.6*	*10%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - gas	8.1	287.8	19.0	19.0
Road - oil	6.5	162.6	15.2	34.2
Manufacturing industries - oil	3.5	42.8	8.2	42.4
Manufacturing industries - gas	1.9	212.6	4.4	46.8
Residential - oil	1.5	42.2	3.4	50.2
Non-specified other - oil	1.4	21.9	3.3	53.5
Main activity prod. elec. and heat - oil	0.7	-38.1	1.7	55.1
Residential - gas	0.5	484.5	1.2	56.3
Non-specified other - gas	0.4	763.6	1.1	57.4
Memo: total CO_2 from fuel combustion	*25.6*	*110.1*	*60.2*	*60.2*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Turkey

Figure 1. CO_2 emissions by fuel

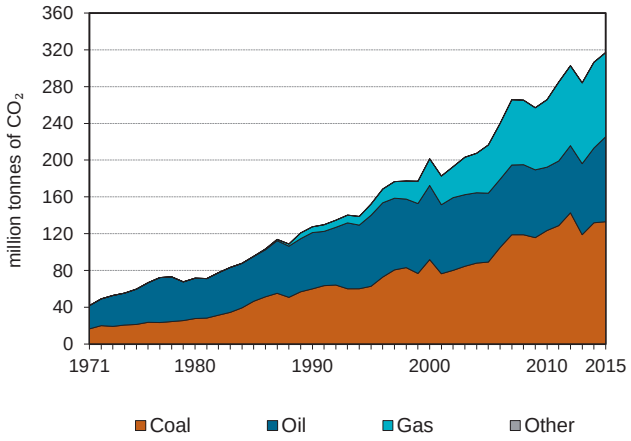


Figure 2. CO_2 emissions by sector

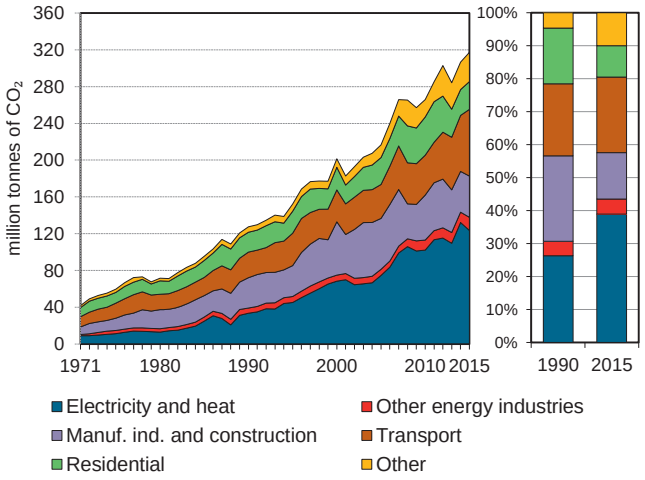


Figure 3. Electricity generation by fuel

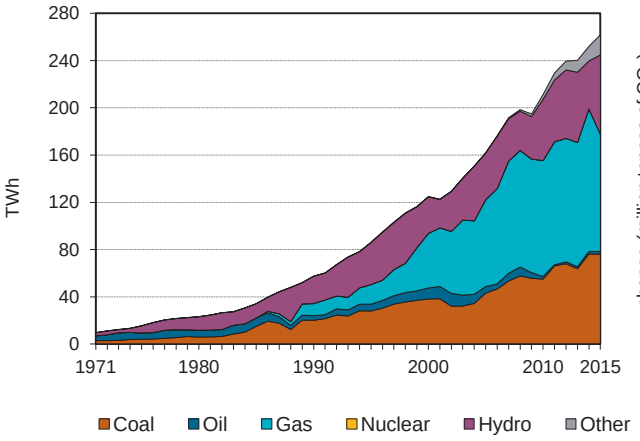


Figure 4. CO_2 from electricity generation: driving factors[1]

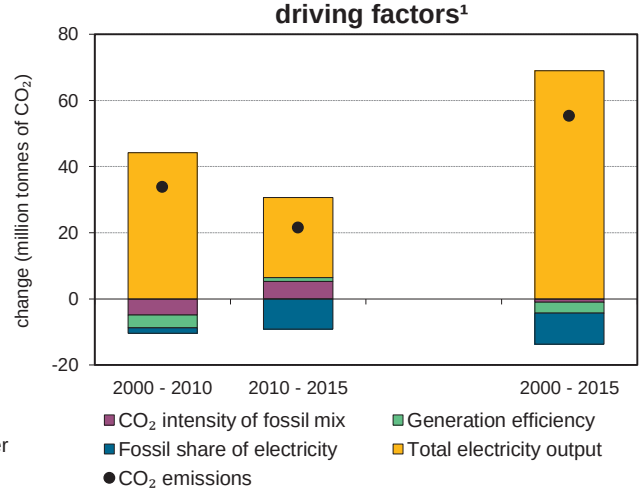


Figure 5. Changes in selected indicators

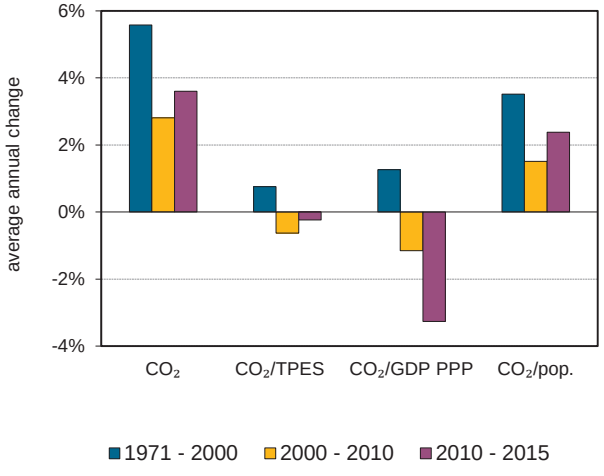
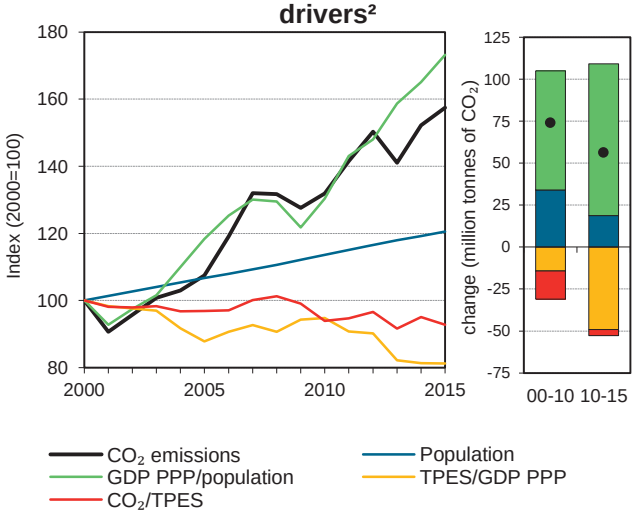


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Turkey

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	127.5	152.2	201.5	216.5	265.8	306.6	317.2	149%
Share of World CO_2 from fuel combustion	1%	1%	1%	1%	1%	1%	1%	
TPES (PJ)	2206	2 578	3 178	3 526	4 465	5 087	5 393	144%
GDP (billion 2010 USD)	364	426.3	520.9	658.1	771.9	1 025.4	1 087.6	199%
GDP PPP (billion 2010 USD)	595.4	697.4	852.2	1 076.7	1 262.8	1 677.6	1 779.2	199%
Population (millions)	55.1	59.8	64.3	68.6	73.0	76.6	77.5	41%
CO_2 / TPES (tCO_2 per TJ)	57.8	59.0	63.4	61.4	59.5	60.3	58.8	2%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.35	0.4	0.4	0.3	0.3	0.3	0.3	-17%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.21	0.2	0.2	0.2	0.2	0.2	0.2	-17%
CO_2 / population (tCO_2 per capita)	2.3	2.5	3.1	3.2	3.6	4.0	4.1	77%
Share of electricity output from fossil fuels	60%	58%	75%	75%	74%	79%	68%	
CO_2 / kWh of electricity (gCO_2/kWh)	582	523	538	446	468	498	441	-24%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	119	158	170	209	241	249	149%
Population index	100	108	117	124	132	139	141	41%
GDP PPP per population index	100	108	123	145	160	203	213	113%
Energy intensity index - TPES / GDP PPP	100	100	101	88	95	82	82	-18%
Carbon intensity index - CO_2 / TPES	100	102	110	106	103	104	102	2%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**133.0**	**92.4**	**91.4**	**0.4**	**317.2**	**149%**
Electricity and heat generation	81.1	2.1	39.9	0.4	123.6	269%
Other energy industry own use	6.7	4.4	3.2	-	14.3	154%
Manufacturing industries and construction	22.0	3.0	19.8	-	44.9	36%
Transport	-	71.7	0.8	-	72.5	160%
of which: road	-	*66.7*	*0.2*	-	*66.9*	163%
Other	23.2	11.2	27.6	-	62.0	125%
of which: residential	*8.0*	*0.9*	*21.3*	-	*30.2*	40%
of which: services	*15.2*	*1.7*	*6.1*	-	*22.9*	+
Memo: international marine bunkers	-	*2.7*	-	-	*2.7*	*617%*
Memo: international aviation bunkers	-	*10.7*	-	-	*10.7*	+

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	81.1	282.4	17.6	17.6
Road - oil	66.7	162.3	14.4	32.0
Main activity prod. elec. and heat - gas	39.9	699.2	8.6	40.6
Manufacturing industries - coal	22.0	7.7	4.8	45.4
Residential - gas	21.3	+	4.6	50.0
Manufacturing industries - gas	19.8	+	4.3	54.3
Non-specified other sectors - coal	15.2	+	3.3	57.6
Non-specified other - oil	10.3	73.9	2.2	59.8
Residential - coal	8.0	-35.7	1.7	61.5
Memo: total CO_2 from fuel combustion	*317.2*	*148.9*	*68.6*	*68.6*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Turkmenistan

Figure 1. CO_2 emissions by fuel

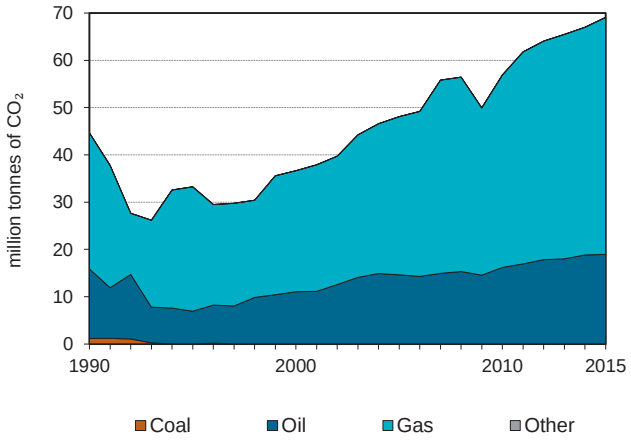


Figure 2. CO_2 emissions by sector

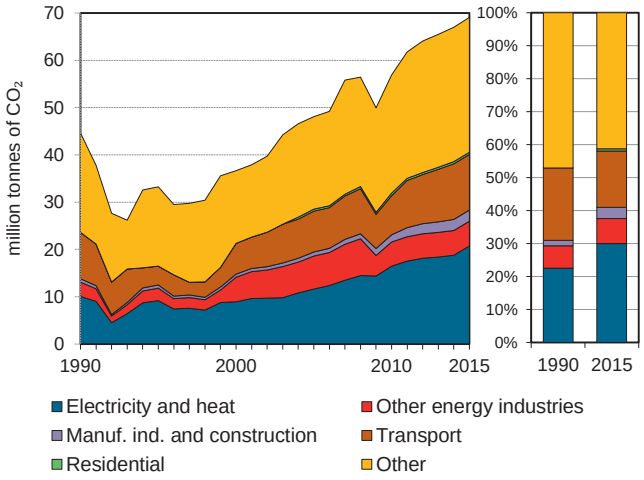


Figure 3. Electricity generation by fuel

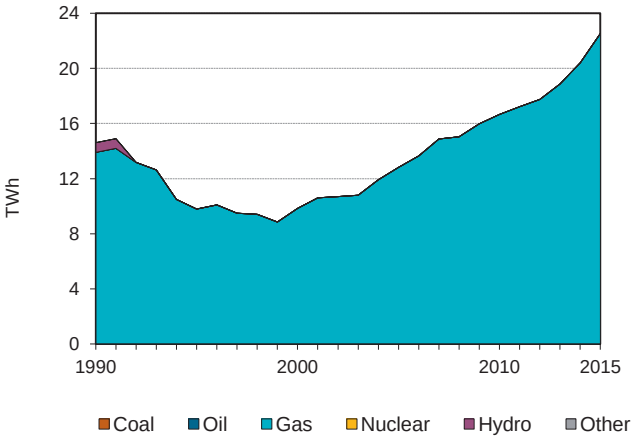


Figure 4. CO_2 from electricity generation: driving factors[1]

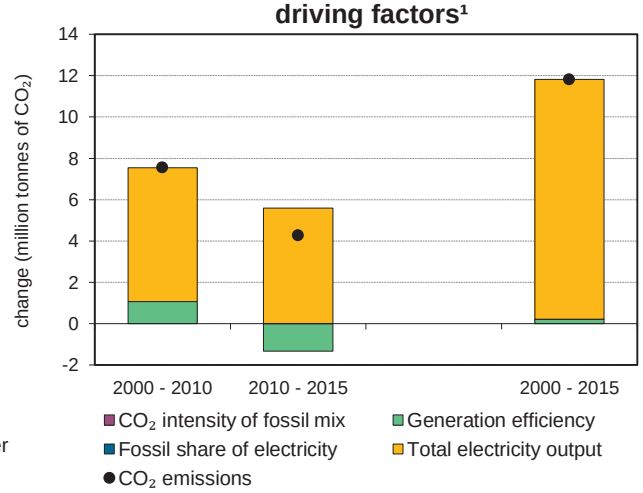


Figure 5. Changes in selected indicators

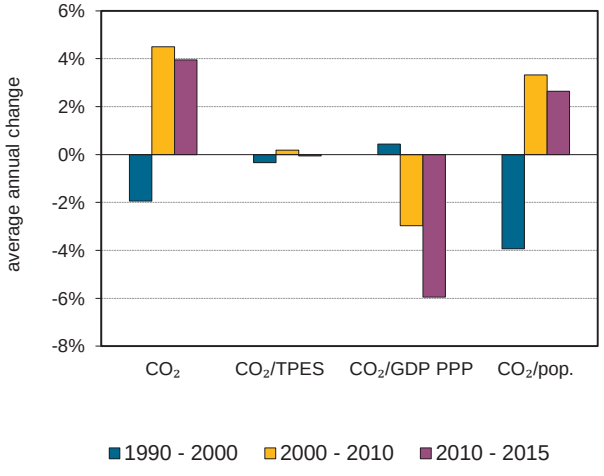
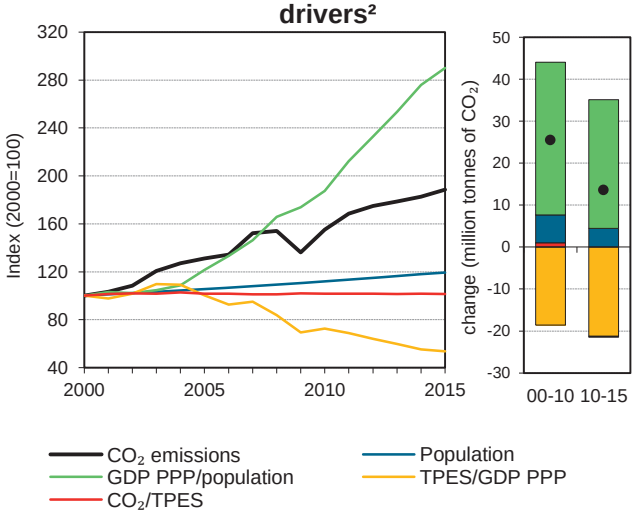


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Turkmenistan

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	44.6	33.2	36.7	48.1	56.9	67.0	69.1	55%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	733	573	623	803	950	1 120	1 157	58%
GDP (billion 2010 USD)	13.7	8.6	10.8	13.8	22.6	35.0	37.3	172%
GDP PPP (billion 2010 USD)	30	19.0	23.6	30.3	49.6	76.8	81.7	172%
Population (millions)	3.7	4.2	4.5	4.7	5.0	5.3	5.4	47%
CO_2 / TPES (tCO_2 per TJ)	60.9	58.0	58.8	59.9	59.9	59.8	59.7	-2%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	3.26	3.8	3.4	3.5	2.5	1.9	1.9	-43%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	1.49	1.8	1.6	1.6	1.1	0.9	0.8	-43%
CO_2 / population (tCO_2 per capita)	12.2	7.9	8.1	10.1	11.3	12.6	12.9	6%
Share of electricity output from fossil fuels	95%	100%	100%	100%	100%	100%	100%	
CO_2 / kWh of electricity (gCO_2/kWh)	689	936	876	876	958	890	893	30%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	74	82	108	127	150	155	55%
Population index	100	114	123	129	137	145	147	47%
GDP PPP per population index	100	55	64	78	120	177	186	86%
Energy intensity index - TPES / GDP PPP	100	124	108	109	78	60	58	-42%
Carbon intensity index - CO_2 / TPES	100	95	97	98	98	98	98	-2%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**19.0**	**50.1**	**-**	**69.1**	**55%**
Electricity and heat generation	-	-	20.7	-	20.7	106%
Other energy industry own use	-	0.4	4.9	-	5.2	75%
Manufacturing industries and construction	-	-	2.4	-	2.4	221%
Transport	-	7.9	3.9	-	11.8	20%
of which: road	-	*7.9*	-	-	*7.9*	91%
Other	-	10.7	18.3	-	29.0	38%
of which: residential	-	*0.5*	-	-	*0.5*	x
of which: services	-	-	*16.8*	-	*16.8*	95%
Memo: international marine bunkers	-	..	-	-	..	..
Memo: international aviation bunkers	-	*1.4*	-	-	*1.4*	*90%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - gas	20.7	105.9	16.7	16.7
Non-specified other - gas	18.3	94.5	14.7	31.4
Non-specified other - oil	10.2	-1.8	8.2	39.6
Road - oil	7.9	90.5	6.3	46.0
Other energy industry own use - gas	4.9	69.2	3.9	49.9
Other transport - gas	3.9	-31.6	3.1	53.0
Manufacturing industries - gas	2.4	220.9	1.9	54.9
Residential - oil	0.5	x	0.4	55.3
Other energy industry own use - oil	0.4	209.5	0.3	55.6
Memo: total CO_2 from fuel combustion	*69.1*	*54.8*	*55.6*	*55.6*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Ukraine

Figure 1. CO_2 emissions by fuel

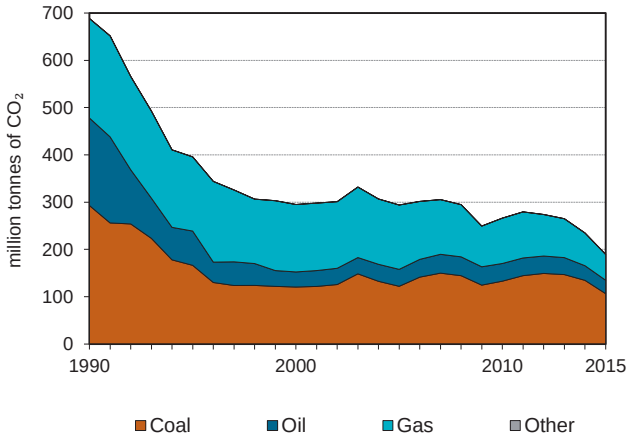


Figure 2. CO_2 emissions by sector

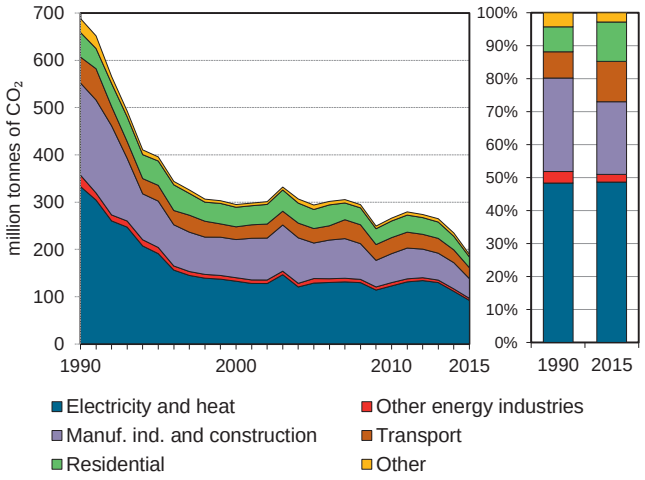


Figure 3. Electricity generation by fuel

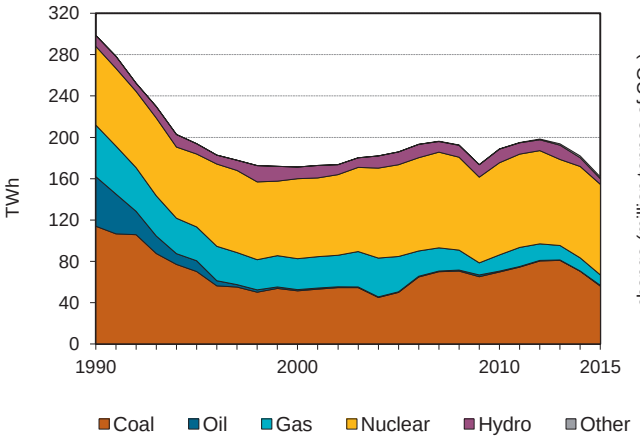


Figure 4. CO_2 from electricity generation: driving factors[1]

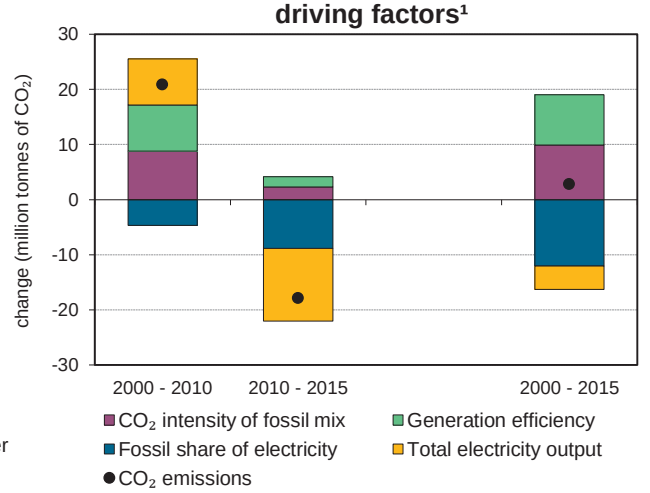


Figure 5. Changes in selected indicators

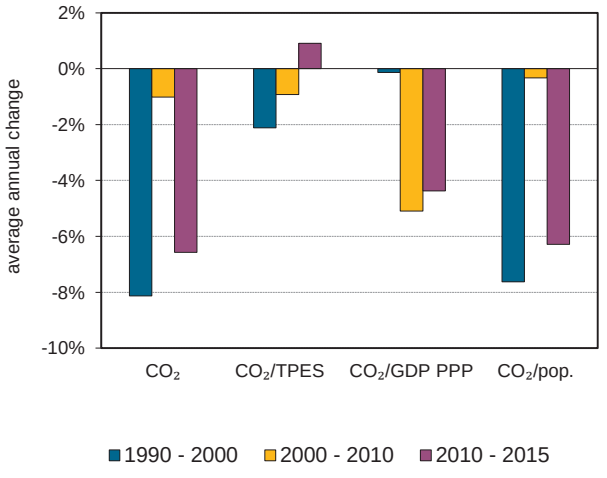
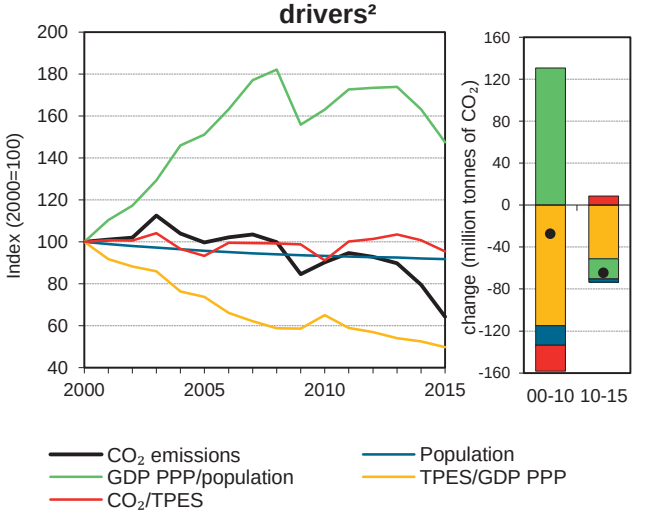


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Ukraine

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	688.4	395.7	295.0	293.9	266.2	234.7	189.4	-72%
Share of World CO_2 from fuel combustion	3%	2%	1%	1%	1%	1%	1%	
TPES (PJ)	10551	6 854	5 602	5 982	5 545	4 426	3 772	-64%
GDP (billion 2010 USD)	205.8	98.8	89.4	129.4	136.0	134.3	121.1	-41%
GDP PPP (billion 2010 USD)	533.4	256.0	231.7	335.3	352.5	348.2	313.8	-41%
Population (millions)	51.9	51.5	49.2	47.1	45.9	45.3	45.2	-13%
CO_2 / TPES (tCO_2 per TJ)	65.2	57.7	52.7	49.1	48.0	53.0	50.2	-23%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	3.35	4.0	3.3	2.3	2.0	1.7	1.6	-53%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	1.29	1.5	1.3	0.9	0.8	0.7	0.6	-53%
CO_2 / population (tCO_2 per capita)	13.3	7.7	6.0	6.2	5.8	5.2	4.2	-68%
Share of electricity output from fossil fuels	71%	58%	48%	46%	46%	46%	42%	
CO_2 / kWh of electricity (gCO_2/kWh)	664	576	407	409	425	442	407	-39%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	57	43	43	39	34	28	-72%
Population index	100	99	95	91	88	87	87	-13%
GDP PPP per population index	100	48	46	69	75	75	68	-32%
Energy intensity index - TPES / GDP PPP	100	135	122	90	80	64	61	-39%
Carbon intensity index - CO_2 / TPES	100	88	81	75	74	81	77	-23%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**106.5**	**28.3**	**54.6**	**-**	**189.4**	**-72%**
Electricity and heat generation	70.5	1.5	20.2	-	92.1	-72%
Other energy industry own use	1.6	0.6	2.2	-	4.4	-82%
Manufacturing industries and construction	32.8	2.5	6.5	-	41.9	-79%
Transport	0.0	19.4	3.7	-	23.1	-58%
of which: road	-	*18.8*	*0.1*	-	*18.9*	-60%
Other	1.5	4.3	22.1	-	28.0	-66%
of which: residential	*1.2*	*0.0*	*21.3*	-	*22.6*	-57%
of which: services	*0.3*	*0.3*	*0.5*	-	*1.0*	-65%
Memo: international marine bunkers	-	..	-	-	..	..
Memo: international aviation bunkers	-	*0.4*	-	-	*0.4*	*-94%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	64.0	-53.9	18.5	18.5
Manufacturing industries - coal	32.8	-70.7	9.5	28.1
Residential - gas	21.3	4.0	6.2	34.2
Road - oil	18.8	-60.3	5.5	39.7
Main activity prod. elec. and heat - gas	17.1	-81.6	5.0	44.7
Unallocated autoproducers - coal	6.5	183.9	1.9	46.6
Manufacturing industries - gas	6.5	-88.1	1.9	48.4
Non-specified other - oil	4.3	-76.4	1.2	49.7
Other transport - gas	3.6	x	1.1	50.7
Memo: total CO_2 from fuel combustion	*189.4*	*-72.5*	*54.9*	*54.9*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

United Arab Emirates

Figure 1. CO_2 emissions by fuel

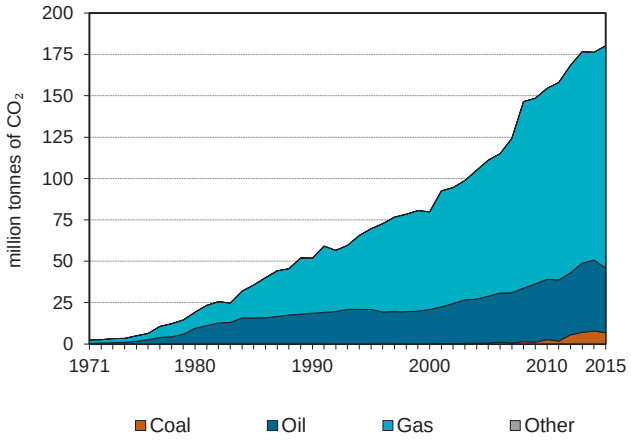


Figure 2. CO_2 emissions by sector

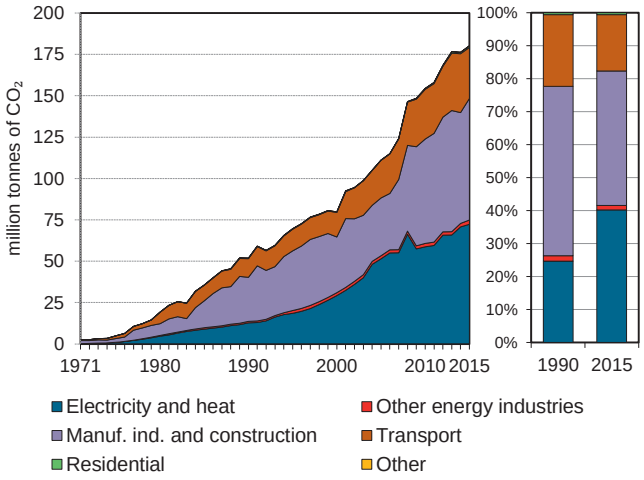


Figure 3. Electricity generation by fuel

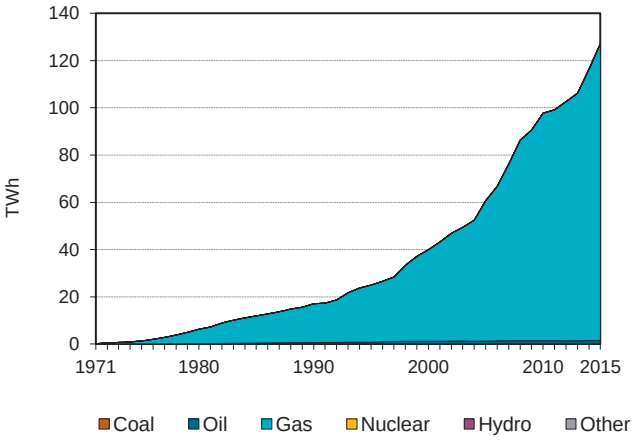


Figure 4. CO_2 from electricity generation: driving factors[1]

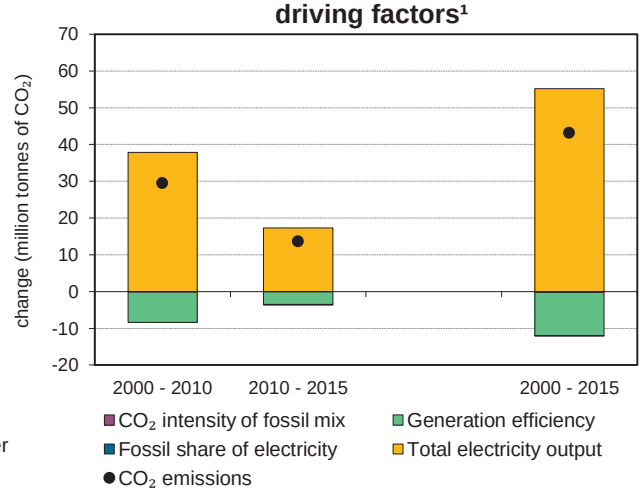


Figure 5. Changes in selected indicators

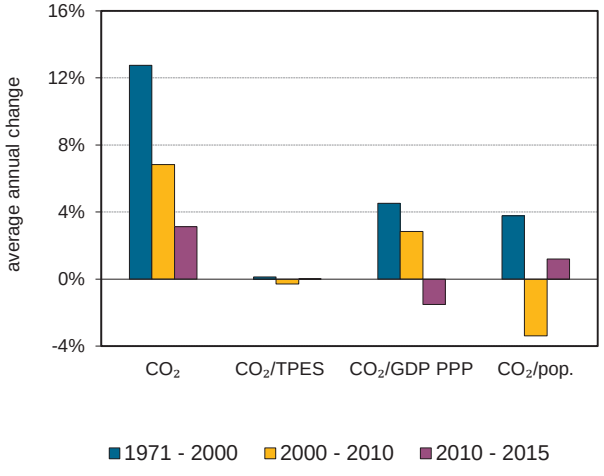
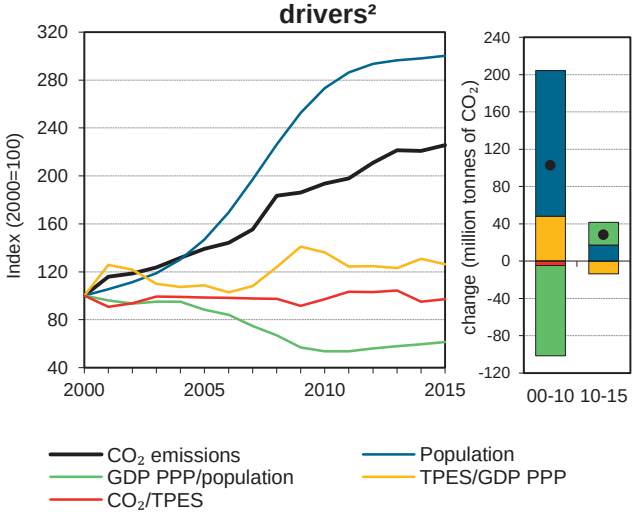


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

United Arab Emirates

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	51.9	69.6	79.8	111.1	154.5	176.3	180.2	247%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	1%	1%	1%	
TPES (PJ)	855	1 159	1 320	1 863	2 630	3 064	3 068	259%
GDP (billion 2010 USD)	124.1	149.4	195.6	254.0	286.0	347.0	360.0	190%
GDP PPP (billion 2010 USD)	203.3	244.7	320.4	415.9	468.5	568.2	589.6	190%
Population (millions)	1.8	2.4	3.1	4.5	8.3	9.1	9.2	406%
CO_2 / TPES (tCO_2 per TJ)	60.7	60.1	60.5	59.6	58.7	57.5	58.7	-3%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.42	0.5	0.4	0.4	0.5	0.5	0.5	20%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.26	0.3	0.2	0.3	0.3	0.3	0.3	20%
CO_2 / population (tCO_2 per capita)	28.6	29.6	26.2	24.8	18.5	19.4	19.7	-31%
Share of electricity output from fossil fuels	100%	100%	100%	100%	100%	100%	100%	
CO_2 / kWh of electricity (gCO_2/kWh)	747	741	732	848	601	607	568	-24%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	134	154	214	298	340	347	247%
Population index	100	130	168	247	460	502	506	406%
GDP PPP per population index	100	93	94	83	50	56	57	-43%
Energy intensity index - TPES / GDP PPP	100	113	98	106	133	128	124	24%
Carbon intensity index - CO_2 / TPES	100	99	100	98	97	95	97	-3%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**6.8**	**39.2**	**134.2**	**-**	**180.2**	**247%**
Electricity and heat generation	-	1.9	70.4	-	72.3	467%
Other energy industry own use	-	1.1	1.4	-	2.6	192%
Manufacturing industries and construction	6.8	4.3	62.4	-	73.4	176%
Transport	-	30.9	-	-	30.9	174%
of which: road	-	*29.9*	-	-	*29.9*	165%
Other	-	1.0	-	-	1.0	219%
of which: residential	-	*1.0*	-	-	*1.0*	219%
of which: services	-	-	-	-	-	-
Memo: international marine bunkers	-	*49.3*	-	-	*49.3*	*157%*
Memo: international aviation bunkers	-	*24.9*	-	-	*24.9*	*151%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - gas	70.4	480.0	29.8	29.8
Manufacturing industries - gas	62.4	204.0	26.3	56.1
Road - oil	29.9	164.6	12.6	68.7
Manufacturing industries - coal	6.8	x	2.9	71.6
Manufacturing industries - oil	4.3	-30.0	1.8	73.4
Main activity prod. elec. and heat - oil	1.9	207.0	0.8	74.2
Other energy industry own use - gas	1.4	129.5	0.6	74.8
Other energy industry own use - oil	1.1	346.7	0.5	75.3
Other transport - oil	1.0	x	0.4	75.7
Memo: total CO_2 from fuel combustion	*180.2*	*247.4*	*76.1*	*76.1*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

United Kingdom

Figure 1. CO_2 emissions by fuel

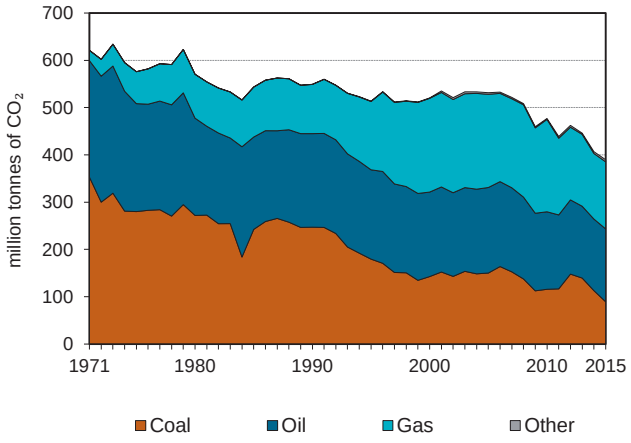


Figure 2. CO_2 emissions by sector

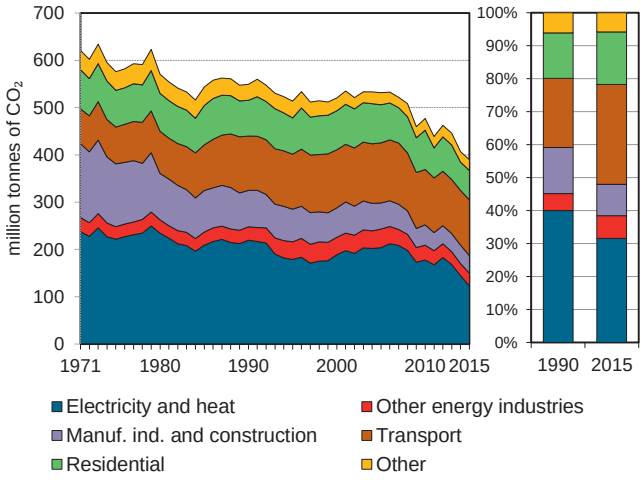


Figure 3. Electricity generation by fuel

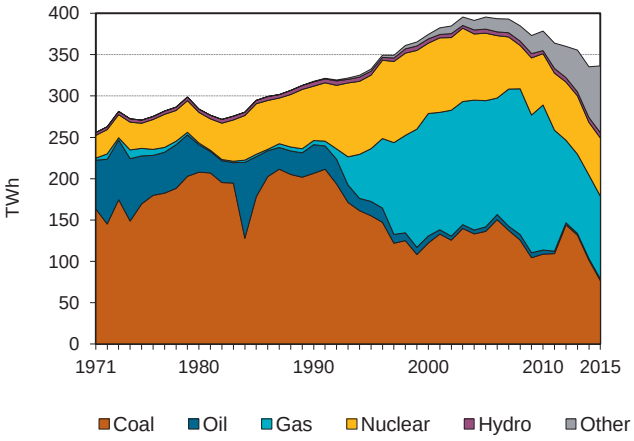


Figure 4. CO_2 from electricity generation: driving factors[1]

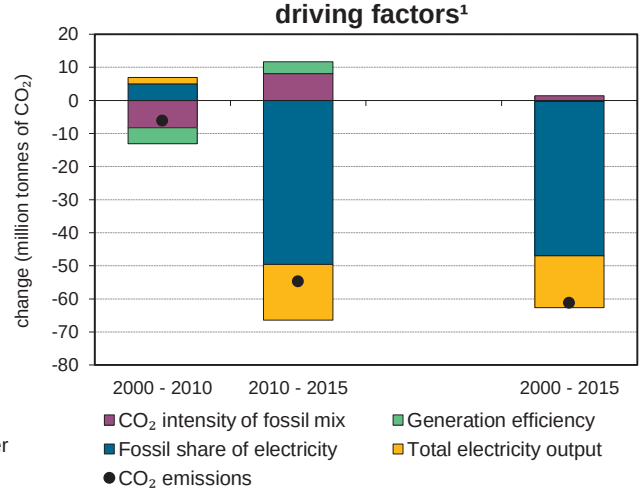


Figure 5. Changes in selected indicators

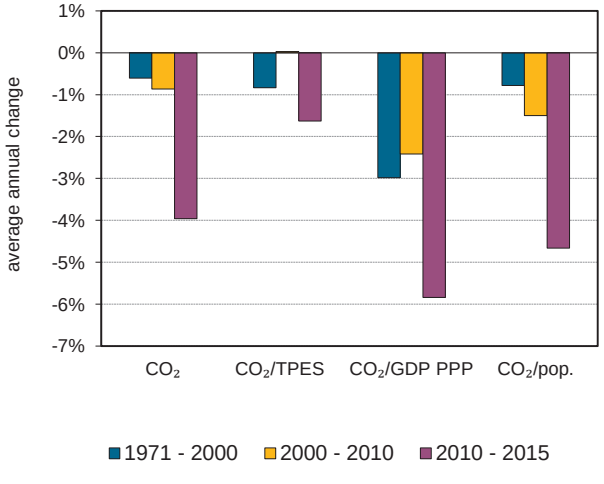
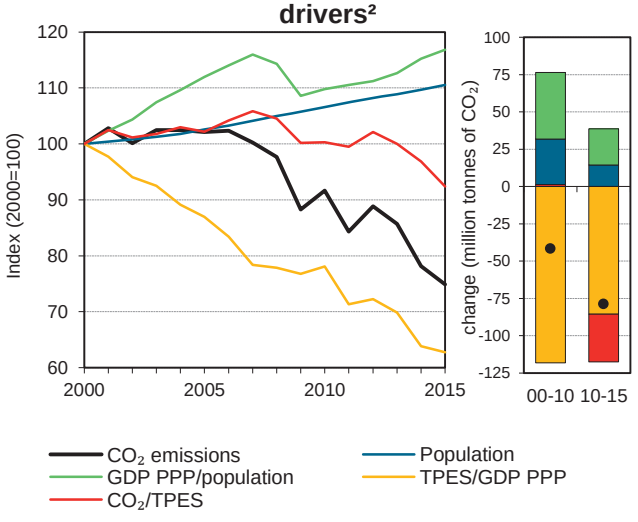


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

United Kingdom

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	549.3	513.7	520.4	531.5	477.0	406.8	389.8	-29%
Share of World CO_2 from fuel combustion	3%	2%	2%	2%	2%	1%	1%	
TPES (PJ)	8622	9 058	9 335	9 330	8 532	7 532	7 568	-12%
GDP (billion 2010 USD)	1638.9	1 775.4	2 076.0	2 385.4	2 429.7	2 624.7	2 682.3	64%
GDP PPP (billion 2010 USD)	1513.2	1 639.2	1 916.8	2 202.4	2 243.3	2 423.4	2 476.5	64%
Population (millions)	57.2	58.0	58.9	60.4	62.8	64.6	65.1	14%
CO_2 / TPES (tCO_2 per TJ)	63.7	56.7	55.8	57.0	55.9	54.0	51.5	-19%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.34	0.3	0.3	0.2	0.2	0.2	0.1	-57%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.36	0.3	0.3	0.2	0.2	0.2	0.2	-57%
CO_2 / population (tCO_2 per capita)	9.6	8.9	8.8	8.8	7.6	6.3	6.0	-38%
Share of electricity output from fossil fuels	77%	71%	75%	75%	77%	62%	54%	
CO_2 / kWh of electricity (gCO_2/kWh)	691	538	480	501	453	414	349	-50%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	94	95	97	87	74	71	-29%
Population index	100	101	103	106	110	113	114	14%
GDP PPP per population index	100	107	123	138	135	142	144	44%
Energy intensity index - TPES / GDP PPP	100	97	85	74	67	55	54	-46%
Carbon intensity index - CO_2 / TPES	100	89	88	89	88	85	81	-19%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**89.3**	**154.1**	**141.9**	**4.4**	**389.8**	**-29%**
Electricity and heat generation	73.9	1.9	43.3	3.8	122.9	-44%
Other energy industry own use	4.7	11.6	10.5	-	26.7	-6%
Manufacturing industries and construction	8.4	11.2	17.2	0.3	37.2	-52%
Transport	0.0	118.0	-	-	118.1	3%
of which: road	-	*111.7*	-	-	*111.7*	4%
Other	2.3	11.4	71.0	0.2	84.8	-23%
of which: residential	*2.2*	*6.8*	*53.1*	*0.0*	*62.2*	-18%
of which: services	*0.0*	*2.8*	*15.8*	*0.2*	*18.8*	-5%
Memo: international marine bunkers	-	*7.6*	-	-	*7.6*	*-4%*
Memo: international aviation bunkers	-	*32.5*	-	-	*32.5*	*71%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	111.7	3.7	22.2	22.2
Main activity prod. elec. and heat - coal	65.9	-64.5	13.1	35.3
Residential - gas	53.1	-2.7	10.6	45.9
Main activity prod. elec. and heat - gas ***	32.0	x	6.4	52.3
Non-specified other - gas	17.8	15.4	3.5	55.8
Manufacturing industries - gas	17.2	-29.7	3.4	59.2
Other energy industry own use - oil	11.6	-38.8	2.3	61.5
Unallocated autoproducers - gas ***	11.3	333.4	2.3	63.8
Manufacturing industries - oil	11.2	-42.8	2.2	66.0
Memo: total CO_2 from fuel combustion	*389.8*	*-29.0*	*77.5*	*77.5*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

United States

Figure 1. CO_2 emissions by fuel

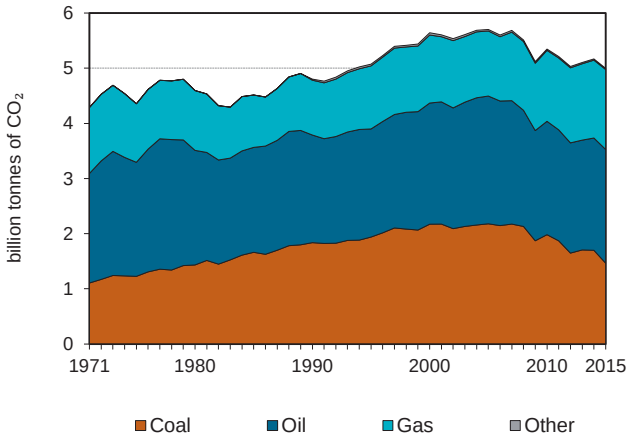


Figure 2. CO_2 emissions by sector

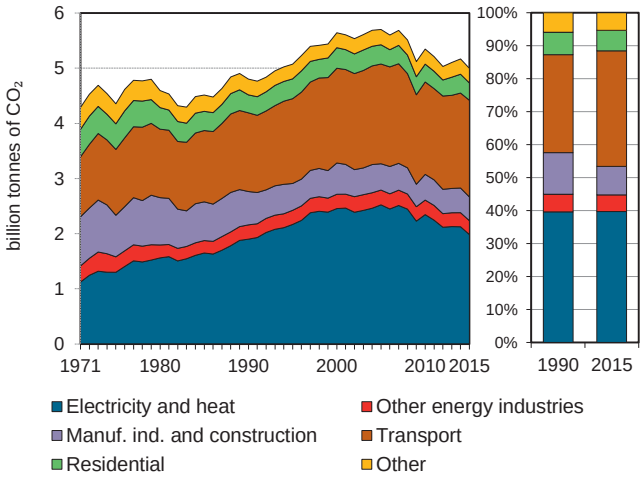


Figure 3. Electricity generation by fuel

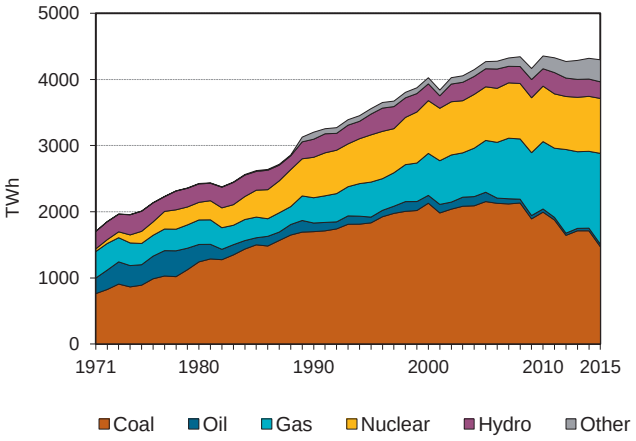


Figure 4. CO_2 from electricity generation: driving factors[1]

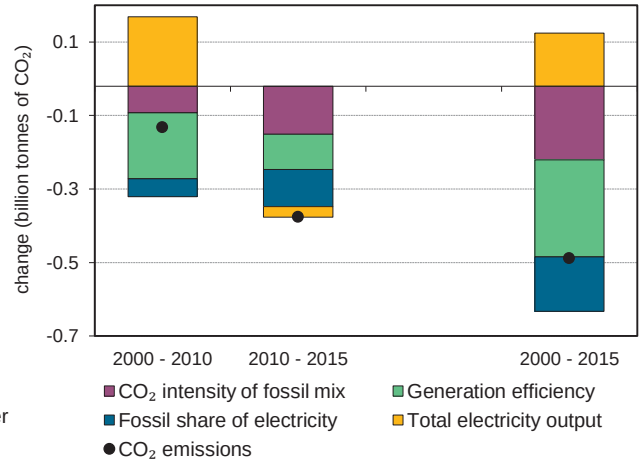


Figure 5. Changes in selected indicators

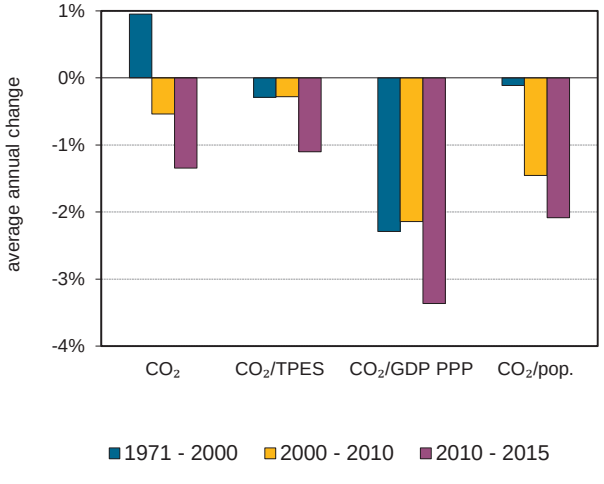
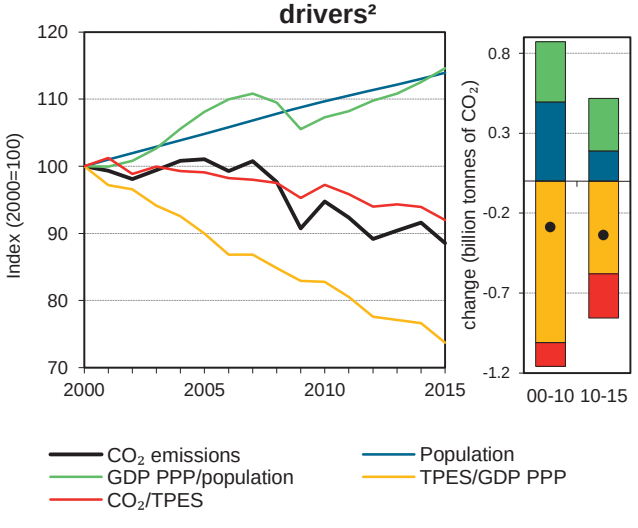


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

United States

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	4802.5	5 073.2	5 642.6	5 702.3	5 347.0	5 168.1	4 997.5	4%
Share of World CO_2 from fuel combustion	23%	24%	24%	21%	18%	16%	15%	
TPES (PJ)	80179	86 554	95 180	97 082	92 747	92 813	91 619	14%
GDP (billion 2010 USD)	9064.4	10 299.0	12 713.1	14 408.1	14 964.4	16 177.5	16 597.4	83%
GDP PPP (billion 2010 USD)	9064.4	10 299.0	12 713.1	14 408.1	14 964.4	16 177.5	16 597.4	83%
Population (millions)	250.2	266.6	282.4	296.0	309.8	319.2	321.7	29%
CO_2 / TPES (tCO_2 per TJ)	59.9	58.6	59.3	58.7	57.7	55.7	54.5	-9%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.53	0.5	0.4	0.4	0.4	0.3	0.3	-43%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.53	0.5	0.4	0.4	0.4	0.3	0.3	-43%
CO_2 / population (tCO_2 per capita)	19.2	19.0	20.0	19.3	17.3	16.2	15.5	-19%
Share of electricity output from fossil fuels	69%	69%	72%	72%	71%	68%	67%	
CO_2 / kWh of electricity (gCO_2/kWh)	593	601	604	586	530	486	456	-23%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	106	117	119	111	108	104	4%
Population index	100	107	113	118	124	128	129	29%
GDP PPP per population index	100	107	124	134	133	140	142	42%
Energy intensity index - TPES / GDP PPP	100	95	85	76	70	65	62	-38%
Carbon intensity index - CO_2 / TPES	100	98	99	98	96	93	91	-9%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**1 465.1**	**2 062.0**	**1 449.9**	**20.5**	**4 997.5**	**4%**
Electricity and heat generation	1 370.5	29.2	567.8	17.0	1 984.5	4%
Other energy industry own use	8.5	107.4	135.7	-	251.6	-3%
Manufacturing industries and construction	83.4	68.0	276.9	2.6	430.9	-29%
Transport	-	1 713.0	39.0	-	1 752.0	23%
of which: road	-	*1 490.7*	*2.2*	-	*1 492.8*	30%
Other	2.7	144.4	430.6	0.9	578.6	-5%
of which: residential	-	*59.5*	*254.6*	-	*314.1*	-4%
of which: services	*2.7*	*35.7*	*172.6*	*0.9*	*211.8*	-3%
Memo: international marine bunkers	-	*41.0*	-	-	*41.0*	*-55%*
Memo: international aviation bunkers	-	*70.6*	-	-	*70.6*	*80%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	1490.7	29.7	23.3	23.3
Main activity prod. elec. and heat - coal	1356.1	-13.3	21.2	44.5
Main activity prod. elec. and heat - gas	529.6	245.2	8.3	52.8
Manufacturing industries - gas	276.9	7.3	4.3	57.1
Residential - gas	254.6	5.7	4.0	61.1
Other transport - oil	222.3	-7.9	3.5	64.6
Non-specified other - gas	176.0	22.3	2.8	67.3
Other energy industry own use - gas	135.7	29.6	2.1	69.4
Other energy industry own use - oil	107.4	-29.3	1.7	71.1
Memo: total CO_2 from fuel combustion	*4997.5*	*4.1*	*78.1*	*78.1*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Uruguay

Figure 1. CO_2 emissions by fuel

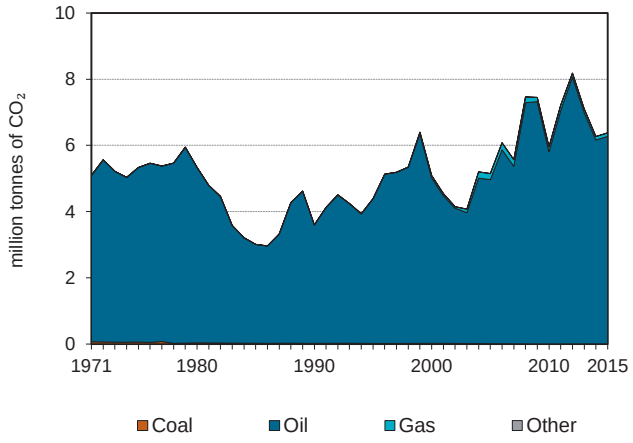


Figure 2. CO_2 emissions by sector

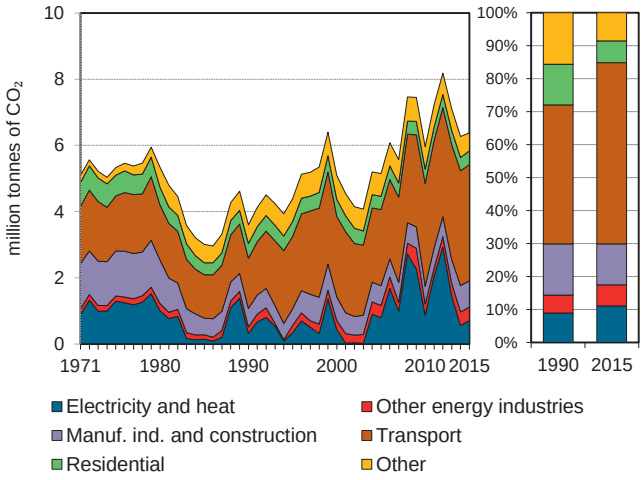


Figure 3. Electricity generation by fuel

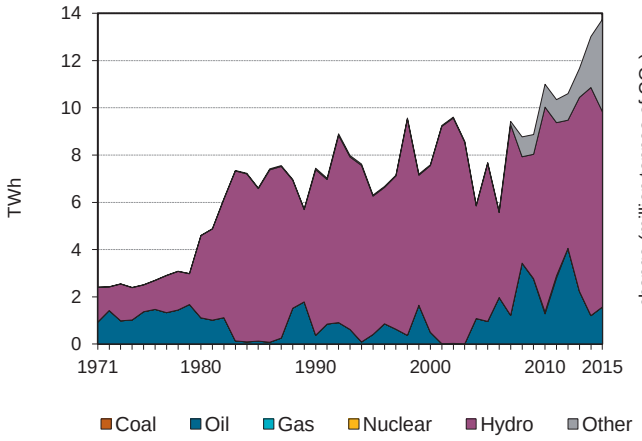


Figure 4. CO_2 from electricity generation: driving factors[1]

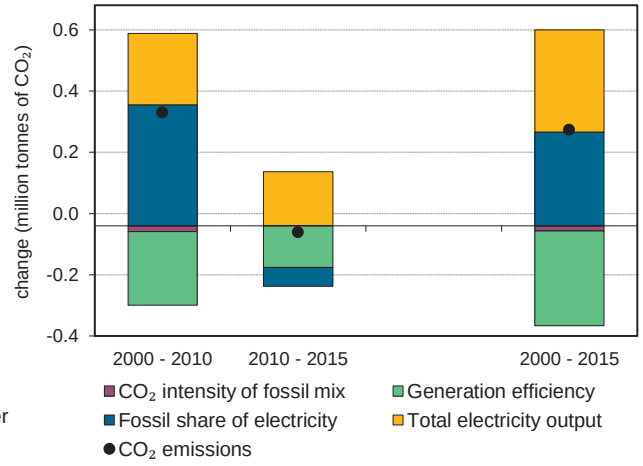


Figure 5. Changes in selected indicators

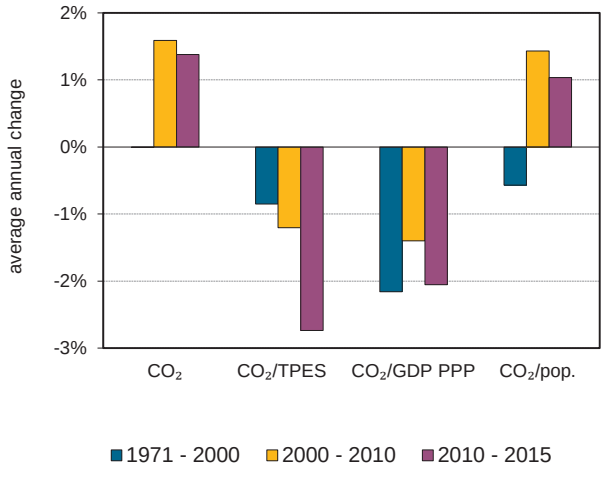
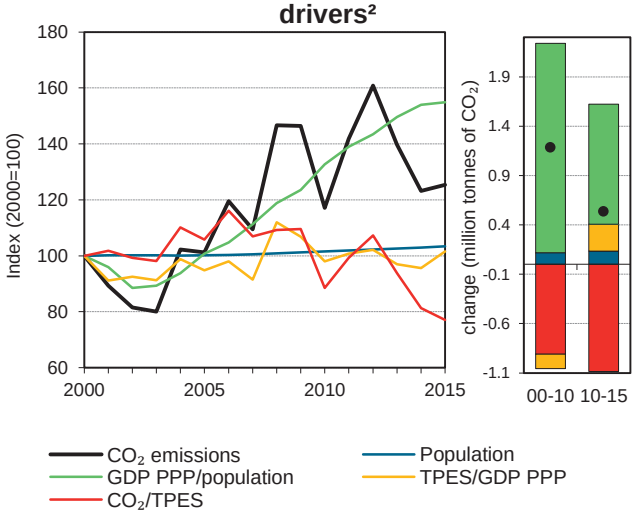


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Uruguay

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	3.6	4.4	5.1	5.2	6.0	6.3	6.4	77%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	94	108	129	124	171	196	210	123%
GDP (billion 2010 USD)	21.4	25.9	29.9	30.2	40.3	47.4	47.8	124%
GDP PPP (billion 2010 USD)	30	36.4	41.9	42.3	56.5	66.4	67.1	124%
Population (millions)	3.1	3.2	3.3	3.3	3.4	3.4	3.4	10%
CO_2 / TPES (tCO_2 per TJ)	38.2	40.8	39.3	41.6	34.8	31.9	30.3	-21%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.17	0.2	0.2	0.2	0.1	0.1	0.1	-21%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.12	0.1	0.1	0.1	0.1	0.1	0.1	-21%
CO_2 / population (tCO_2 per capita)	1.2	1.4	1.5	1.5	1.8	1.8	1.9	61%
Share of electricity output from fossil fuels	5%	6%	7%	12%	12%	9%	11%	
CO_2 / kWh of electricity (gCO_2/kWh)	43	54	57	104	80	43	51	19%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	122	141	143	166	174	177	77%
Population index	100	104	107	107	108	110	110	10%
GDP PPP per population index	100	117	131	132	174	201	203	103%
Energy intensity index - TPES / GDP PPP	100	94	98	93	96	94	100	0%
Carbon intensity index - CO_2 / TPES	100	107	103	109	91	84	79	-21%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**-**	**6.3**	**0.1**	**-**	**6.4**	**77%**
Electricity and heat generation	-	0.7	-	-	0.7	120%
Other energy industry own use	-	0.4	0.0	-	0.4	110%
Manufacturing industries and construction	-	0.8	0.0	-	0.8	42%
Transport	-	3.5	-	-	3.5	131%
of which: road	-	*3.5*	-	-	*3.5*	142%
Other	-	0.9	0.1	-	1.0	-4%
of which: residential	-	*0.4*	*0.0*	-	*0.4*	-6%
of which: services	-	*0.1*	*0.0*	-	*0.1*	-38%
Memo: international marine bunkers	-	*0.5*	-	-	*0.5*	*38%*
Memo: international aviation bunkers	-	*0.3*	-	-	*0.3*	*x*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	3.5	141.5	6.9	6.9
Manufacturing industries - oil	0.8	37.4	1.5	8.4
Main activity prod. elec. and heat - oil	0.7	133.2	1.4	9.8
Non-specified other - oil	0.5	-6.1	1.0	10.8
Other energy industry own use - oil	0.4	107.1	0.8	11.6
Residential - oil	0.4	-15.4	0.7	12.3
Residential - gas	0.0	x	0.1	12.4
Manufacturing industries - gas	0.0	x	0.1	12.5
Non-specified other - gas	0.0	x	0.0	12.5
Memo: total CO_2 from fuel combustion	*6.4*	*77.3*	*12.6*	*12.6*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Uzbekistan

Figure 1. CO_2 emissions by fuel

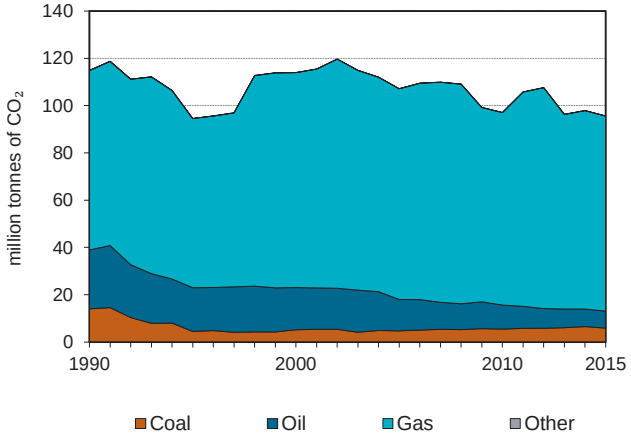


Figure 2. CO_2 emissions by sector

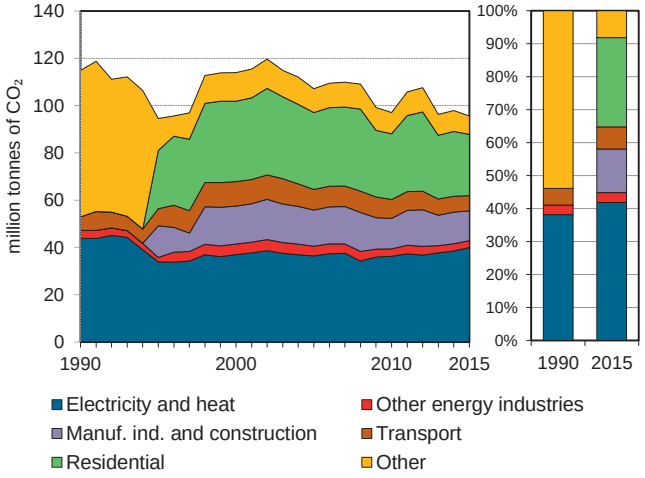


Figure 3. Electricity generation by fuel

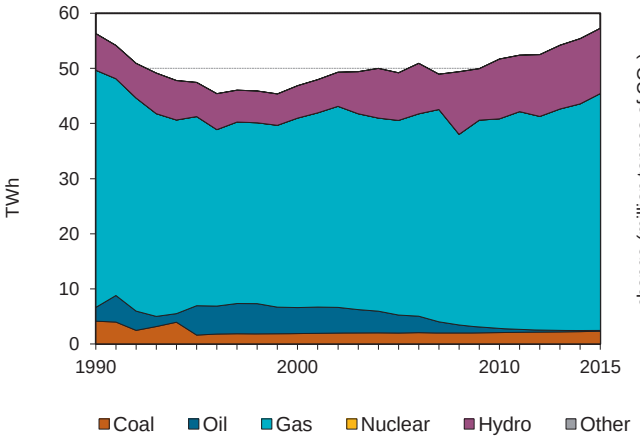


Figure 4. CO_2 from electricity generation: driving factors[1]

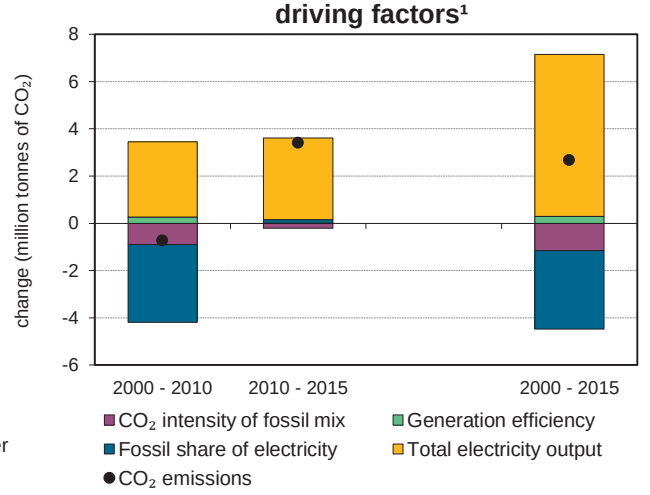


Figure 5. Changes in selected indicators

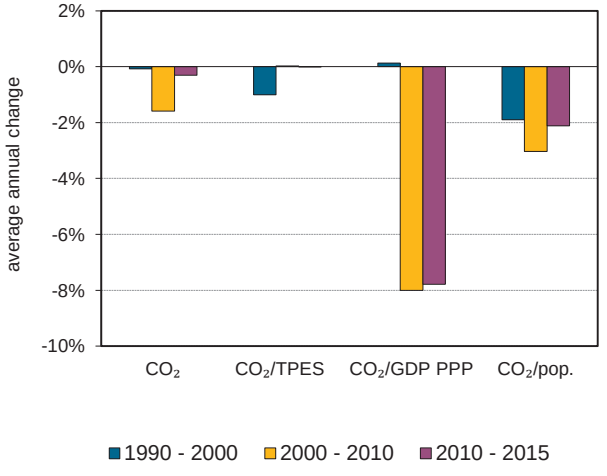
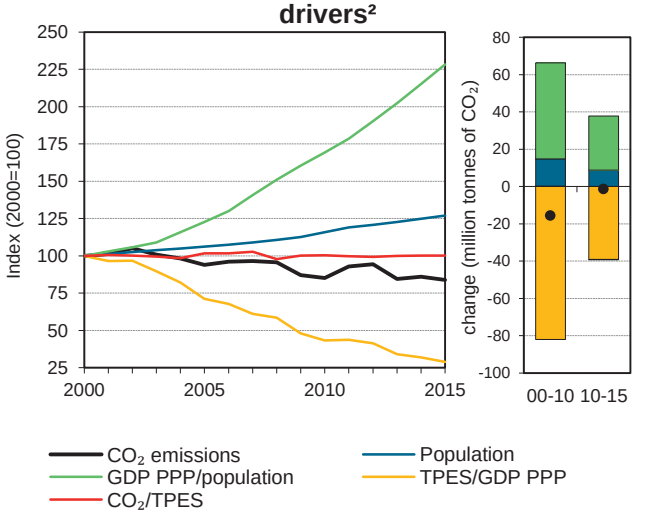


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Uzbekistan

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	114.9	94.5	114.0	107.1	97.1	97.9	95.6	-17%
Share of World CO_2 from fuel combustion	1%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	1941	1 790	2 130	1 971	1 809	1 829	1 783	-8%
GDP (billion 2010 USD)	20.5	16.6	20.0	26.1	39.3	53.8	58.1	184%
GDP PPP (billion 2010 USD)	60.9	49.4	59.7	77.7	117.1	160.2	173.0	184%
Population (millions)	20.5	22.8	24.7	26.2	28.6	30.8	31.3	53%
CO_2 / TPES (tCO_2 per TJ)	59.2	52.8	53.5	54.3	53.6	53.5	53.6	-9%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	5.62	5.7	5.7	4.1	2.5	1.8	1.6	-71%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	1.89	1.9	1.9	1.4	0.8	0.6	0.6	-71%
CO_2 / population (tCO_2 per capita)	5.6	4.1	4.6	4.1	3.4	3.2	3.1	-45%
Share of electricity output from fossil fuels	88%	87%	87%	82%	79%	79%	79%	
CO_2 / kWh of electricity (gCO_2/kWh)	630	575	633	591	553	547	551	-13%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	82	99	93	84	85	83	-17%
Population index	100	111	120	128	139	150	153	53%
GDP PPP per population index	100	73	82	100	138	175	186	86%
Energy intensity index - TPES / GDP PPP	100	114	112	80	48	36	32	-68%
Carbon intensity index - CO_2 / TPES	100	89	90	92	91	90	91	-9%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**5.9**	**7.2**	**82.5**	**-**	**95.6**	**-17%**
Electricity and heat generation	4.3	0.2	35.5	-	40.0	-9%
Other energy industry own use	-	0.3	2.6	-	2.9	-14%
Manufacturing industries and construction	0.9	0.5	11.2	-	12.6	x
Transport	-	4.0	2.5	-	6.4	12%
of which: road	-	*3.5*	*0.1*	-	*3.6*	-35%
Other	0.6	2.3	30.7	-	33.7	-46%
of which: residential	*0.1*	*0.5*	*25.4*	-	*25.9*	x
of which: services	-	-	*5.1*	-	*5.1*	x
Memo: international marine bunkers	-	-	-	-	-	-
Memo: international aviation bunkers	-	-	-	-	-	-

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - gas	35.4	29.8	20.7	20.7
Residential - gas	25.4	x	14.8	35.5
Manufacturing industries - gas	11.2	x	6.6	42.0
Non-specified other - gas	5.4	-88.4	3.1	45.2
Main activity prod. elec. and heat - coal	4.3	-51.8	2.5	47.7
Road - oil	3.5	-37.1	2.0	49.7
Other energy industry own use - gas	2.6	8.7	1.5	51.3
Other transport - gas	2.4	x	1.4	52.6
Non-specified other - oil	1.8	-82.7	1.1	53.7
Memo: total CO_2 from fuel combustion	*95.6*	*-16.8*	*55.8*	*55.8*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Bolivarian Republic of Venezuela

Figure 1. CO_2 emissions by fuel

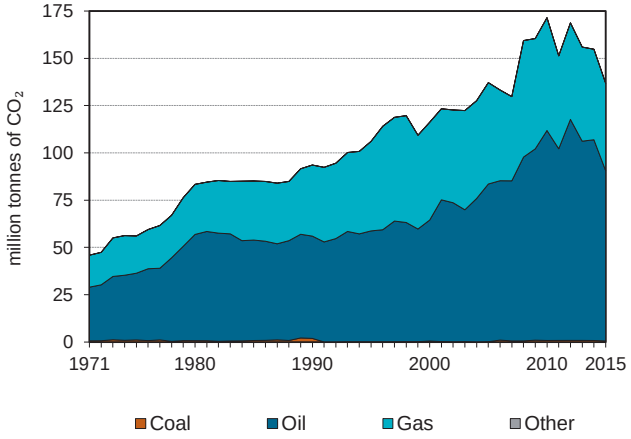


Figure 2. CO_2 emissions by sector

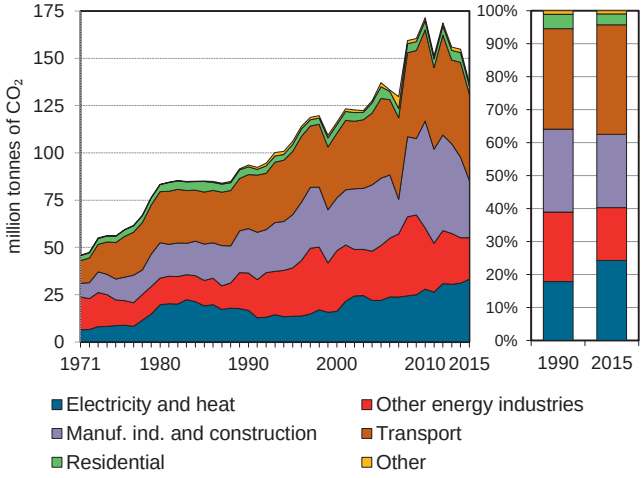


Figure 3. Electricity generation by fuel

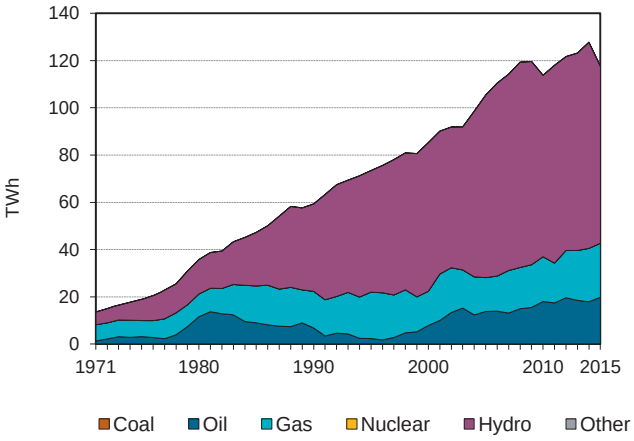


Figure 4. CO_2 from electricity generation: driving factors[1]

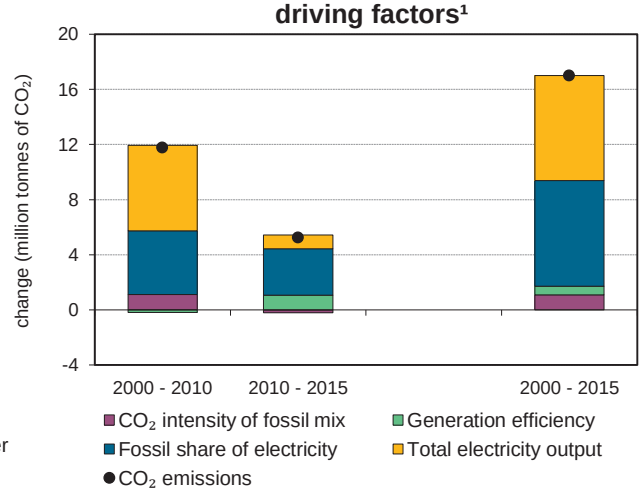


Figure 5. Changes in selected indicators

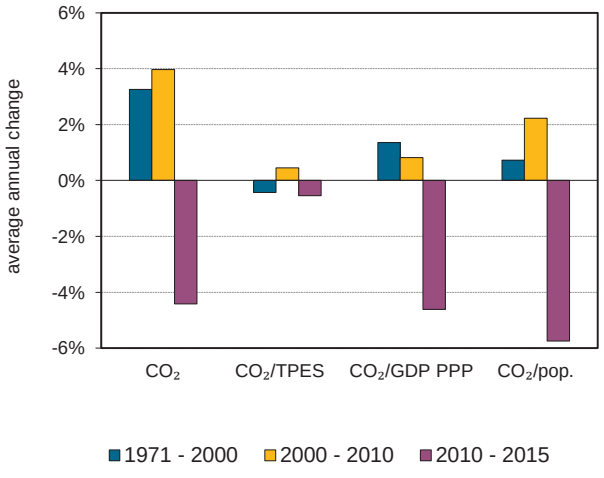
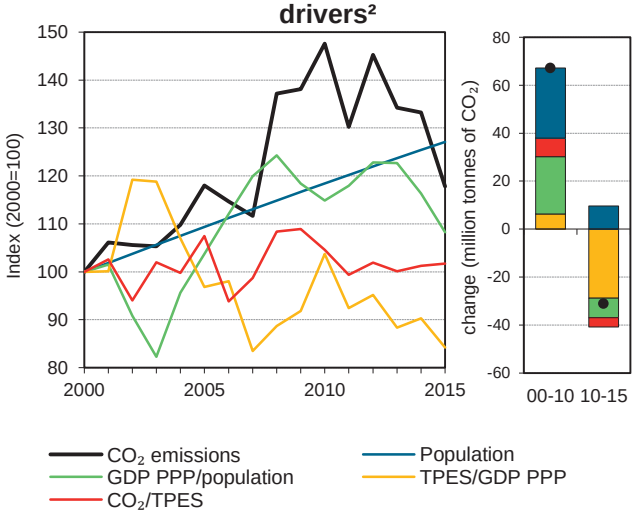


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Bolivarian Republic of Venezuela

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	93.6	106.1	116.2	137.1	171.5	154.8	136.8	46%
Share of World CO_2 from fuel combustion	0%	1%	1%	1%	1%	0%	0%	
TPES (PJ)	1658	1 961	2 147	2 357	3 030	2 826	2 486	50%
GDP (billion 2010 USD)	235.4	278.8	289.4	328.3	393.8	422.0	398.0	69%
GDP PPP (billion 2010 USD)	281.2	333.1	345.8	392.3	470.6	504.3	475.6	69%
Population (millions)	19.9	22.2	24.5	26.8	29.0	30.7	31.1	57%
CO_2 / TPES (tCO_2 per TJ)	56.5	54.1	54.1	58.2	56.6	54.8	55.0	-2%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.4	0.4	0.4	0.4	0.4	0.4	0.3	-14%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.33	0.3	0.3	0.3	0.4	0.3	0.3	-14%
CO_2 / population (tCO_2 per capita)	4.7	4.8	4.7	5.1	5.9	5.0	4.4	-7%
Share of electricity output from fossil fuels	38%	30%	26%	27%	33%	32%	36%	
CO_2 / kWh of electricity (gCO_2/kWh)	282	185	190	209	246	243	282	0%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	113	124	147	183	165	146	46%
Population index	100	112	123	135	146	155	157	57%
GDP PPP per population index	100	106	100	104	115	116	108	8%
Energy intensity index - TPES / GDP PPP	100	100	105	102	109	95	89	-11%
Carbon intensity index - CO_2 / TPES	100	96	96	103	100	97	98	-2%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**0.5**	**90.1**	**46.2**	**-**	**136.8**	**46%**
Electricity and heat generation	-	19.3	13.9	-	33.2	98%
Other energy industry own use	-	8.2	13.8	-	22.0	11%
Manufacturing industries and construction	0.5	14.1	15.7	-	30.3	29%
Transport	-	45.5	0.0	-	45.5	59%
of which: road	-	*45.5*	-	-	*45.5*	59%
Other	-	3.1	2.7	-	5.9	16%
of which: residential	-	*2.3*	*2.2*	-	*4.5*	10%
of which: services	-	*0.8*	*0.5*	-	*1.4*	48%
Memo: international marine bunkers	-	*2.7*	-	-	*2.7*	*9%*
Memo: international aviation bunkers	-	*2.2*	-	-	*2.2*	*111%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	45.5	59.4	13.0	13.0
Main activity prod. elec. and heat - oil	19.3	237.3	5.5	18.5
Manufacturing industries - gas	15.7	7.4	4.5	23.0
Manufacturing industries - oil	14.1	102.0	4.0	27.1
Other energy industry own use - gas	13.8	23.1	3.9	31.0
Main activity prod. elec. and heat - gas	13.0	67.5	3.7	34.7
Other energy industry own use - oil	8.2	-4.0	2.3	37.1
Residential - oil	2.3	-38.9	0.7	37.7
Residential - gas	2.2	519.0	0.6	38.4
Memo: total CO_2 from fuel combustion	*136.8*	*46.3*	*39.2*	*39.2*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Viet Nam

Figure 1. CO_2 emissions by fuel

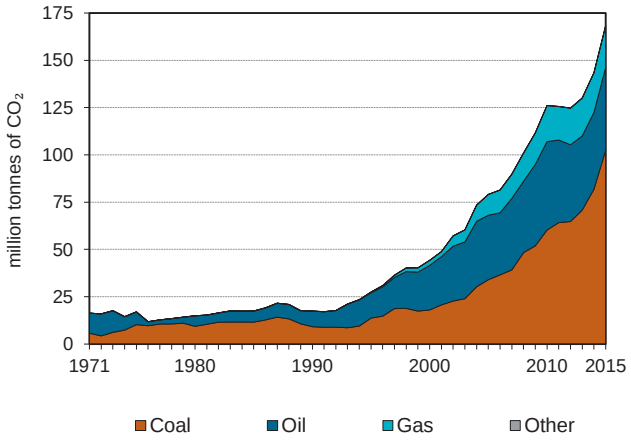


Figure 2. CO_2 emissions by sector

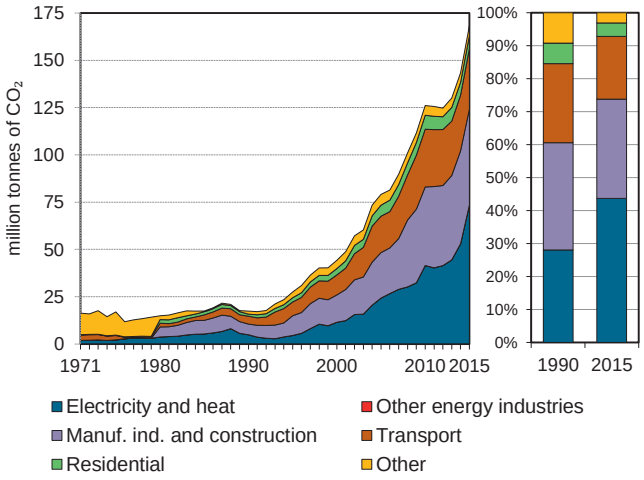


Figure 3. Electricity generation by fuel

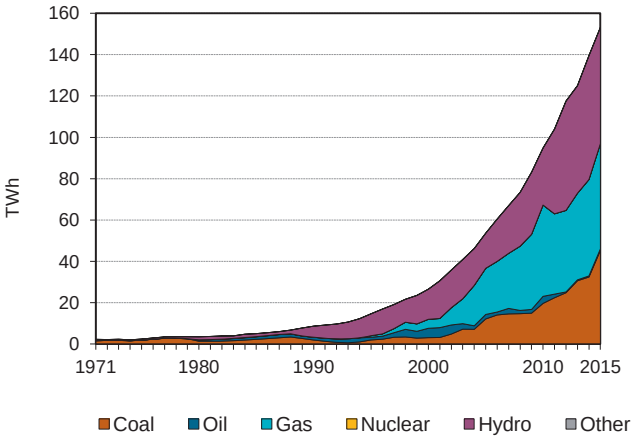


Figure 4. CO_2 from electricity generation: driving factors[1]

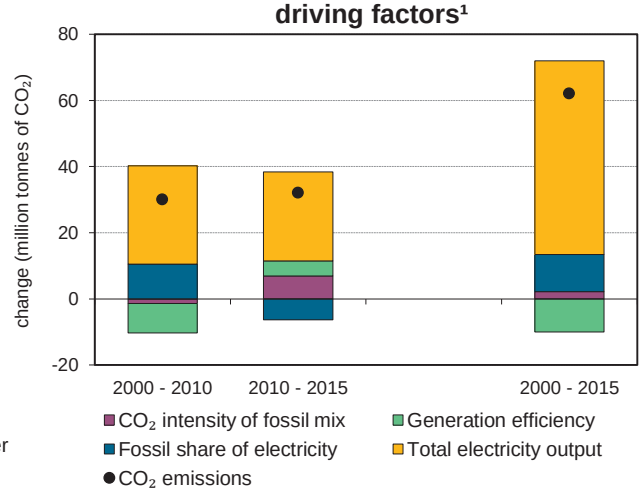


Figure 5. Changes in selected indicators

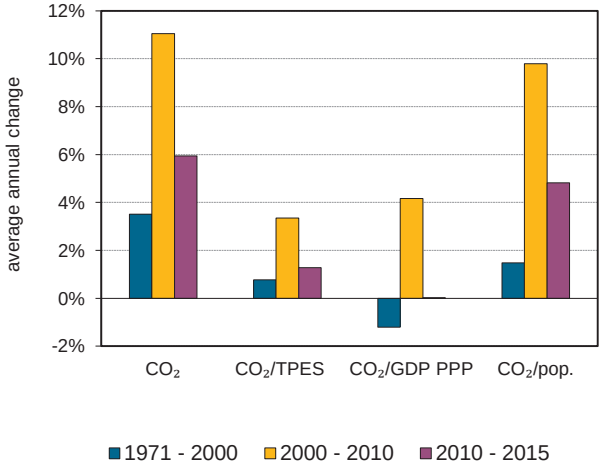
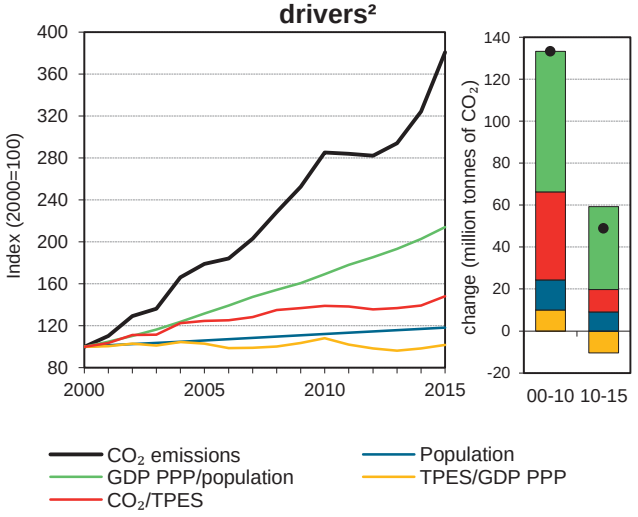


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Viet Nam

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	17.4	27.5	44.2	79.1	126.1	143.4	168.3	868%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	1%	
TPES (PJ)	748	916	1 203	1 727	2 467	2 799	3 090	313%
GDP (billion 2010 USD)	29.5	43.7	61.1	85.4	115.9	144.8	154.5	425%
GDP PPP (billion 2010 USD)	97.1	144.0	201.5	281.3	382.1	477.4	509.3	424%
Population (millions)	66	72.0	77.6	82.4	86.9	90.7	91.7	39%
CO_2 / TPES (tCO_2 per TJ)	23.2	30.0	36.8	45.8	51.1	51.2	54.5	134%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.59	0.6	0.7	0.9	1.1	1.0	1.1	85%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.18	0.2	0.2	0.3	0.3	0.3	0.3	85%
CO_2 / population (tCO_2 per capita)	0.3	0.4	0.6	1.0	1.5	1.6	1.8	597%
Share of electricity output from fossil fuels	38%	28%	45%	68%	71%	57%	63%	
CO_2 / kWh of electricity (gCO_2/kWh)	562	306	433	452	437	380	480	-15%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	158	254	455	725	825	968	868%
Population index	100	109	118	125	132	137	139	39%
GDP PPP per population index	100	136	177	232	299	358	378	278%
Energy intensity index - TPES / GDP PPP	100	83	77	80	84	76	79	-21%
Carbon intensity index - CO_2 / TPES	100	129	158	197	220	220	234	134%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**102.4**	**43.9**	**22.0**	**-**	**168.3**	**868%**
Electricity and heat generation	54.2	0.8	18.5	-	73.5	+
Other energy industry own use	-	-	-	-	-	-
Manufacturing industries and construction	42.0	5.2	3.5	-	50.7	795%
Transport	-	32.1	-	-	32.1	670%
of which: road	-	*31.2*	-	-	*31.2*	724%
Other	6.2	5.9	-	-	12.0	348%
of which: residential	*4.6*	*2.3*	-	-	*6.8*	531%
of which: services	*1.5*	*2.3*	-	-	*3.8*	332%
Memo: international marine bunkers	-	*0.5*	-	-	*0.5*	*504%*
Memo: international aviation bunkers	-	*2.9*	-	-	*2.9*	*x*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	52.2	+	13.9	13.9
Manufacturing industries - coal	42.0	891.1	11.2	25.1
Road - oil	31.2	724.3	8.3	33.4
Main activity prod. elec. and heat - gas	17.9	+	4.8	38.1
Manufacturing industries - oil	5.2	263.3	1.4	39.5
Residential - coal	4.6	436.5	1.2	40.7
Non-specified other - oil	3.6	186.3	1.0	41.7
Manufacturing industries - gas	3.5	x	0.9	42.6
Residential - oil	2.3	880.6	0.6	43.2
Memo: total CO_2 from fuel combustion	*168.3*	*868.1*	*44.8*	*44.8*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Yemen

Figure 1. CO_2 emissions by fuel

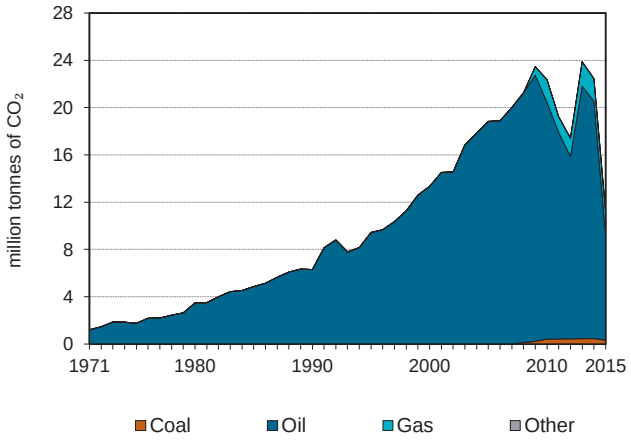


Figure 2. CO_2 emissions by sector

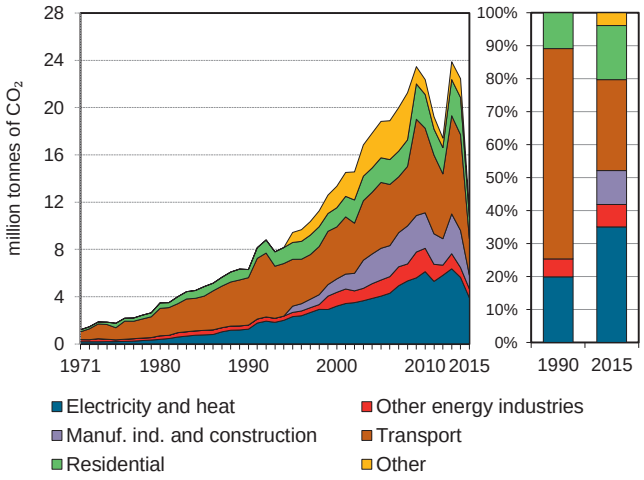


Figure 3. Electricity generation by fuel

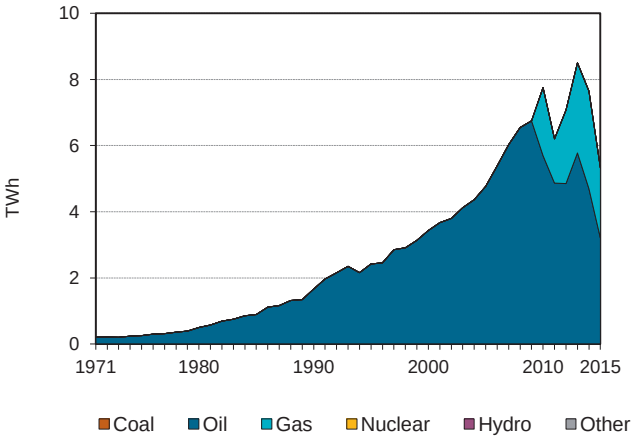


Figure 4. CO_2 from electricity generation: driving factors[1]

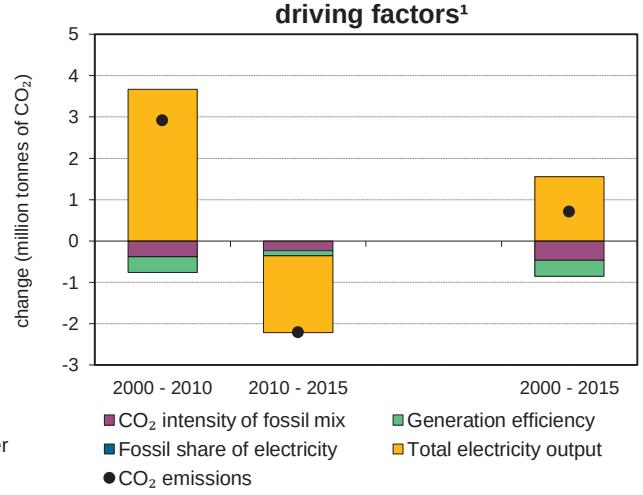


Figure 5. Changes in selected indicators

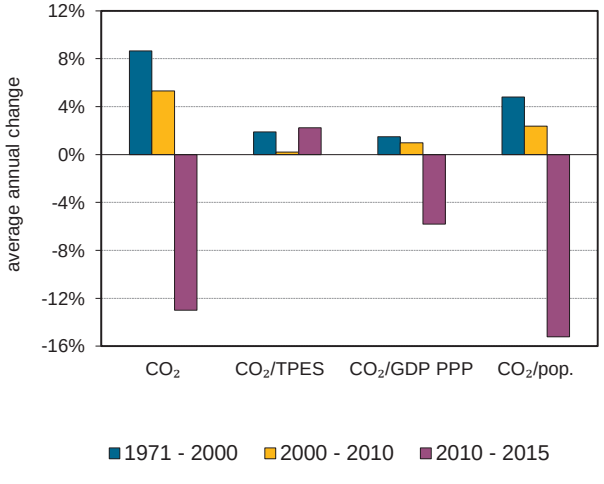
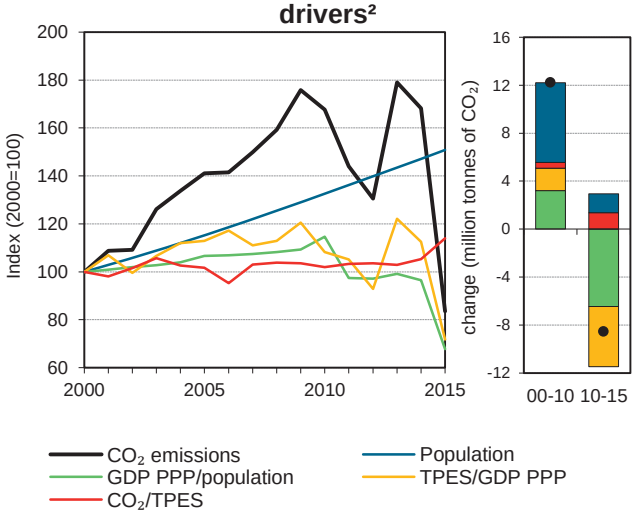


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Yemen

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	6.3	9.4	13.3	18.8	22.4	22.4	11.1	77%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	105	143	199	276	327	317	146	39%
GDP (billion 2010 USD)	11.7	15.8	20.3	25.0	30.9	28.9	20.8	77%
GDP PPP (billion 2010 USD)	38.4	51.8	66.6	81.8	101.1	94.6	68.0	77%
Population (millions)	12	15.3	17.8	20.5	23.6	26.2	26.8	124%
CO_2 / TPES (tCO_2 per TJ)	59.8	65.9	67.1	68.3	68.5	70.7	76.5	28%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.54	0.6	0.7	0.8	0.7	0.8	0.5	0%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.16	0.2	0.2	0.2	0.2	0.2	0.2	0%
CO_2 / population (tCO_2 per capita)	0.5	0.6	0.7	0.9	0.9	0.9	0.4	-21%
Share of electricity output from fossil fuels	100%	100%	100%	100%	100%	100%	100%	
CO_2 / kWh of electricity (gCO_2/kWh)	754	955	934	849	789	737	734	-3%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	150	212	299	355	357	177	77%
Population index	100	128	149	171	197	219	224	124%
GDP PPP per population index	100	106	117	124	134	113	79	-21%
Energy intensity index - TPES / GDP PPP	100	101	109	123	118	122	78	-22%
Carbon intensity index - CO_2 / TPES	100	110	112	114	114	118	128	28%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**0.3**	**8.9**	**1.9**	**-**	**11.1**	**77%**
Electricity and heat generation	-	2.5	1.4	-	3.9	212%
Other energy industry own use	-	0.2	0.6	-	0.8	119%
Manufacturing industries and construction	0.3	0.8	-	-	1.2	x
Transport	-	3.1	-	-	3.1	-23%
of which: road	-	*3.1*	-	-	*3.1*	-23%
Other	-	2.3	-	-	2.3	229%
of which: residential	-	*1.8*	-	-	*1.8*	165%
of which: services	-	*0.3*	-	-	*0.3*	x
Memo: international marine bunkers	-	*0.2*	-	-	*0.2*	*-84%*
Memo: international aviation bunkers	-	*0.0*	-	-	*0.0*	*-78%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Road - oil	3.1	-23.2	7.5	7.5
Main activity prod. elec. and heat - oil	2.4	163.6	5.9	13.4
Residential - oil	1.8	165.5	4.4	17.9
Main activity prod. elec. and heat - gas	1.4	x	3.3	21.2
Manufacturing industries - oil	0.8	x	2.0	23.2
Other energy industry own use - gas	0.6	x	1.4	24.5
Non-specified other - oil	0.4	x	1.1	25.6
Manufacturing industries - coal	0.3	x	0.8	26.4
Other energy industry own use - oil	0.2	-44.9	0.5	26.8
Memo: total CO_2 from fuel combustion	*11.1*	*77.1*	*27.1*	*27.1*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Zambia

Figure 1. CO_2 emissions by fuel

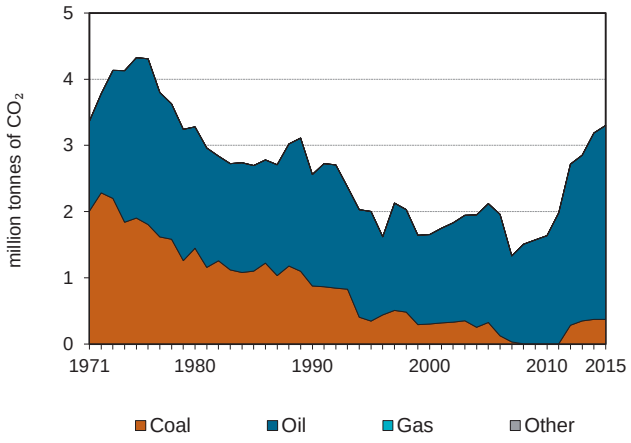


Figure 2. CO_2 emissions by sector

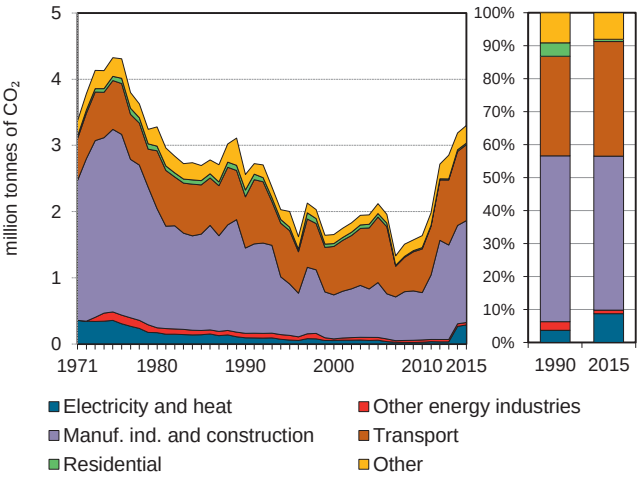


Figure 3. Electricity generation by fuel

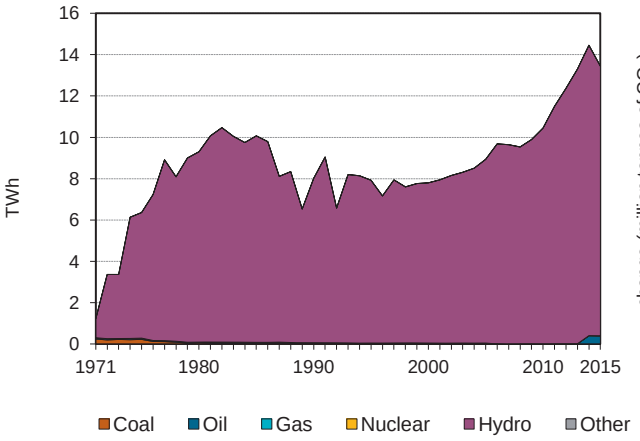


Figure 4. CO_2 from electricity generation: driving factors[1]

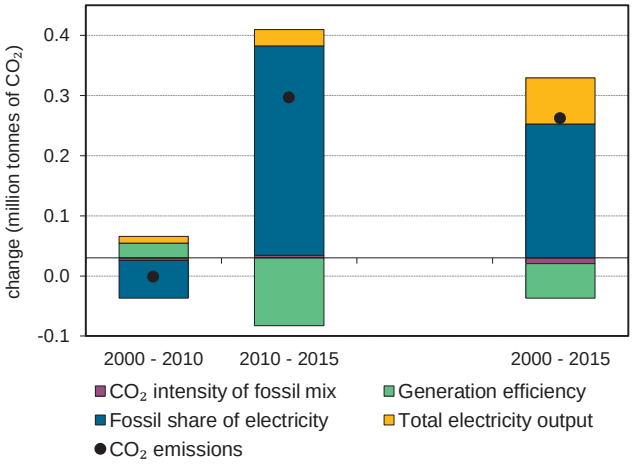


Figure 5. Changes in selected indicators

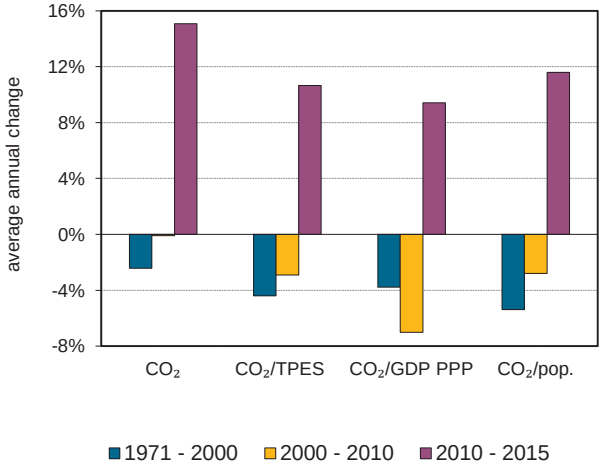
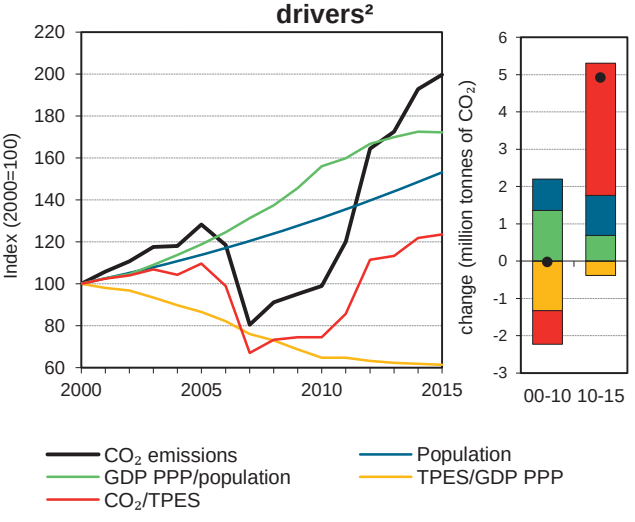


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Zambia

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	2.6	2.0	1.7	2.1	1.6	3.2	3.3	29%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	227	244	265	310	353	420	429	89%
GDP (billion 2010 USD)	8.4	8.3	9.9	13.4	20.3	25.3	26.1	211%
GDP PPP (billion 2010 USD)	18.4	18.2	21.7	29.3	44.5	55.6	57.2	211%
Population (millions)	8.1	9.3	10.6	12.0	13.9	15.7	16.2	99%
CO_2 / TPES (tCO_2 per TJ)	11.3	8.2	6.2	6.8	4.6	7.6	7.7	-32%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	0.31	0.2	0.2	0.2	0.1	0.1	0.1	-58%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.14	0.1	0.1	0.1	0.0	0.1	0.1	-59%
CO_2 / population (tCO_2 per capita)	0.3	0.2	0.2	0.2	0.1	0.2	0.2	-35%
Share of electricity output from fossil fuels	1%	1%	1%	1%	0%	3%	3%	
CO_2 / kWh of electricity (gCO_2/kWh)	12	7	7	6	2	18	21	84%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	78	65	83	64	125	129	29%
Population index	100	114	130	148	171	193	199	99%
GDP PPP per population index	100	87	91	108	141	156	156	56%
Energy intensity index - TPES / GDP PPP	100	109	99	86	64	61	61	-39%
Carbon intensity index - CO_2 / TPES	100	73	55	61	41	67	68	-32%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**0.4**	**2.9**	**-**	**-**	**3.3**	**29%**
Electricity and heat generation	-	0.3	-	-	0.3	209%
Other energy industry own use	-	0.0	-	-	0.0	-47%
Manufacturing industries and construction	0.4	1.2	-	-	1.5	19%
Transport	-	1.1	-	-	1.1	48%
of which: road	-	*1.1*	-	-	*1.1*	59%
Other	-	0.3	-	-	0.3	-14%
of which: residential	-	*0.0*	-	-	*0.0*	-78%
of which: services	-	*0.1*	-	-	*0.1*	-30%
Memo: international marine bunkers	-	-	-	-	-	-
Memo: international aviation bunkers	-	*0.1*	-	-	*0.1*	*-40%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Manufacturing industries - oil	1.2	107.7	0.3	0.3
Road - oil	1.1	59.3	0.3	0.6
Manufacturing industries - coal	0.4	-48.9	0.1	0.7
Main activity prod. elec. and heat - oil	0.3	+	0.1	0.7
Non-specified other - oil	0.3	74.3	0.1	0.8
Other transport - oil	0.0	-42.3	0.0	0.8
Other energy industry own use - oil	0.0	-46.8	0.0	0.8
Residential - oil	0.0	-77.7	0.0	0.8
-	-	-	-	-
Memo: total CO_2 from fuel combustion	*3.3*	*28.9*	*0.8*	*0.8*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

Zimbabwe

Figure 1. CO_2 emissions by fuel

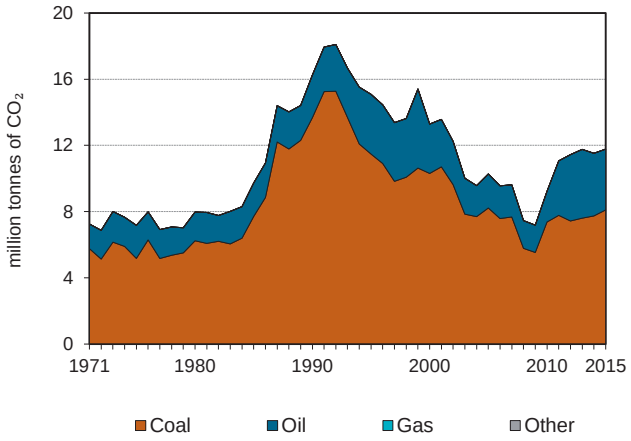


Figure 2. CO_2 emissions by sector

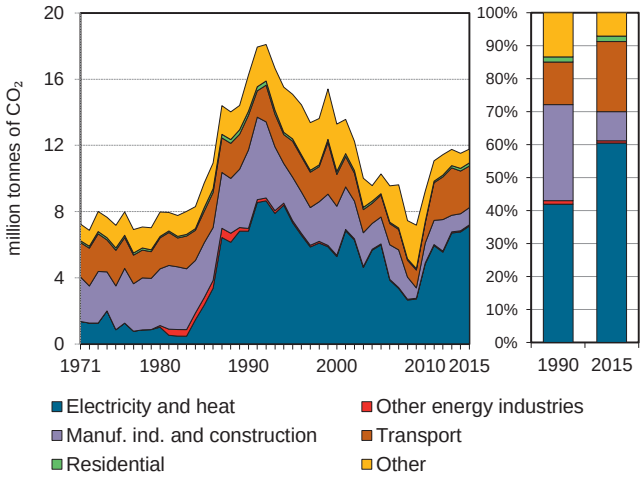


Figure 3. Electricity generation by fuel

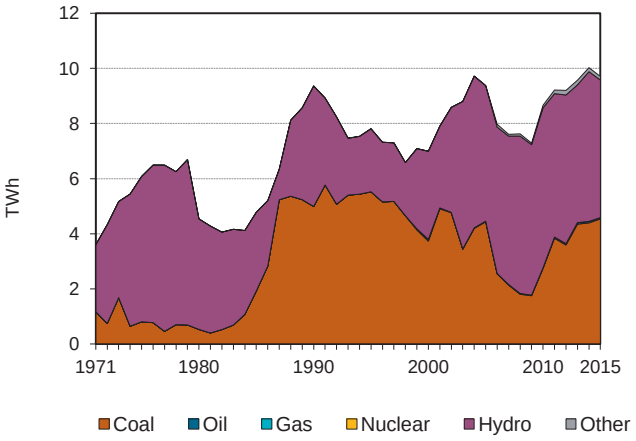


Figure 4. CO_2 from electricity generation: driving factors[1]

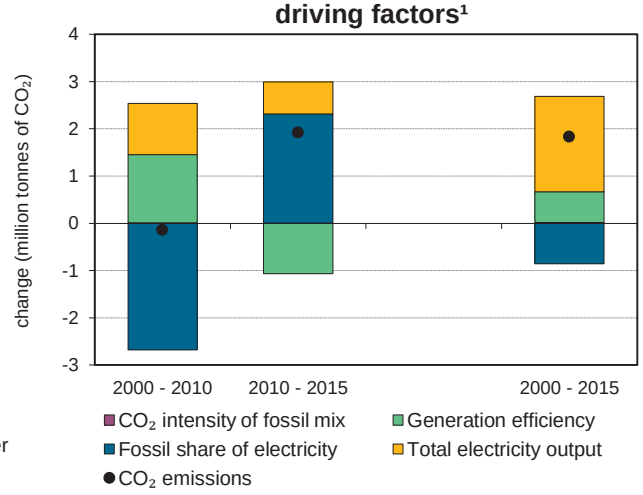


Figure 5. Changes in selected indicators

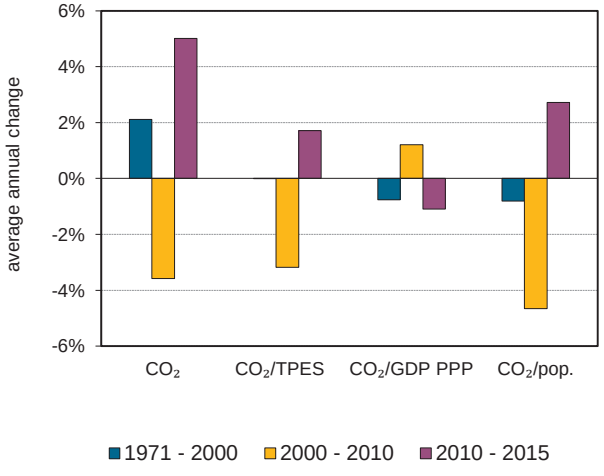
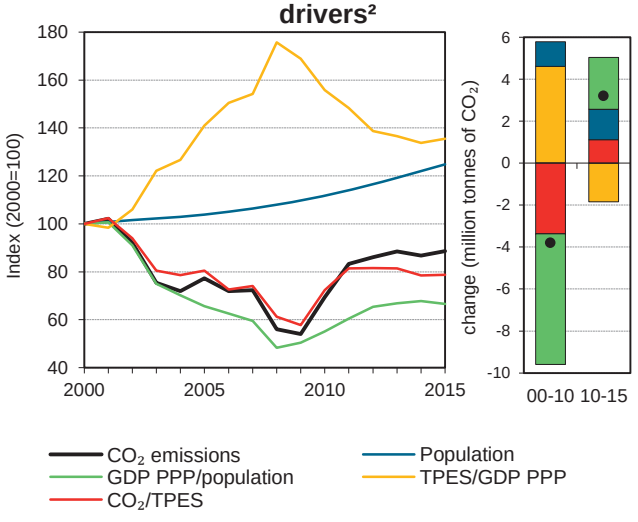


Figure 6. Total CO_2 emissions and drivers[2]



1. Electricity decomposition: CO_2 emissions = CO_2 intensity of fossil mix x fossil share of elec. x thermal efficiency x elec. output. See Part I, Chapter 2.
2. Kaya decomposition: CO_2 emissions = CO_2/TPES x TPES/GDP x GDP/population x population. See Part I, Chapter 2.

Zimbabwe

Key indicators

	1990	1995	2000	2005	2010	2014	2015	%change 90-15
CO_2 fuel combustion ($MtCO_2$)	16.3	15.1	13.3	10.3	9.2	11.5	11.8	-28%
Share of World CO_2 from fuel combustion	0%	0%	0%	0%	0%	0%	0%	
TPES (PJ)	389	412	419	403	402	463	471	21%
GDP (billion 2010 USD)	12.9	13.6	15.3	10.4	9.4	12.6	12.7	-1%
GDP PPP (billion 2010 USD)	26	27.5	30.9	21.0	19.0	25.5	25.7	-1%
Population (millions)	10.5	11.7	12.5	13.0	14.0	15.2	15.6	49%
CO_2 / TPES (tCO_2 per TJ)	41.7	36.6	31.7	25.5	22.9	24.9	25.0	-40%
CO_2 / GDP ($kgCO_2$ per 2010 USD)	1.26	1.1	0.9	1.0	1.0	0.9	0.9	-27%
CO_2 / GDP PPP ($kgCO_2$ per 2010 USD)	0.63	0.5	0.4	0.5	0.5	0.5	0.5	-27%
CO_2 / population (tCO_2 per capita)	1.6	1.3	1.1	0.8	0.7	0.8	0.8	-51%
Share of electricity output from fossil fuels	53%	71%	54%	48%	32%	44%	47%	
CO_2 / kWh of electricity (gCO_2/kWh)	728	929	755	639	558	675	734	1%
CO_2 emissions and drivers - Kaya decomposition (1990=100) [1]								
CO_2 emissions index	100	93	82	63	57	71	72	-28%
Population index	100	111	119	124	133	145	149	49%
GDP PPP per population index	100	95	100	65	55	68	66	-34%
Energy intensity index - TPES / GDP PPP	100	100	90	128	141	121	123	23%
Carbon intensity index - CO_2 / TPES	100	88	76	61	55	60	60	-40%

1. Please see the chapter *Indicator sources and methods* in Part I for methodological notes. Based on GDP in 2010 USD, using purchasing power parities.

2015 CO_2 emissions by sector

million tonnes of CO_2	Coal	Oil	Natural gas	Other [2]	Total	%change 90-15
CO_2 fuel combustion	**8.1**	**3.7**	**-**	**-**	**11.8**	**-28%**
Electricity and heat generation	7.0	0.1	-	-	7.1	5%
Other energy industry own use	0.1	-	-	-	0.1	-57%
Manufacturing industries and construction	0.9	0.2	-	-	1.0	-78%
Transport	0.0	2.5	-	-	2.5	20%
of which: road	-	*2.3*	-	-	*2.3*	76%
Other	0.1	1.0	-	-	1.0	-58%
of which: residential	-	*0.2*	-	-	*0.2*	-22%
of which: services	*0.0*	-	-	-	*0.0*	-96%
Memo: international marine bunkers	-	-	-	-	-	-
Memo: international aviation bunkers	-	*0.1*	-	-	*0.1*	*-68%*

2. Other includes industrial waste and non-renewable municipal waste.

Key categories for CO_2 emissions from fuel combustion in 2015

IPCC source category	CO_2 emissions ($MtCO_2$)	% change 90-15	Level assessment[3] (%)	Cumulative total (%)
Main activity prod. elec. and heat - coal	7.0	2.8	13.8	13.8
Road - oil	2.3	75.8	4.6	18.4
Manufacturing industries - coal	0.9	-80.1	1.7	20.1
Non-specified other - oil	0.8	30.2	1.5	21.6
Residential - oil	0.2	60.6	0.4	22.0
Manufacturing industries - oil	0.2	-47.8	0.3	22.3
Other transport - oil	0.1	-49.3	0.2	22.5
Main activity prod. elec. and heat - oil	0.1	x	0.2	22.7
Non-specified other sectors - coal	0.1	-95.4	0.1	22.9
Memo: total CO_2 from fuel combustion	*11.8*	*-27.5*	*23.1*	*23.1*

3. Percent calculated using the total GHG estimate excluding CO_2 emissions/removals from agriculture, forestry and other land use.

PART III

GREENHOUSE GAS EMISSIONS STATISTICS

1. TRENDS IN GHG EMISSIONS

CO_2 emissions from fuel combustion represent the majority of anthropogenic GHG emissions. However, comprehensive analysis of emission trends considers other sources of CO_2 as well as other gases, knowing that data on gases and sources other than CO_2 from fuel combustion are much more uncertain. Country-specific estimates of CO_2 from biomass burning and F-gas emissions are particularly difficult to ascertain.

To complement work regarding the emissions of CO_2 from fuel combustion, the IEA also included EDGAR data on other CO_2 sources and on five other greenhouse gases; methane (CH_4), nitrous oxide (N_2O) and the fluorinated gases (or "F-gases") HFCs, PFCs and SF_6, all gases addressed by the Kyoto Protocol.

The information in Part III (with the exception of CO_2 emissions from fuel combustion) has been provided by and Greet Janssens-Maenhout and Monica Crippa from the Joint Research Centre (JRC) of the European Commission and Jos G.J. Olivier from the PBL Netherlands Environmental Assessment Agency, using the EDGAR database (version 4.3.2 for CO_2 , CH_4 and N_2O emissions and 4.2FT2010 for the F-gases) developed jointly by JRC and PBL.

In this edition, the global warming potentials (GWP-100) for the non-CO_2 gases are taken from the IPCC Fourth Assessment Report and no longer from the second. The data in this dataset may differ from previous editions also due to changes in the methodology used for the accounting of large-scale biomass burning.

Please note that the GHG emissions totals presented here will differ from those shown in countries' official national inventory submissions to the UNFCCC, primarily due to differences in coverage for the category *Other*. Differences may also occur due to differences in allocation, methodologies and underlying data sources for activities and emission factors, as specified in Part III. Details on possible differences between IEA and UNFCCC CO_2 emissions from fuel combustion estimates can be found in Part I.

Global and regional trends

Dominated by emissions related to fossil fuels, total emissions of all greenhouse gases - weighted by their GWP-100 (from the fourth Assessment Report)[1] - increased by about 77% at the end of the first Kyoto Protocol period in 2012 since 1970 (Figure 1). Significant increases were observed for all gases in the 1970-2012 period: CO_2, excluding large-scale biomass burning (118%); CH_4 (33%), N_2O (68%), and the F-gases (about 580%).

Global total GHG emissions increased during the period 1990-2012 by 41% when including large-scale biomass burning (and by 45% when large scale biomass burning is excluded) driven again by a 50% growth in CO_2 emissions from fuel combustion. Over the same period, although highly variable over time, CO_2 emissions from biomass burning and post-burn decay – based on satellite observations – are assumed to have decreased by about 14%. Increases in CO_2 emissions from industrial processes (mainly cement production) (93%), CH_4 and CO_2 emissions from fossil fuel production (44%) and from waste (30%), CH_4 and N_2O emissions from agriculture (16%), and the F-gases (about 178%, mainly from HFC use) also contributed to the total increase. The industrial process emissions increased their share with more than

1. Global warming potential: see Box 1.

one third from 4% in 1990 to 6% in 2012 and the F-gases even doubled their share of global emissions from 1% in 1990 to 2% in 2012.

The picture varies significantly across regions and gases, even without the large scale biomass burning, which we leave out in the rest of this section. In 2012, most **methane** (CH_4) emissions originated in non-Annex I regions such as China (19%), India (9%) and Brazil (5%). Emissions from Annex I countries contributed 25% of total emissions, with the largest contribution coming from USA (7%) and Russia (5%). Rest of Asia (excl. China, India, Russia) contributed 19% whereas the rest of Latin America (excl. Brazil) 7%.

CH_4 emissions from animals and their waste are dominant in Latin America and South Asia, while emissions from rice cultivation are common in South, East and Southeast Asia. Fugitive methane emissions are concentrated at coal production sites in East Asia (mainly China), North America, Europe and Eurasia, and at gas production and distribution systems in the Former Soviet Union countries and North America. Methane from waste stems mainly from landfills in Annex I countries and from wastewater disposal predominantly in non-Annex I countries.

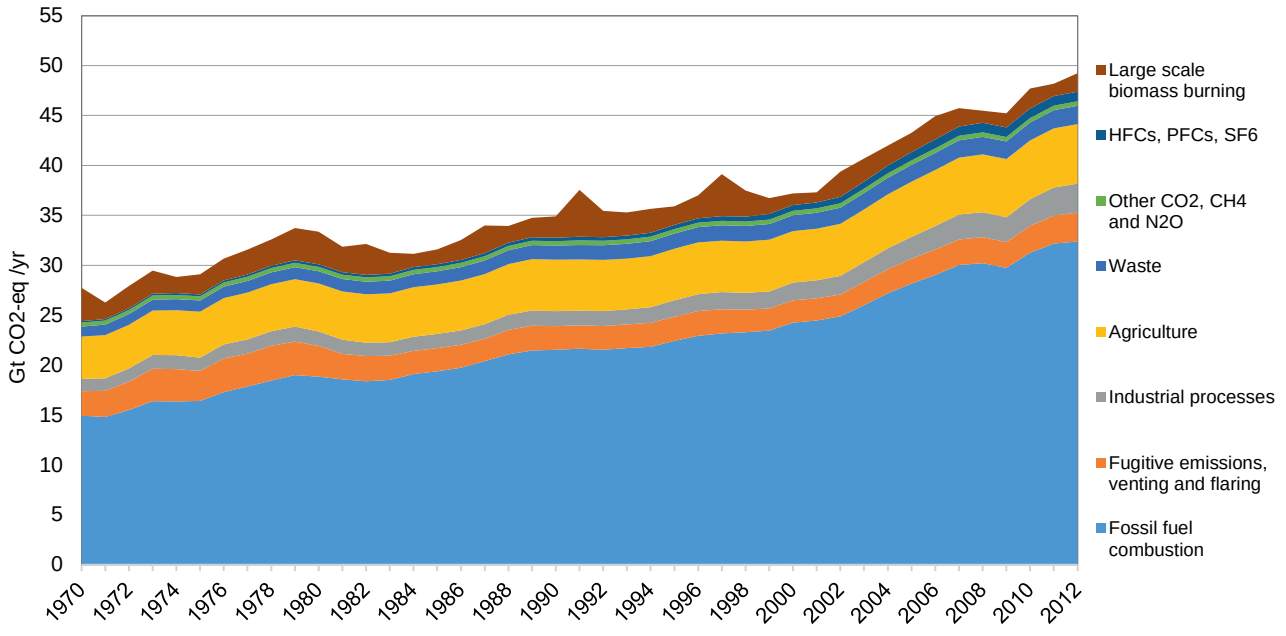
Non-Annex I regions produced 68% of global **nitrous oxide** (N_2O) emissions in 2012: China (19%), India (9%), Brazil (6%) and Mexico (4%). N_2O emissions from Annex I countries contributed 31% to the global total, with most emissions originating in North America (12%) and Europe (10%) and less from Russia (2%). Rest of Asia (excl. China, India, Russia) contributed 16%, Africa 10% and rest of Latin America (excl. Brazil and Mexico) 5%.

N_2O emissions from animal waste are dominant in the non-Annex I regions of Latin America, Africa and South Asia; N_2O from fertiliser use is largest in East Asia (mainly China) and Latin America followed by North America, Europe and South Asia (mainly India). N_2O emissions from crop production are largest in North America, Latin America, South Asia and East Asia. Industrial processes also emit significant volumes of N_2O.

The 2012 shares of Annex I countries in total CH_4 and total N_2O emissions (25% and 31% respectively) are significantly lower than their share in global fossil CO_2 emissions (40%).

In 2012, most **fluorinated gas** (F-gas) emissions originated in Annex I countries (62%), with North America contributing 35%, OECD Europe 13%, OECD Asia 14% and Oceania 1%. Non Annex I countries contributed about 38% to global F-gas emissions.

Figure 1. Global GHG emissions 1970-2012

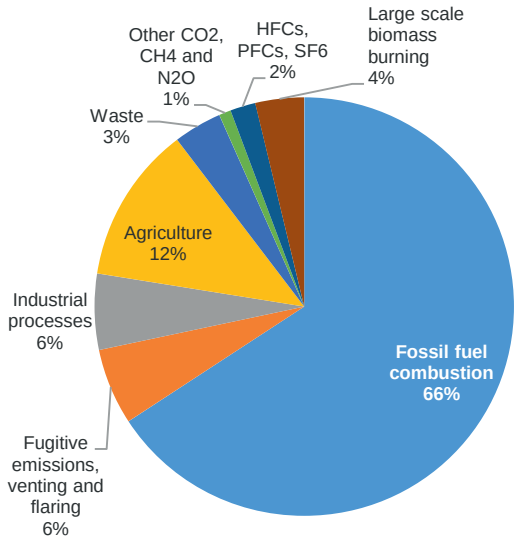


Sources: IEA/OECD *CO_2 Emissions from Fuel Combustion 2016*; JRC/PBL, EDGAR 4.3.2 for CO_2 , CH_4 and N_2O and 4.2 FT2010 for the F-gases, 2017

Trends by gas

In 2012, CO_2 contributed 75% of global GHG emissions, CH_4 about 18%, N_2O about 6% and the combined F-gases about 2% (Figure 2). The largest sources of GHG emissions were the fossil fuel combustion (66%, mainly CO_2), and agriculture (12%, mainly CH_4 and N_2O). Other sources of greenhouse gases were CO_2 from biomass burning (4%, mostly forest fires in non-Annex I countries), and CO_2 from industrial processes (6%, of which mostly cement production). Please note that emissions from large scale biomass burning are highly variable over the years.

Figure 2. Global GHG emissions by gas/source in 2012



CO_2 emission trends

We discuss long cycle carbon CO2, excluding CO2 from biofuels, which is accounted in the land-use sector and neutral under a sustainable biomass growth. Energy (power and manufacturing, but also energy for transport and buildings) increasingly dominates the trend in global CO_2 emissions, accounting for 86% of the global total in 2012, up from 76% in 1970. This share varies between 90-99% in most Annex I countries (in average 94% in 2012), whereas it varies more widely in non-Annex I countries (in average 80% in 2012 but lower than 10% in some African, Latin American and Asian countries).

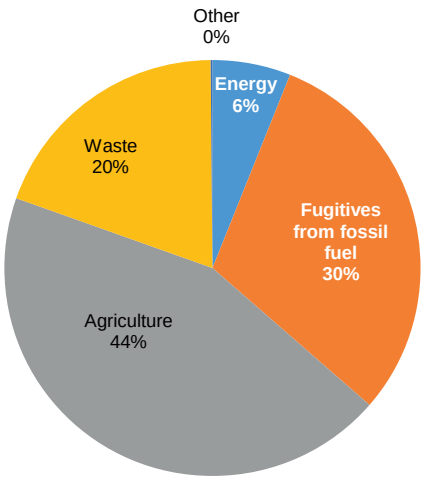
Over the 1990-2012 period, total fossil fuel combustion emissions of CO_2 increased about 51% worldwide (by about 176% in non-Annex I countries while decreasing 6% in Annex I countries). Emissions from electricity and heat production and from road transport dominated global trends. Between 1990 and 2012, CO_2 emissions from electricity and heat production did not significantly change for Annex I countries whereas it increased by 322% for the non-Annex I countries. Over the same period, road transport emissions rose 19% in Annex I countries and 189% in non-Annex I countries. By 2012, these two sectors together accounted for 59% of global total CO_2 emissions from fuel combustion. For an analysis and discussion of recent trends in CO_2 emissions, especially those energy related, we refer to the introduction of this publication and for the trend until 2016 we refer to Janssens-Maenhout et al. (2017b).

In 2012, the highly variable emissions from large scale biomass burning accounted for about 5% of global CO_2 emissions . The share of large scale biomass burning in global CO_2 emissions was about 9% in 1990. This share has decreased due to rapidly increasing emissions from fossil fuel combustion. In 2012, CO_2 emissions from processes emissions (in particular cement clinker production – i.e. excluding fossil fuel use) represented almost 5% of total CO_2 emissions worldwide. Between 1990 and 2012, CO_2 from cement production increased by almost 120%.

CH_4 emission trends

As seen in Figure 3, the major global sources of **methane** (CH_4) emissions in 2010 were (a) agriculture (43%), mainly from enteric fermentation by animals and animal waste, from rice cultivation and from savannah burning; (b) energy production and transmission/distribution (38%), mainly from coal production, and gas production, transmission and distribution; and (c) waste (17%), from landfills and wastewater.

Figure 3. Global CH_4 emissions in 2012



Between 1970 and 2012, global methane emissions (excluding biomass burning) increased by 33%. In the 1970s emissions increased with an average growth rate of 1.3% per year. In the 1980s, this growth rate slowed down and even decreased to an average of -0.2% per year, determined mainly by the growth rates of emissions in Other Europe and Eurasia (from increased gas production and transmission) and in East Asia (where coal production shifted towards surface mining, which releases less methane than underground mining). In addition, enteric fermentation by ruminants and waste and wastewater disposal contributed to the increased emissions, particularly in non-Annex I regions. Emissions from rice cultivation are estimated to have decreased due to changes in types of rice grown and to other organic amendment practices.

In the 1990s, an average decrease of 0.3% per year was observed. The economic decline of Former Soviet Union countries in the early 1990s strongly influenced this global methane trend. Their emissions from coal production, from gas transmission and from animals (enteric fermentation) decreased substantially between 1990 and 1995. It should be stressed, however, that detailed statistics for this region are uncertain over this period. Despite the overall decline in the 1990s, increases were observed regionally: for gas production in the Middle East and North America, for landfills in Latin America and wastewater in South Asia, for large-scale biomass burning in developing countries and for coal production in China.

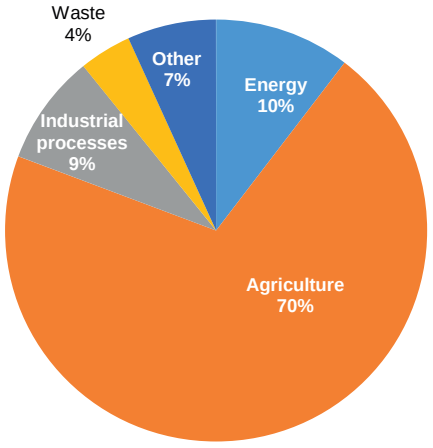
Since 2000, emissions started increasing again, with an average growth rate of 1.7% per year, yielding a faster increase than in the last four decades. This led to a global increase of about 20% over the period 2000-2012, driven by increased coal mining in China and increased cattle numbers in Brazil.

Between 1990 and 2012, country-specific trends of activity data and emission factors lead to an increase of global total methane emissions of about 17%. During this period, emissions in non-Annex I countries increased about 38%, with the largest absolute growth occurring in Asia and Africa. Emissions in Annex I countries decreased by 18%, mainly driven by the countries of the Former Soviet Union. OECD Europe decreased by about 21%, mainly as a result of the policies of the United Kingdom and Germany, with reduced coal production and increased methane recovery from coal mines (up to 50%). In North America and OECD Europe, methane from landfills also decreased by about 50% due to enhanced waste separation and methane recovery.

N_2O emission trends

For **nitrous oxide** (N_2O), agriculture contributed 70% of emissions in 2012, mainly from synthetic fertilisers, animal waste dropped on soils (either as animal manure or on pasture during grazing) and agricultural waste burning (Figure 3). Much smaller sources are energy (10%, mainly from coal and fuelwood combustion and road transport) and industrial processes (9%), mostly in Annex I countries. Between 1970 and 2012, global emissions of N_2O (excluding large scale biomass burning) increased by about 68%. Increased use of synthetic fertilisers and manure from livestock since the 1970s caused agricultural emissions in South Asia and East Asia to increase on average by 3-4% annually. These regional emission trends continued into the 2000s (Figure 7). Emissions from Latin America and Africa also increased in the 1990s, predominantly from the same sources and from forest fires.

Figure 4. Global N_2O emissions in 2012



In contrast, N_2O emissions from industrial processes decreased by 40% during the 1980s. This decrease resulted from the gradual upgrade of global production facilities for nitric acid. By 1990 about 20% of the facilities were equipped for non-selective catalytic reduction limiting NO_x emissions while simultaneously reducing N_2O emissions. Since 1990 further reductions occurred due to emission abatement in adipic acid production.

During the 1970s, North America and Japan introduced catalytic converters in cars with gasoline engines to reduce emissions of precursors of tropospheric ozone, but with higher N_2O emissions as a side effect. Since the 1990s this technology was also introduced in Europe and Australia. Until about 2000

these catalytic converters contributed to an increase in N_2O emissions in these countries, however, in the late 1990s newer types were introduced with lower specific N_2O emissions.

In the period 1990-2012, global N_2O emissions are estimated to have increased by only about 27%, thanks to only a 2% increase in industrial process emissions. Over this period, emissions in non-Annex I countries increased by over 63%, mainly in the agricultural sectors of South Asia, East Asia and Latin America. The increase was partially offset by decreasing emissions of the Former Soviet Union countries (-30%). In OECD Europe, N_2O decreased by 31% since 1990, mainly due to emissions abatement in the chemical industry, and to decreased use of nitrogen fertilisers.

Box 1: Global warming potential

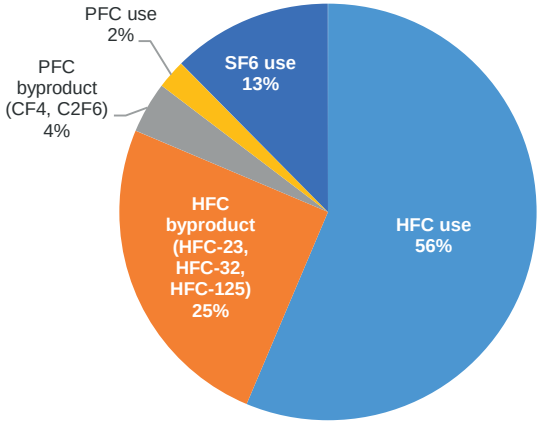
The contribution of non-CO_2 gases to total emissions can be estimated by expressing the emissions of all the gases in CO_2-equivalent units. For a given gas, emissions expressed in mass are multiplied by its specific weighting factor, the Global warming potential (GWP). The GWP-100 is an estimate of the relative contribution of 1 kg of that gas to global radiative forcing, as compared to 1 kg of CO_2, integrated over a fixed period of 100 years.

The data in this chapter use the updated GWP-100 values from IPCC's Fourth Assessment Report (IPCC, 2007), as the Parties to the Climate Convention do for their emissions inventory reporting from 2015 onwards. These GWP-100 values give a higher GWP-100 value for CH_4 (25), and a lower GWP-100 value for N_2O (298). In addition, for the F-gases, the GWP-100 values have been adjusted to a lower value of 22800 for SF_6, but higher values for HFC-134a (1430) and HFC-23 (14800).

HFC, PFC and SF_6 emission trends

For the **fluorinated gases** ("F-gases") (Figure 4), emissions are split between "use" and "by-products" because of the different ways in which they are produced. HFC use represented 56% of the total in 2012, of which HFC 134a alone represented 42%. Total by-product emissions of HFC contributed 25% and of PFCs another 4%. SF_6 use represented 13% and the remaining PFC use contributes only 2% to the total of F-gas emissions. Most F-gas emissions are emitted by Annex I countries.

Figure 5. Global F-gas emissions in 2012



Between 1990 and 2012, the estimated emissions of F-gases increased by about 126%, mainly due to an increase in HFC emissions: emissions of HFC in 2012 were about 525% higher than in 1990. During the same period, PFCs emissions decreased by about 65% while SF_6 emissions increased by about 7%. Annex I regions experienced large growth in F-gas emissions, with regional increases on the order of 126% except for North America which showed an increase of 185%. On a regional basis, total F-gas emission trends varied between 10% and 1900% for the non-Annex I regions, with the largest absolute increases coming from East Asia, driven by a an almost twenty-fold increase in China, which is here included in East Asia.

Since 1995, global F-gas emissions have increased more rapidly. The increase in HFC emissions (3.5 times higher) more than offset with a 51% reduction in PFCs emissions. The small reductions in global SF_6 emissions observed in the period 1996-2004 were mainly due to reductions in emissions from the manufacture and use of switchgear for the electricity sector. The large reduction in PFC emissions in recent years is due to the phasing-out of old Søderberg technology for aluminium production in China. Global emissions of HFCs other than HFC-134a now exceed emissions of HFC-134a, widely used for refrigeration and air-conditioning.

2. SOURCES AND METHODS

The information in Part III (with the exception of CO_2 emissions from fossil fuel combustion) has been provided by Greet Janssens-Maenhout and Jos G.J. Olivier based on the EDGAR version v4.3.2. JRC and PBL are responsible for these datasets.

General note on EDGAR

The *Emission Database for Global Atmospheric Research* (*EDGAR4)* has been developed jointly by the European Commission's Joint Research Centre (JRC) and the PBL Netherlands Environmental Assessment Agency and is hosted at *edgar.jrc.ec.europa.eu*. EDGAR v4.3.2 is providing global anthropogenic emissions of greenhouse gases CO_2, CH_4, N_2O, HFCs, PFCs and SF_6 and of precursor gases and air pollutants CO, NO_x, NMVOC, SO_2 and the aerosols PM_{10}, $PM_{2.5}$, BC, OC, per source category, both at country level as well as on a 0.1 x 0.1° grid online to its large community of users. EDGAR data are used for policy applications and scientific studies such as atmospheric modelling and were used for the *Fifth Assessment Report* of the *Intergovernmental Panel on Climate Change* (IPCC, 2014) (Working Group III).

Activity data were mostly taken from international statistics (checked for completeness and consistency and where required gap filled) and greenhouse gas emission factors were selected mostly from the *2006 IPCC Guidelines for National Greenhouse Gas Inventories* (IPCC, 2006) to ensure a consistent approach across countries and complete and consistent time series. It is stressed that the uncertainty in the resulting dataset at national level may be substantial, especially for methane and nitrous oxide, and even more so for the F-gases (see Box 2 for more details). However, this dataset provides a sound basis for comparability with national emissions reports and other studies since the methods used are either IPCC methodologies or comparable to them (see below), global totals are obtained in a transparent way and comply with budgets used in atmospheric studies, and the data were based on international information sources. For recent estimates of the GHG emissions, reports of Annex I countries to the *UN Convention on Climate Change* (UNFCCC) and the recent and significant impact of *Clean Development Mechanism* projects in developing countries to reduce CH_4, N_2O and HFC-23 emissions were taken into account. This applies to sources such as coal mines and landfills (CH_4 recovery), nitric acid and adipic acid production (N_2O) and the production of HCFC-22 (HFC-23).

The EDGAR v4.3.2 dataset covers 1970-2012 time-series for all sector-specific and country-specific totals of greenhouse gases. Thereto new activity data statistics (with updated and revised time series) were uploaded [for energy-related emissions using IEA (2014)] and emission factors revised where appropriate. Although this dataset has been constructed with great care, JRC and PBL do not accept any liability from use of the data provided in this report including any inaccuracies or omissions in the data provided. For details on uncertainty and caveats identified in the dataset, as well as more detailed source category estimates, we refer to Janssens-Maenhout et al. (2017a) and the EDGAR v4.3.2 website at http://edgar.jrc.ec.europa.eu/overview.php?v=432&SECURE=123. Note that estimates for other more recent years than 2012 are also made publicly available through this website. Most recent trends for CO_2 emissions through 2016 are discussed in Olivier et al. (2017) and Janssens-Maenhout et al. (2017b).

Box 2: Uncertainty in greenhouse gas emissions.

When considering comparative shares and trends in greenhouse-gas emissions, data on gases and sources other than CO_2 from fuel combustion are much more uncertain. Country-specific estimates of CO_2 from biomass burning and F-gas emissions are particularly difficult to ascertain. The uncertainty in these emissions is caused by the limited accuracy of international activity data used and in particular of emission factors selected for calculating emissions on a country level (Olivier, 2002; Olivier *et al.*, 2005). For a detailed evaluation of emission uncertainties using international statistics and IPCC and other emission factors we refer to the *2006 IPCC Guidelines* (2006), and for comparisons between countries and datasets to Olivier et al (2005, 2010, 2015).

For global total anthropogenic CO_2 emissions the calculated uncertainty in the total ranges from about -10% to +10%, including large-scale biomass burning. For global emissions of CH_4, N_2O and the F-gases uncertainty estimates of 25%, 30% and 20%, respectively, were assumed based on default uncertainty estimates for the 2006 IPCC methodologies (IPCC, 2006), which correspond with emissions estimates inferred from atmospheric concentration measurements (UNEP, 2012).

When considering emission shares and trends of countries one should note that:

CO_2: Fossil fuel combustion, which is often the largest source of CO_2 in a country, is estimated to have an uncertainty of about 5% (95% confidence interval) for OECD countries. However, for many non-OECD countries the uncertainty is estimated at about 10%. This is often regarded as the most accurate source of GHG emissions.

CH_4: Uncertainties are particularly large for methane emissions from fugitive sources (coal mining and from oil and gas production and transmission) and from landfills and wastewater.

N_2O: Uncertainties of most N_2O sources are very large, e.g. the uncertainty for agricultural sources may sometimes exceed 100%.

F-gases: Uncertainties in annual emissions of most sources of F-gases are very large, e.g. at a country level they may well exceed 100%. Therefore, the figures provided for individual countries should be considered solely as order-of-magnitude estimates.

Source definitions

The source definitions for *Fuel combustion* refer to the categories and codes used in the 2006 IPCC guidelines, Chapter 8 of Vol. 1: *General guidance and reporting* (IPCC, 2006). For other categories and codes the definitions refer to the Revised 1996 IPCC guidelines, Chapter 1 of Vol. 1: *Reporting instructions* (IPCC, 1996).

Note that the IPCC guidelines are sometimes ambiguous in where to report emissions from particular sources e.g. when reporting to the UNFCCC, countries may opt to report CO_2 emissions from integrated steel plants (including coke ovens and blast furnaces), wholly under IPCC Source/Sink Category 1A, or also under 1B1 and 2C.

For carbon dioxide:

Fuel combustion refers to fossil fuel combustion only. Emissions have been estimated by the IEA using the methodology as described in the chapter *IEA estimates: Changes under the 2006 IPCC Guidelines* in Part I. (2006 IPCC Source/Sink Category 1A)

Fugitive refers mainly to flaring of associated gas in oil and gas production (in some cases including indirect CO_2 from methane venting) (IPCC Source/Sink Category 1B).

Industrial Processes refer to production of cement, lime, soda ash, carbides, ammonia, methanol, ethylene and other chemicals, metals and to the use of soda ash, limestone and dolomite, and non-energy use of lubricants and waxes. Emissions exclude *Fuel combustion* emissions. (IPCC Source/Sink Category 2).

Other refers to direct emissions from forest fires and peat fires, emissions from decay (decomposition) of aboveground biomass that remains after logging & deforestation and emissions from the decay of drained peat soils (IPCC Source/Sink Category 5). CO_2 from solvent use (IPCC Source/Sink Category 3), from application of urea and agricultural lime (IPCC Source/Sink Category 4) and from fossil fuel fires (coal fires & the Kuwait oil fires) (IPCC Source/Sink Category 7) is also included here.

For methane:

Energy comprises production, handling, transmission and combustion of fossil fuels and biofuels (IPCC Source/Sink Categories 1A and 1B).

Agriculture comprises enteric fermentation, rice production, manure management, agricultural waste burning (non-energy, on-site) and savannah burning (IPCC Source/Sink Category 4).

Waste comprises landfills, wastewater treatment, wastewater disposal and waste incineration (non-energy) (IPCC Source/Sink Category 6).

Other includes industrial process emissions e.g. methanol production, and forest and peat fires and other vegetation fires (IPCC Source/Sink Categories 2 and 5).

For nitrous oxide:

Energy comprises combustion of fossil fuels and biofuels (IPCC Source/Sink Categories 1A and 1B).

Agriculture comprises fertiliser use (synthetic and manure), animal waste (manure) management, agricultural waste burning (non-energy, on-site) and savannah burning (IPCC Source/Sink Category 4).

Industrial Processes comprise non-combustion emissions from manufacturing of adipic acid, nitric acid, caprolactam and glyoxal (IPCC Source/Sink Category 2).

Other includes N_2O usage, forest and peat fires (including post-burn decay emissions from remaining biomass) and other vegetation fires, human sewage discharge and waste incineration (non-energy) and indirect N_2O from atmospheric deposition of NO_x and NH_3 from non-agricultural sources (IPCC Source/Sink Categories 3, 5, 6 and 7).

For fluorinated gases:

HFC emissions comprise by-product emissions of HFC-23 from HCFC-22 manufacture and the use of HFCs (IPCC Source/Sink Categories 2E and 2F).

PFC emissions comprise by-product emissions of CF_4 and C_2F_6 from primary aluminium production and the use of PFCs, in particular for the manufacture of semiconductors, flat panel displays and photovoltaic cells) (IPCC Source/Sink Categories 2C, 2E and 2F). *SF_6 emissions* stem from various sources of SF_6 use (mainly manufacturing of Gas Insulated Switchgear (GIS) used in the electricity distribution networks) (IPCC Source/Sink Categories 2C and 2F) and from SF_6 production (Category 2E).

Data sources and methodology for EDGAR v4.3.2 and EDGAR v4.2FT2010

The **EDGAR v4.2FT2010** has been available online since October 2013[2] and **EDGAR v4.3.2** since July 2017[3]. For greenhouse gases, the default emission factors from the *2006 IPCC Guidelines* (IPCC, 2006) were used, except for CH_4 and N_2O from road transport where technology-specific factors were used from the EMEP-EEA emission inventory guidebook (EEA, 2009).

The **EDGAR v4.3.2** dataset covers the entire period 1970-2012 and is largely based on IEA(2014) energy statistics and FAO(2014) agriculture statistics. The EDGAR v4.3.2 dataset was used in this publication as data input for the CO_2 emissions for *Fugitives* and *Industrial Processes*, the CH_4 emissions and the N_2O emissions. The emissions of the F-gases are taken from the EDGAR v4.2FT2010 dataset. The methods, data sources and emission factors used for this new dataset are documented in Janssens-Maenhout et al. (2017a). For the documentation of the EDGAR v4.2FT2010 dataset we refer to a previous publication of this report (part III) in 2015. Large scale biomass burning estimates are taken from GFED4 (Randerson et al., 2015) and RETRO trends (Schultz et al., 2008) from 1997 backwards in time.

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GHG EMISSIONS STATISTICS

SUMMARY TABLES

1990 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

	CO_2						CH_4					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
World [1]	**20 509.0**	**424.1**	**1 332.7**	**9 478.9**	**31 744.7**	**65.9%**	**2 646.6**	**4 086.1**	**1 332.4**	**168.9**	**8 234.0**	**32.1%**
Annex I Parties	*13 722.6*	*163.2*	*773.0*	*1 179.2*	*15 838.0*	*87.7%*	*914.2*	*1 020.7*	*633.2*	*33.4*	*2 601.4*	*35.1%*
Annex II Parties	*9 658.1*	*84.9*	*486.2*	*838.9*	*11 068.2*	*88.0%*	*484.5*	*671.0*	*497.1*	*15.3*	*1 667.9*	*29.0%*
North America	*5 222.0*	*33.0*	*177.9*	*268.4*	*5 701.3*	*92.2%*	*314.3*	*231.7*	*229.8*	*10.0*	*785.7*	*40.0%*
Europe	*3 112.7*	*42.0*	*204.4*	*73.2*	*3 432.3*	*91.9%*	*133.8*	*250.9*	*224.2*	*0.8*	*609.7*	*21.9%*
Asia Oceania	*1 323.4*	*9.9*	*104.0*	*497.3*	*1 934.7*	*68.9%*	*36.4*	*188.5*	*43.0*	*4.6*	*272.5*	*13.4%*
Annex I EIT	*3 930.8*	*74.0*	*268.9*	*337.6*	*4 611.3*	*86.8%*	*421.8*	*320.1*	*120.1*	*18.0*	*880.0*	*47.9%*
Non-Annex I Parties	*6 155.8*	*261.0*	*559.7*	*8 299.7*	*15 276.2*	*42.0%*	*1 724.0*	*3 065.4*	*699.2*	*135.5*	*5 624.1*	*30.7%*
Annex B Kyoto Parties	*5 383.4*	*99.4*	*351.2*	*681.5*	*6 515.6*	*84.2%*	*348.4*	*561.0*	*300.4*	*7.9*	*1 217.6*	*28.6%*
Intl. aviation bunkers	**258.9**	**-**	**-**	**-**	**258.9**	**100.0%**	**0.0**	**-**	**-**	**-**	**0.0**	**100.0%**
Intl. marine bunkers	**371.6**	**-**	**-**	**-**	**371.6**	**100.0%**	**8.4**	**-**	**-**	**-**	**8.4**	**100.0%**
Non-OECD Total	**8 858.0**	**306.0**	**738.9**	**8 453.6**	**18 356.6**	**49.9%**	**2 022.5**	**3 237.5**	**756.6**	**148.1**	**6 164.7**	**32.8%**
OECD Total	**11 020.3**	**118.1**	**593.8**	**1 025.3**	**12 757.6**	**87.3%**	**615.6**	**848.6**	**575.8**	**20.8**	**2 060.8**	**29.9%**
Canada	419.5	6.0	25.1	59.2	509.8	83.5%	58.4	22.6	25.8	4.4	111.2	52.5%
Chile	29.4	0.8	2.4	0.3	33.0	91.7%	5.6	7.0	4.7	0.0	17.3	32.4%
Mexico	256.9	2.6	25.8	168.0	453.3	57.2%	32.8	68.6	19.3	5.1	125.9	26.1%
United States	4 802.5	27.0	152.8	209.2	5 191.4	93.0%	255.9	209.1	204.0	5.6	674.6	37.9%
OECD Americas	**5 508.3**	**36.5**	**206.1**	**436.7**	**6 187.5**	**89.6%**	**352.7**	**307.3**	**253.9**	**15.1**	**928.9**	**38.0%**
Australia	259.7	5.9	10.5	491.7	767.8	34.6%	27.5	112.1	17.6	4.5	161.7	17.0%
Israel [2]	32.8	-	2.3	0.2	35.3	93.0%	0.1	0.9	2.7	0.0	3.7	3.8%
Japan	1 042.0	4.1	92.0	4.8	1 142.9	91.5%	7.9	48.2	21.6	0.1	77.9	10.1%
Korea	231.7	13.8	21.9	2.1	269.5	91.1%	9.9	18.4	10.3	0.0	38.6	25.7%
New Zealand	21.7	0.0	1.5	0.7	24.0	90.7%	1.0	28.1	3.8	0.0	33.0	3.1%
OECD Asia Oceania	**1 588.0**	**23.8**	**128.2**	**499.5**	**2 239.5**	**72.0%**	**46.5**	**207.8**	**55.9**	**4.6**	**314.8**	**14.8%**
Austria	56.3	0.5	4.9	1.2	62.9	90.3%	2.0	5.9	5.1	0.0	13.0	15.3%
Belgium	106.2	1.3	7.5	0.8	115.8	92.8%	4.4	7.5	5.5	0.0	17.3	25.5%
Czech Republic	150.3	3.3	7.3	2.1	163.0	94.2%	7.3	9.0	3.4	0.0	19.7	37.2%
Denmark	51.0	0.2	1.0	1.4	53.6	95.6%	0.7	6.5	2.0	-	9.2	7.3%
Estonia	36.0	0.7	1.0	0.3	37.9	96.8%	0.6	1.9	1.4	0.0	3.9	14.9%
Finland	53.8	0.1	2.2	1.3	57.4	93.8%	1.1	3.1	8.9	0.0	13.1	8.1%
France	345.5	3.0	29.5	9.7	387.7	89.9%	11.6	48.6	16.4	0.2	76.8	15.1%
Germany	940.3	20.8	44.6	14.6	1 020.2	94.2%	40.4	49.9	52.8	0.1	143.2	28.2%
Greece	69.9	0.1	7.7	2.4	80.2	87.3%	12.3	4.5	3.2	0.0	20.1	61.5%
Hungary	65.7	0.5	4.6	1.3	72.1	91.7%	2.8	6.4	3.5	0.0	12.6	21.9%
Iceland	1.9	-	0.4	0.0	2.3	80.9%	0.0	0.3	0.2	0.0	0.5	1.8%
Ireland	30.1	0.1	1.9	0.8	32.9	92.0%	1.5	12.9	1.7	-	16.1	9.5%
Italy	389.3	3.8	29.8	11.7	434.5	90.5%	6.7	25.3	22.7	0.1	54.8	12.2%
Latvia	18.8	0.0	1.0	3.2	22.9	82.0%	0.7	3.8	0.6	0.1	5.2	13.4%
Luxembourg	10.7	-	1.0	0.0	11.7	91.4%	0.1	0.4	0.1	-	0.6	11.6%
Netherlands	147.7	0.7	14.5	1.3	164.2	90.4%	6.8	13.8	15.9	0.1	36.6	18.6%
Norway	27.5	2.3	6.5	1.1	37.4	79.8%	7.2	2.6	3.3	0.0	13.1	54.8%
Poland	344.8	6.8	17.5	4.1	373.2	94.2%	60.6	27.2	14.8	0.0	102.6	59.0%
Portugal	37.9	0.2	4.8	3.8	46.7	81.6%	0.6	5.0	5.1	0.0	10.7	5.8%
Slovak Republic	54.8	0.4	5.1	0.2	60.6	91.2%	1.5	3.9	1.9	0.0	7.4	20.9%
Slovenia	13.5	0.0	1.4	2.0	16.9	80.1%	1.3	1.4	1.0	0.0	3.7	34.7%
Spain	202.6	2.3	20.5	10.9	236.2	86.7%	4.8	21.4	10.2	0.1	36.6	13.0%
Sweden	52.1	0.9	3.5	1.8	58.2	90.9%	0.9	4.1	8.7	0.0	13.6	6.3%
Switzerland	40.7	0.0	3.5	0.7	45.0	90.6%	0.6	4.4	1.5	0.0	6.4	9.0%
Turkey	127.5	4.2	17.3	2.7	151.6	86.9%	7.9	29.2	15.2	0.0	52.3	15.1%
United Kingdom	549.3	5.7	20.6	9.7	585.3	94.8%	32.2	34.7	60.9	0.1	127.9	25.2%
OECD Europe	**3 924.1**	**57.9**	**259.5**	**89.1**	**4 330.6**	**92.0%**	**216.5**	**333.5**	**266.0**	**1.0**	**817.0**	**26.5%**
IEA/Accession/Association	*13 823.1*	*150.7*	*861.2*	*1 195.3*	*16 030.2*	*87.2%*	*1 035.2*	*1 592.5*	*781.9*	*27.5*	*3 437.0*	*30.1%*
European Union - 28	*4 028.2*	*52.9*	*262.0*	*92.9*	*4 436.0*	*92.0%*	*216.8*	*329.8*	*259.3*	*1.2*	*807.1*	*26.9%*
G20	*16 783.2*	*212.9*	*1 058.6*	*2 872.5*	*20 927.1*	*81.2%*	*1 456.9*	*2 044.1*	*903.7*	*91.5*	*4 496.3*	*32.4%*
Africa	*529.0*	*98.2*	*40.3*	*4 955.4*	*5 622.9*	*11.2%*	*481.8*	*638.8*	*101.7*	*17.9*	*1 240.1*	*38.8%*
Americas	*6 061.5*	*60.5*	*257.6*	*2 751.8*	*9 130.9*	*67.0%*	*495.5*	*903.1*	*353.9*	*85.0*	*1 837.5*	*27.0%*
Asia	*5 829.7*	*142.5*	*541.5*	*866.9*	*7 368.5*	*81.1%*	*1 069.8*	*1 819.0*	*504.7*	*42.6*	*3 419.7*	*31.3%*
Europe	*7 176.7*	*117.1*	*481.3*	*412.3*	*8 187.4*	*89.1%*	*562.6*	*584.9*	*350.7*	*18.9*	*1 517.0*	*37.1%*
Oceania	*281.5*	*5.9*	*12.0*	*492.5*	*791.8*	*36.3%*	*28.5*	*140.3*	*21.4*	*4.5*	*194.7*	*14.7%*

1. Total World includes Non-OECD total, OECD total as well as international bunkers. 2.Please refer to the chapter *Geographical Coverage* in Part I.
Sources: IEA, CO_2 emissions from fuel combustion. EDGAR 4.3.2 and 4.2 FT2010 databases for other emissions.

1990 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

N_2O						HFCs	PFCs	SF_6	Total			
Energy	Industrial processes	Agriculture	Other	Total	Share of energy	Industrial processes			Total	Share of energy	GHG / GDP PPP [3]	
204.6	**206.0**	**1 855.6**	**338.0**	**2 604.2**	**7.9%**	**95.9**	**140.1**	**108.9**	**42 927.8**	**55.4%**	**0.94**	**World [1]**
126.8	*176.5*	*607.8*	*128.6*	*1 039.7*	*12.2%*	*77.8*	*106.5*	*80.0*	*19 743.5*	*75.6%*	*0.65*	*Annex I Parties*
102.3	*137.6*	*406.9*	*87.4*	*734.2*	*13.9%*	*71.4*	*81.2*	*73.3*	*13 696.3*	*75.4%*	*0.55*	*Annex II Parties*
71.9	*34.9*	*166.6*	*44.8*	*318.1*	*22.6%*	*37.4*	*36.1*	*44.0*	*6 922.7*	*81.5%*	*0.70*	*North America*
23.1	*92.5*	*162.5*	*29.6*	*307.8*	*7.5%*	*21.6*	*31.6*	*15.1*	*4 418.0*	*75.0%*	*0.41*	*Europe*
7.3	*10.2*	*77.9*	*13.0*	*108.3*	*6.7%*	*12.4*	*13.5*	*14.2*	*2 355.6*	*58.5%*	*0.57*	*Asia Oceania*
22.9	*38.7*	*179.2*	*36.7*	*277.5*	*8.3%*	*6.4*	*24.7*	*4.8*	*5 804.6*	*76.7%*	*1.23*	*Annex I EIT*
72.8	*29.5*	*1 247.8*	*195.2*	*1 545.3*	*4.7%*	*18.1*	*33.6*	*28.9*	*22 526.1*	*36.5%*	*1.45*	*Non-Annex I Parties*
36.8	*116.9*	*340.5*	*50.1*	*544.3*	*6.8%*	*22.4*	*42.2*	*15.6*	*8 357.7*	*70.2%*	*0.62*	*Annex B Kyoto Parties*
2.2	**-**	**-**	**1.7**	**3.9**	**55.7%**	**-**	**-**	**-**	**262.9**	**99.3%**	**..**	**Intl. aviation bunkers**
2.9	**-**	**-**	**12.4**	**15.2**	**18.7%**	**-**	**-**	**-**	**395.3**	**96.9%**	**..**	**Intl. marine bunkers**
87.3	**57.0**	**1 347.8**	**216.9**	**1 708.9**	**5.1%**	**20.0**	**54.4**	**28.4**	**26 333.0**	**42.8%**	**1.49**	**Non-OECD Total**
112.3	**149.0**	**507.9**	**107.0**	**876.2**	**12.8%**	**75.9**	**85.8**	**80.5**	**15 936.6**	**74.5%**	**0.57**	**OECD Total**
6.0	11.3	16.5	6.1	40.0	15.1%	0.5	10.0	3.8	675.3	72.5%	0.79	Canada
0.3	0.0	4.0	0.5	4.8	5.7%	-	0.0	0.0	55.1	65.6%	0.51	Chile
2.1	1.0	34.7	6.9	44.6	4.6%	2.0	0.6	0.8	627.3	46.9%	0.62	Mexico
65.9	23.6	150.0	38.7	278.2	23.7%	36.9	26.0	40.2	6 247.3	82.5%	0.69	United States
74.3	**35.9**	**205.2**	**52.1**	**367.6**	**20.2%**	**39.5**	**36.7**	**44.9**	**7 605.0**	**78.5%**	**0.69**	**OECD Americas**
2.1	0.8	59.0	5.2	67.0	3.1%	0.8	4.5	0.4	1 002.2	29.4%	2.05	Australia
0.1	0.2	0.7	0.7	1.8	7.4%	0.0	0.1	1.0	41.8	79.2%	0.47	Israel [2]
5.0	9.4	9.4	7.5	31.3	16.0%	11.6	7.9	13.8	1 285.3	82.4%	0.36	Japan
1.4	1.1	4.9	2.1	9.4	14.4%	2.4	1.0	3.3	324.2	79.2%	0.65	Korea
0.2	-	9.5	0.3	10.0	2.0%	0.0	1.0	0.0	68.1	33.8%	0.89	New Zealand
8.7	**11.5**	**83.5**	**15.8**	**119.5**	**7.3%**	**14.8**	**14.6**	**18.4**	**2 721.6**	**61.2%**	**0.57**	**OECD Asia Oceania**
0.5	0.8	2.8	0.7	4.8	10.4%	0.0	1.2	0.4	82.3	72.0%	0.35	Austria
0.6	3.7	3.1	0.9	8.2	6.8%	0.0	0.0	0.1	141.5	79.5%	0.47	Belgium
1.2	1.2	4.6	1.1	8.1	15.0%	0.0	0.0	0.0	190.8	85.0%	0.95	Czech Republic
0.4	1.0	5.6	0.5	7.6	5.6%	0.0	0.0	0.1	70.5	74.2%	0.41	Denmark
0.2	-	1.1	0.2	1.5	13.6%	-	0.0	0.0	43.3	86.6%	1.96	Estonia
1.3	1.5	3.7	0.6	7.1	18.8%	0.0	0.0	0.1	77.7	72.5%	0.55	Finland
3.2	20.4	34.3	3.8	61.7	5.1%	5.9	2.0	3.1	537.2	67.6%	0.32	France
6.5	21.9	32.4	6.7	67.5	9.7%	3.3	5.2	5.3	1 244.7	81.0%	0.52	Germany
0.7	1.1	4.4	0.8	6.9	9.9%	0.6	2.0	0.1	110.0	75.5%	0.53	Greece
0.5	3.1	5.3	0.5	9.4	5.5%	0.0	0.8	0.0	94.9	73.2%	0.55	Hungary
0.0	0.0	0.3	0.0	0.4	3.5%	-	1.2	0.0	4.4	43.4%	0.60	Iceland
0.2	0.9	6.4	0.3	7.8	2.9%	0.0	0.0	0.0	56.8	56.3%	0.77	Ireland
2.2	6.9	15.3	4.1	28.4	7.6%	2.5	1.2	1.2	522.5	76.9%	0.31	Italy
0.2	-	2.4	0.3	2.9	6.7%	0.0	0.0	-	31.1	63.4%	0.89	Latvia
0.0	-	0.1	0.1	0.2	17.3%	0.0	0.0	-	12.6	86.2%	0.64	Luxembourg
0.6	4.7	6.9	1.2	13.4	4.4%	3.5	3.8	0.3	221.8	70.2%	0.47	Netherlands
0.4	2.1	1.8	0.4	4.6	8.1%	-	7.3	2.2	64.6	57.9%	0.38	Norway
2.0	3.6	18.3	2.4	26.4	7.6%	0.0	0.5	0.1	502.7	82.4%	1.33	Poland
0.5	0.4	2.8	0.6	4.3	10.6%	0.0	0.0	0.1	61.8	63.4%	0.31	Portugal
0.5	1.0	2.5	0.3	4.3	10.9%	-	0.1	-	72.3	79.1%	0.94	Slovak Republic
0.1	-	0.9	0.2	1.2	6.7%	-	0.9	0.0	22.7	65.7%	0.62	Slovenia
1.8	2.9	15.3	2.7	22.6	7.8%	2.5	4.5	0.4	302.7	69.8%	0.33	Spain
1.0	0.8	3.9	0.8	6.4	15.2%	0.0	0.8	0.2	79.3	69.1%	0.31	Sweden
0.4	0.1	1.6	0.5	2.5	16.8%	0.0	0.4	0.6	54.9	76.1%	0.18	Switzerland
1.5	0.1	21.5	4.4	27.6	5.6%	0.0	0.6	1.9	234.1	60.3%	0.39	Turkey
2.9	23.6	22.0	4.9	53.5	5.5%	3.3	1.9	1.0	772.8	76.4%	0.51	United Kingdom
29.4	**101.6**	**219.1**	**39.1**	**389.1**	**7.5%**	**21.6**	**34.5**	**17.2**	**5 610.0**	**75.4%**	**0.46**	**OECD Europe**
138.6	*165.9*	*784.6*	*142.8*	*1 231.9*	*11.3%*	*83.4*	*89.1*	*84.5*	*20 956.2*	*72.3%*	*..*	*IEA/Accession/Association*
28.7	*106.1*	*218.3*	*36.2*	*389.4*	*7.4%*	*21.6*	*28.4*	*12.5*	*5 695.0*	*76.0%*	*0.49*	*European Union - 28*
157.4	*188.0*	*1 019.6*	*206.3*	*1 571.3*	*10.0%*	*92.5*	*112.0*	*90.2*	*27 289.2*	*68.2%*	*0.73*	*G20*
11.8	*3.6*	*372.2*	*26.9*	*414.5*	*2.8%*	*0.0*	*3.8*	*2.6*	*7 283.9*	*15.4%*	*3.46*	*Africa*
82.1	*38.3*	*455.1*	*107.8*	*683.3*	*12.0%*	*43.4*	*47.1*	*46.8*	*11 788.0*	*56.8%*	*0.84*	*Americas*
56.8	*31.4*	*611.7*	*116.3*	*813.9*	*7.0%*	*23.7*	*25.8*	*39.2*	*11 690.9*	*60.7%*	*0.88*	*Asia*
46.6	*131.9*	*348.1*	*67.3*	*594.0*	*7.8%*	*28.0*	*57.9*	*19.9*	*10 404.2*	*76.0%*	*0.67*	*Europe*
2.3	*0.8*	*68.5*	*5.5*	*77.0*	*2.9%*	*0.8*	*5.6*	*0.4*	*1 070.3*	*29.7%*	*1.89*	*Oceania*

1. GHG / GDP PPP ratio is expressed in kg of CO_2-equivalent per 2010 USD.
2. Please refer to the chapter *Geographical Coverage* in Part I.

1990 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

	CO_2						CH_4					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
Non-OECD Total	**8 858.0**	**306.0**	**738.9**	**8 453.6**	**18 356.6**	**49.9%**	**2 022.5**	**3 237.5**	**756.6**	**148.1**	**6 164.7**	**32.8%**
Albania	5.7	0.2	0.6	0.2	6.6	88.3%	0.6	1.8	0.9	0.0	3.3	16.6%
Armenia	19.8	-	0.7	0.2	20.7	95.9%	0.6	1.4	0.3	-	2.3	25.1%
Azerbaijan	53.5	3.5	0.8	0.3	58.1	98.1%	18.6	4.8	1.4	0.0	24.8	74.9%
Belarus	99.8	0.3	4.9	36.6	141.6	70.7%	1.2	17.5	3.5	1.4	23.6	5.1%
Bosnia and Herzegovina	24.0	-	0.5	0.4	24.8	96.7%	3.0	1.5	0.3	0.0	4.8	62.3%
Bulgaria	74.6	0.2	7.1	0.6	82.4	90.7%	2.0	6.6	7.1	0.0	15.6	12.6%
Croatia	20.3	0.2	4.2	0.8	25.5	80.4%	1.3	1.9	0.9	0.0	4.1	32.6%
Cyprus [2]	3.9	-	0.6	0.1	4.6	85.1%	0.0	0.3	0.8	-	1.1	1.5%
FYR of Macedonia	8.6	0.0	2.6	0.1	11.3	76.2%	0.3	1.1	0.4	0.0	1.9	16.2%
Georgia	33.5	0.0	0.9	0.3	34.7	96.4%	0.7	3.0	0.6	0.0	4.2	17.1%
Gibraltar	0.1	-	0.0	-	0.1	99.6%	0.0	-	0.0	-	0.0	4.9%
Kazakhstan	237.2	3.6	11.6	8.0	260.4	92.5%	47.9	29.8	3.7	0.0	81.5	58.7%
Kosovo [1]	..	..	..	..	..	..	..	..	..	..	..	..
Kyrgyzstan	22.8	0.0	0.7	0.3	23.7	96.1%	0.7	5.0	1.2	-	6.8	9.7%
Lithuania	32.2	0.0	2.7	3.8	38.7	83.2%	0.8	5.8	1.4	0.1	8.0	9.6%
Malta	2.3	-	0.0	0.0	2.4	98.4%	0.0	0.1	0.0	-	0.1	3.7%
Republic of Moldova	30.5	-	1.2	0.2	31.9	95.5%	0.6	3.2	0.4	-	4.2	13.7%
Montenegro [1]	..	..	..	..	..	..	..	..	..	..	..	..
Romania	168.3	1.1	15.7	2.9	188.1	90.1%	12.0	18.3	3.2	0.1	33.5	35.7%
Russian Federation	2 163.2	26.0	144.8	229.1	2 563.1	85.4%	282.6	152.3	66.1	15.5	516.4	54.7%
Serbia [1]	62.0	0.9	3.2	0.5	66.6	94.4%	2.6	6.2	4.2	0.0	13.0	20.0%
Tajikistan	11.0	0.0	1.1	0.1	12.3	89.8%	0.5	3.3	0.6	-	4.4	12.2%
Turkmenistan	44.6	0.0	0.6	0.4	45.6	97.8%	26.7	3.3	0.6	-	30.5	87.4%
Ukraine	688.4	34.5	51.8	50.5	825.1	87.6%	47.2	64.4	11.3	0.8	123.7	38.1%
Uzbekistan	114.9	0.3	7.1	1.1	123.4	93.3%	15.6	15.1	2.5	-	33.2	46.8%
Non-OECD Europe and Eurasia	**3 921.3**	**70.7**	**263.2**	**336.6**	**4 591.8**	**86.9%**	**465.3**	**346.5**	**111.5**	**17.9**	**941.2**	**49.4%**
Algeria	51.2	12.7	3.8	0.3	68.0	94.0%	70.1	4.4	4.9	0.0	79.4	88.3%
Angola	3.9	7.2	0.1	926.1	937.4	1.2%	33.4	73.0	1.7	1.5	109.6	30.5%
Benin	0.3	0.0	0.1	13.6	14.0	1.8%	0.8	2.2	0.8	-	3.7	20.8%
Botswana	2.8	-	0.0	49.6	52.4	5.4%	0.4	7.3	0.3	0.1	8.0	5.1%
Cameroon	2.6	1.7	0.4	285.1	289.8	1.5%	8.4	24.4	1.9	2.8	37.6	22.5%
Congo	0.6	1.7	0.0	24.5	26.8	8.8%	7.7	1.9	0.4	0.1	10.2	76.0%
Côte d'Ivoire	2.7	0.0	0.2	43.7	46.7	5.8%	1.9	5.1	1.9	0.2	9.1	20.8%
Dem. Rep. of the Congo	3.0	0.0	0.3	1 364.5	1 367.8	0.2%	3.0	102.8	5.6	6.3	117.7	2.6%
Egypt	77.8	3.0	9.3	1.7	91.9	88.0%	16.7	12.5	9.3	0.0	38.5	43.4%
Eritrea [1]	..	-	0.0	0.1	..	..	..	1.7	0.4	-	..	..
Ethiopia [1]	2.2	-	0.2	289.1	291.4	0.7%	7.3	47.7	6.3	1.7	63.0	11.6%
Gabon	0.9	5.2	0.0	8.2	14.3	42.6%	22.3	0.7	0.2	0.0	23.2	96.1%
Ghana	2.5	-	0.6	36.7	39.9	6.4%	1.8	4.5	2.3	0.1	8.6	20.8%
Kenya	5.5	-	0.8	21.5	27.8	19.8%	5.9	17.2	3.3	0.2	26.6	22.2%
Libya	25.8	8.4	2.7	0.2	37.1	92.3%	39.8	1.3	1.3	0.0	42.4	93.9%
Mauritius	1.2	-	0.0	0.0	1.2	97.8%	0.1	0.1	0.2	-	0.3	20.3%
Morocco	19.6	-	4.7	0.4	24.7	79.4%	0.4	6.4	4.5	-	11.3	3.4%
Mozambique	1.1	-	0.0	93.5	94.7	1.1%	2.0	8.8	2.1	0.0	12.8	15.2%
Namibia	..	-	0.0	10.5	10.5	..	0.0	4.0	0.2	0.0	4.3	0.9%
Niger [1]	..	-	0.0	1.1	1.1	..	0.7	6.3	1.1	-	8.1	8.8%
Nigeria	28.1	43.8	2.2	57.0	131.0	54.8%	202.6	26.9	13.6	0.2	243.4	83.3%
Senegal	2.1	-	0.2	3.7	6.0	35.3%	0.9	3.8	1.2	0.0	5.9	15.7%
South Africa	243.8	14.4	9.9	69.6	337.7	76.5%	28.6	27.9	10.3	0.3	67.2	42.6%
South Sudan [1]	..	..	..	..	..	..	..	..	..	..	..	..
Sudan [1]	5.3	-	0.1	464.5	469.8	1.1%	5.7	62.8	3.9	0.5	73.0	7.8%
United Rep. of Tanzania	1.7	-	0.3	81.4	83.4	2.0%	3.4	19.7	3.8	0.1	27.0	12.6%
Togo	0.6	-	0.2	12.7	13.5	4.3%	0.7	1.7	0.6	0.0	3.0	23.0%
Tunisia	12.2	0.1	2.4	0.1	14.8	83.1%	1.3	2.1	1.7	-	5.0	24.9%
Zambia	2.6	-	0.4	216.1	219.1	1.2%	2.3	19.5	1.4	0.2	23.4	9.9%
Zimbabwe	16.2	-	0.9	20.2	37.3	43.6%	2.3	9.3	1.6	0.0	13.2	17.2%
Other Africa	12.6	-	0.4	859.7	872.8	1.4%	11.2	132.7	15.0	3.7	162.6	6.9%
Africa	**529.0**	**98.2**	**40.3**	**4 955.4**	**5 622.9**	**11.2%**	**481.8**	**638.8**	**101.7**	**17.9**	**1 240.1**	**38.8%**

1. Please refer to the chapter *Country notes* in Part I.
2. Please refer to the chapter *Geographical Coverage* in Part I.

1990 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

N_2O						HFCs	PFCs	SF_6	Total			
Energy	Industrial processes	Agriculture	Other	Total	Share of energy	Industrial processes			Total	Share of energy	GHG / GDP PPP [3]	
87.3	**57.0**	**1 347.8**	**216.9**	**1 708.9**	**5.1%**	**20.0**	**54.4**	**28.4**	**26 333.0**	**42.8%**	**1.49**	**Non-OECD Total**
0.0	-	1.0	0.1	1.2	3.2%	-	-	-	11.2	57.7%	0.79	Albania
0.1	-	0.5	0.1	0.8	12.6%	-	-	-	23.7	86.4%	1.83	Armenia
0.3	-	2.0	0.3	2.6	11.6%	-	0.2	-	85.7	88.5%	1.43	Azerbaijan
0.7	0.3	12.5	1.6	15.1	4.8%	-	0.0	-	180.4	56.6%	2.24	Belarus
0.1	-	0.8	0.2	1.1	10.2%	-	0.7	-	31.4	86.2%	4.63	Bosnia and Herzegovina
0.5	1.3	5.5	0.6	7.8	6.0%	-	0.0	-	105.9	72.9%	1.32	Bulgaria
0.2	0.9	2.0	0.2	3.3	6.3%	-	1.1	-	34.0	64.9%	0.42	Croatia
0.0	-	0.2	0.1	0.3	5.6%	-	-	-	5.9	66.1%	0.44	Cyprus [2]
0.1	-	0.5	0.1	0.7	8.6%	-	-	-	13.8	64.8%	0.70	FYR of Macedonia
0.1	0.7	1.5	0.3	2.6	4.0%	-	-	-	41.6	82.5%	1.10	Georgia
0.0	-	-	0.0	0.0	22.0%	-	-	-	0.2	89.3%	0.28	Gibraltar
1.4	-	16.3	1.8	19.5	7.3%	-	-	-	361.4	80.3%	1.66	Kazakhstan
..	..	..	..	..	..	..	..	..	..	..	..	Kosovo [1]
0.1	-	2.0	0.2	2.3	4.0%	-	-	-	32.8	71.7%	2.19	Kyrgyzstan
0.3	0.7	3.7	0.4	5.1	5.1%	0.0	0.0	-	51.8	64.2%	1.14	Lithuania
0.0	-	0.0	0.0	0.1	12.3%	-	-	-	2.5	92.4%	0.47	Malta
0.1	-	1.4	0.2	1.6	5.0%	-	-	-	37.8	82.5%	1.61	Republic of Moldova
..	..	..	..	..	..	..	..	..	..	..	..	Montenegro [1]
0.8	3.9	13.0	1.2	18.9	4.2%	-	2.4	0.0	242.8	75.0%	0.98	Romania
12.7	15.2	76.6	23.3	127.9	10.0%	6.4	18.7	4.7	3 237.1	76.8%	1.19	Russian Federation
0.3	0.6	2.7	0.4	4.0	7.2%	0.0	0.9	-	84.6	77.8%	1.58	Serbia [1]
0.0	-	1.1	0.1	1.2	2.3%	-	3.3	-	21.2	54.6%	1.13	Tajikistan
0.1	0.1	1.7	0.2	2.0	3.1%	-	-	-	78.2	91.3%	2.60	Turkmenistan
3.0	7.5	30.8	4.4	45.7	6.7%	0.0	0.3	-	994.8	77.7%	1.87	Ukraine
0.2	0.2	7.3	0.6	8.3	2.1%	0.0	-	-	164.9	79.4%	2.71	Uzbekistan
21.1	**31.5**	**183.0**	**36.3**	**272.0**	**7.8%**	**6.4**	**27.6**	**4.7**	**5 843.7**	**76.6%**	**1.34**	**Non-OECD Europe and Eurasia**
0.2	0.4	2.4	0.7	3.6	4.7%	-	-	0.3	151.3	88.7%	0.58	Algeria
0.2	-	46.7	1.2	48.1	0.4%	-	-	-	1 095.1	4.1%	20.90	Angola
0.1	-	1.4	0.1	1.5	4.6%	-	-	-	19.2	5.7%	2.69	Benin
0.0	-	4.1	0.1	4.2	1.0%	-	-	-	64.6	5.0%	5.90	Botswana
0.2	-	15.2	2.0	17.4	1.1%	-	1.1	-	345.9	3.7%	10.56	Cameroon
0.0	-	1.4	0.1	1.6	1.8%	-	-	-	38.6	26.2%	3.14	Congo
0.1	-	3.0	0.3	3.5	3.9%	-	-	-	59.3	8.0%	1.54	Côte d'Ivoire
0.5	-	65.3	4.5	70.3	0.7%	-	-	-	1 555.8	0.4%	35.83	Dem. Rep. of the Congo
0.3	1.3	8.3	1.5	11.3	2.2%	-	1.5	0.7	143.9	68.0%	0.43	Egypt
..	-	0.7	0.0	..	..	-	-	-	..	..	..	Eritrea [1]
0.9	-	26.6	1.9	29.5	3.1%	-	-	-	383.9	2.7%	12.50	Ethiopia [1]
0.1	-	0.5	0.0	0.6	10.8%	-	-	-	38.1	74.7%	2.09	Gabon
0.2	-	2.7	0.3	3.2	5.9%	-	0.7	-	52.3	8.6%	1.90	Ghana
0.3	-	9.0	0.6	9.9	3.5%	-	-	-	64.3	18.3%	1.18	Kenya
0.1	-	0.8	0.2	1.1	9.0%	-	-	0.3	80.9	91.7%	0.72	Libya
0.0	-	0.1	0.0	0.2	16.1%	-	-	-	1.7	74.6%	0.22	Mauritius
0.2	-	4.3	0.6	5.0	3.3%	-	-	-	41.1	49.2%	0.43	Morocco
0.2	-	5.5	0.3	6.0	4.0%	-	-	-	113.5	2.9%	23.10	Mozambique
0.0	-	2.0	0.0	2.1	0.5%	-	-	-	16.8	0.3%	..	Namibia
0.1	-	2.5	0.1	2.7	3.7%	-	-	-	11.9	6.8%	..	Niger [1]
3.1	-	14.0	2.6	19.7	15.6%	-	-	0.2	394.3	70.4%	1.39	Nigeria
0.0	-	1.7	0.1	1.9	2.6%	-	-	-	13.9	22.4%	1.01	Senegal
1.9	0.9	15.9	2.6	21.3	8.8%	0.0	0.5	1.0	427.7	67.5%	1.20	South Africa
..	..	..	..	..	..	..	..	..	..	..	..	South Sudan [1]
0.3	-	35.4	0.8	36.5	0.7%	-	-	-	579.3	1.9%	13.08	Sudan [1]
0.4	-	10.6	0.7	11.7	3.6%	-	-	-	122.1	4.5%	3.42	United Rep. of Tanzania
0.0	-	1.1	0.1	1.2	3.2%	-	-	-	17.6	7.4%	3.51	Togo
0.1	0.4	1.1	0.2	1.9	6.7%	-	-	-	21.7	62.9%	0.48	Tunisia
0.2	0.5	15.6	0.3	16.6	1.1%	-	-	-	259.1	2.0%	14.07	Zambia
0.4	-	4.8	0.4	5.6	6.5%	-	-	-	56.1	33.7%	2.16	Zimbabwe
1.7	-	69.4	4.4	75.5	2.2%	-	-	-	1 110.9	2.3%	8.24	Other Africa
11.8	**3.6**	**372.2**	**26.9**	**414.5**	**2.8%**	**0.0**	**3.8**	**2.6**	**7 283.9**	**15.4%**	**3.46**	**Africa**

1. Please refer to the chapter *Country notes* in Part I.
2. Please refer to the chapter *Geographical Coverage* in Part I.
3. GHG / GDP PPP ratio is expressed in kg of CO_2-equivalent per 2010 USD.

1990 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

	CO_2						CH_4					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
Bangladesh	11.4	0.0	1.5	3.2	16.1	70.8%	3.7	82.6	13.1	0.1	99.5	3.7%
Brunei Darussalam	3.3	0.1	0.0	0.6	4.0	83.5%	3.7	0.0	0.1	0.0	3.8	96.9%
Cambodia	..	-	0.0	12.1	..	..	..	14.9	1.2	0.3	..	..
DPR of Korea	116.8	7.0	43.0	108.4	275.3	45.0%	68.4	438.3	111.2	5.2	623.1	11.0%
India	530.4	0.8	12.5	2.3	546.0	97.3%	1.1	4.8	5.1	0.0	11.1	10.0%
Indonesia	133.9	2.9	10.4	1.5	148.6	92.0%	14.4	6.6	5.2	0.0	26.1	55.0%
Malaysia	49.6	11.2	14.1	305.9	380.8	16.0%	81.7	98.4	30.2	19.7	230.0	35.5%
Mongolia	12.9	2.2	3.9	25.6	44.6	33.7%	17.0	7.6	3.4	1.2	29.2	58.1%
Myanmar	3.9	-	0.3	5.6	9.8	39.8%	0.6	7.7	0.4	0.3	9.0	7.1%
Nepal	0.9	0.4	0.4	56.5	58.3	2.3%	5.8	47.0	6.4	1.7	60.9	9.5%
Pakistan	56.0	-	0.1	2.1	58.1	96.3%	1.7	20.4	2.1	0.1	24.4	7.0%
Philippines	38.0	0.6	6.3	0.6	45.5	84.7%	12.4	77.2	14.2	0.0	103.8	11.9%
Singapore	29.0	0.0	3.4	8.5	40.9	70.8%	6.3	34.4	11.7	0.0	52.4	12.1%
Sri Lanka	3.7	-	2.4	0.2	6.2	58.8%	0.4	0.0	1.0	0.0	1.4	25.4%
Chinese Taipei	111.1	-	0.3	3.7	115.0	96.6%	1.1	10.4	2.2	0.0	13.8	8.1%
Thailand	80.9	0.0	10.9	36.3	128.1	63.2%	15.7	73.5	9.4	0.3	99.0	15.9%
Viet Nam	17.4	0.0	2.1	14.0	33.5	51.9%	5.7	55.8	9.7	0.2	71.5	8.0%
Other non-OECD Asia	10.3	0.0	0.3	129.7	140.4	7.4%	1.2	17.6	3.2	6.4	28.4	4.2%
Asia (excl. China)	**1 209.4**	**25.3**	**112.0**	**716.8**	**2 063.5**	**59.8%**	**240.8**	**997.3**	**230.0**	**35.8**	**1 503.9**	**16.0%**
People's Rep. of China	2 075.9	28.9	230.5	126.4	2 461.7	85.5%	383.8	624.7	174.4	6.5	1 189.4	32.3%
Hong Kong, China	33.3	1.0	0.9	0.1	35.4	97.0%	0.1	0.0	1.6	-	1.7	5.3%
China	**2 109.2**	**29.9**	**231.4**	**126.5**	**2 497.1**	**85.7%**	**383.9**	**624.7**	**176.1**	**6.5**	**1 191.2**	**32.2%**
Argentina	99.4	8.5	3.0	217.4	328.3	32.9%	34.6	103.2	9.9	6.2	153.9	22.5%
Bolivia	5.2	1.1	0.2	495.5	502.0	1.3%	6.2	34.1	1.3	12.8	54.4	11.4%
Brazil	184.3	5.9	26.2	1 194.8	1 411.1	13.5%	37.3	284.5	51.3	42.1	415.2	9.0%
Colombia	45.8	1.9	4.0	10.3	62.1	76.9%	11.3	42.9	7.2	0.1	61.6	18.4%
Costa Rica	2.6	-	0.2	3.5	6.4	40.9%	0.1	4.0	0.6	0.0	4.7	1.7%
Cuba	34.1	0.0	2.2	0.8	37.1	92.0%	0.6	9.5	4.8	-	14.9	4.3%
Curaçao [2]	2.7	-	-	0.0	2.7	99.8%	0.1	0.0	0.0	-	0.1	87.7%
Dominican Republic	7.4	-	0.5	0.1	8.0	92.1%	0.5	5.0	2.1	-	7.6	6.1%
Ecuador	13.3	3.4	0.7	0.2	17.6	95.0%	14.8	8.6	1.9	-	25.3	58.4%
El Salvador	2.1	-	0.3	0.5	2.8	74.0%	0.3	1.9	0.9	0.0	3.1	10.7%
Guatemala	3.2	0.0	0.5	5.1	8.7	36.7%	0.9	3.5	1.4	0.1	6.0	15.3%
Haiti	0.9	-	0.2	0.0	1.1	81.5%	0.9	2.0	1.4	-	4.3	20.9%
Honduras	2.2	-	0.1	0.0	2.4	92.6%	0.4	3.3	0.8	-	4.5	9.3%
Jamaica	7.2	-	0.3	0.0	7.5	96.3%	0.3	0.7	0.6	-	1.6	16.0%
Nicaragua	1.8	-	0.1	0.1	2.0	93.4%	0.3	4.3	0.7	-	5.3	6.3%
Panama	2.6	-	0.1	0.0	2.7	93.7%	0.1	2.7	0.4	-	3.2	4.0%
Paraguay	1.9	-	0.2	327.1	329.3	0.6%	0.9	29.9	0.8	7.5	39.1	2.3%
Peru	19.1	0.5	1.2	19.9	40.8	48.1%	3.4	10.6	4.6	0.3	18.9	18.0%
Suriname [1]	..	0.0	0.1	0.5	..	..	0.0	0.7	0.1	0.0	0.8	3.5%
Trinidad and Tobago	7.9	0.6	4.2	0.0	12.8	66.6%	4.7	0.1	0.5	0.0	5.3	87.8%
Uruguay	3.6	0.0	0.2	0.1	3.9	93.0%	0.1	17.8	0.9	-	18.8	0.7%
Venezuela	93.6	2.1	6.0	34.0	135.7	70.5%	24.7	24.0	5.1	0.6	54.4	45.5%
Other non-OECD Americas	12.4	0.0	0.9	5.2	18.5	66.9%	0.1	2.7	2.7	0.1	5.6	2.7%
Non-OECD Americas	**553.2**	**24.0**	**51.5**	**2 315.2**	**2 943.9**	**19.6%**	**142.8**	**595.8**	**100.1**	**69.9**	**908.6**	**15.7%**
Bahrain	10.7	0.0	1.3	0.0	12.0	89.3%	1.9	0.0	0.3	0.0	2.3	83.0%
Islamic Republic of Iran	171.2	23.4	9.2	1.3	205.0	94.9%	111.3	21.0	15.8	0.0	148.1	75.2%
Iraq	52.4	9.4	7.2	0.3	69.3	89.2%	45.0	3.9	5.3	0.0	54.3	82.9%
Jordan	9.3	-	0.9	0.0	10.2	91.1%	0.1	0.4	1.1	-	1.5	5.6%
Kuwait	27.8	2.8	1.8	0.1	32.6	94.1%	15.1	0.1	1.1	0.0	16.3	92.8%
Lebanon	5.5	-	0.5	0.0	6.0	92.3%	0.1	0.2	1.0	-	1.2	5.9%
Oman	10.2	5.3	0.0	0.0	15.6	99.5%	24.6	0.4	0.5	-	25.4	96.6%
Qatar	12.4	2.6	2.0	0.0	17.1	87.9%	13.9	0.1	0.4	0.0	14.4	96.9%
Saudi Arabia	151.1	8.1	12.9	0.8	172.8	92.1%	57.3	2.2	6.4	0.1	66.0	86.8%
Syrian Arab Republic	27.2	3.7	1.7	0.4	33.0	93.8%	16.8	3.0	2.8	-	22.7	74.2%
United Arab Emirates	51.9	2.5	2.4	0.1	56.9	95.7%	21.1	0.3	0.7	-	22.1	95.2%
Yemen	6.3	0.0	0.5	0.0	6.9	91.8%	0.8	2.7	1.9	-	5.3	14.5%
Middle East	**535.9**	**57.9**	**40.4**	**3.0**	**637.3**	**93.2%**	**308.0**	**34.3**	**37.2**	**0.1**	**379.6**	**81.1%**

1. Please refer to the chapter *Country notes* in Part I.
2. Please refer to the chapter *Geographical Coverage* in Part I.

1990 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

N_2O						HFCs	PFCs	SF_6	Total			
Energy	Industrial processes	Agriculture	Other	Total	Share of energy	Industrial processes			Total	Share of energy	GHG / GDP PPP [3]	
0.5	-	12.1	1.2	13.8	3.4%	-	-	-	129.5	12.1%	0.97	Bangladesh
0.0	-	0.1	0.0	0.1	4.8%	-	-	-	7.9	88.8%	0.41	Brunei Darussalam
..	-	2.1	0.3	..	..	-	-	-	..	..	..	Cambodia
9.9	1.1	119.9	19.2	150.1	6.6%	2.2	2.4	5.5	1 058.6	19.1%	6.61	DPR of Korea
0.4	0.4	2.5	0.8	4.0	9.1%	0.0	0.2	1.9	563.2	94.6%	0.37	India
0.6	-	5.5	0.9	6.9	8.0%	0.0	-	-	181.6	83.5%	0.22	Indonesia
2.9	0.1	53.8	16.4	73.2	3.9%	-	0.8	1.0	685.8	21.2%	3.68	Malaysia
0.2	-	7.2	1.4	8.9	2.8%	0.0	0.0	0.6	83.2	38.7%	7.59	Mongolia
0.1	-	3.2	0.3	3.6	2.7%	-	-	-	22.5	20.7%	0.55	Myanmar
0.4	-	8.5	1.6	10.5	4.1%	-	-	-	129.7	5.8%	5.89	Nepal
0.3	-	2.7	0.4	3.4	8.4%	-	-	-	85.9	67.4%	0.27	Pakistan
1.3	0.6	13.4	2.1	17.3	7.4%	-	-	1.0	167.6	31.2%	0.69	Philippines
0.6	-	7.0	1.3	8.9	7.0%	-	-	0.2	102.4	35.1%	1.00	Singapore
0.1	-	0.0	0.7	0.8	8.3%	0.0	0.2	0.3	9.0	45.5%	0.15	Sri Lanka
0.2	-	1.4	0.3	1.9	11.6%	-	-	-	130.7	86.0%	0.43	Chinese Taipei
1.4	-	13.6	1.6	16.6	8.5%	-	-	1.4	245.0	40.0%	0.66	Thailand
0.7	-	9.1	1.1	10.9	6.4%	-	-	-	115.9	20.5%	1.19	Viet Nam
0.2	-	6.6	4.6	11.5	1.4%	-	-	-	180.3	6.5%	2.77	Other non-OECD Asia
19.7	**2.3**	**268.7**	**54.3**	**344.9**	**5.7%**	**2.2**	**3.5**	**11.8**	**3 929.8**	**38.0%**	**0.88**	**Asia (excl. China)**
23.6	16.8	248.1	32.0	320.5	7.4%	7.6	5.4	1.6	3 986.3	63.0%	2.37	People's Rep. of China
0.1	-	0.0	0.3	0.4	34.5%	-	-	0.4	37.9	91.2%	0.25	Hong Kong, China
23.7	**16.8**	**248.2**	**32.3**	**320.9**	**7.4%**	**7.6**	**5.4**	**2.0**	**4 024.2**	**63.3%**	**2.20**	**China**
0.9	0.1	37.5	5.2	43.7	2.0%	0.3	2.3	0.1	528.5	27.1%	1.75	Argentina
0.1	-	19.3	8.4	27.7	0.3%	-	-	-	584.2	2.2%	23.46	Bolivia
4.1	1.1	116.0	31.8	153.1	2.7%	2.4	5.8	1.4	1 989.0	11.6%	1.31	Brazil
0.6	0.2	15.4	0.9	17.1	3.4%	-	0.0	0.0	140.8	42.3%	0.56	Colombia
0.0	0.1	1.6	0.1	1.8	1.7%	-	-	-	12.9	21.0%	0.56	Costa Rica
0.5	0.7	6.7	0.5	8.4	6.1%	-	-	-	60.3	58.4%	0.43	Cuba
0.0	-	0.0	0.0	0.0	24.2%	-	-	-	2.8	98.5%	1.81	Curaçao [2]
0.1	-	1.6	0.2	1.9	3.8%	-	-	-	17.5	45.4%	0.47	Dominican Republic
0.1	-	2.6	0.3	3.0	4.4%	-	-	-	45.9	68.9%	0.61	Ecuador
0.1	-	1.1	0.1	1.2	5.6%	-	-	-	7.2	34.8%	0.31	El Salvador
0.2	-	1.9	0.3	2.3	7.4%	0.0	-	-	17.1	25.2%	0.37	Guatemala
0.1	-	0.7	0.1	0.9	6.2%	-	-	-	6.3	29.8%	0.45	Haiti
0.1	-	1.7	0.1	1.9	4.4%	-	-	-	8.7	30.8%	0.56	Honduras
0.1	-	0.3	0.1	0.5	12.2%	-	-	-	9.6	78.9%	0.55	Jamaica
0.1	-	2.5	0.1	2.7	2.4%	-	-	-	10.0	22.4%	0.81	Nicaragua
0.0	-	0.9	0.1	1.0	3.4%	-	-	-	6.9	39.3%	0.37	Panama
0.1	-	15.7	5.0	20.8	0.6%	-	-	-	389.2	0.8%	15.62	Paraguay
0.2	0.2	4.5	0.7	5.6	4.0%	-	-	-	65.2	35.6%	0.58	Peru
0.0	-	0.1	0.1	0.2	12.0%	-	-	-	..	..	..	Suriname [1]
0.0	-	5.6	0.1	5.8	0.7%	-	-	-	23.9	55.4%	1.70	Trinidad and Tobago
0.3	0.0	9.1	1.2	10.7	3.1%	1.3	2.3	0.3	37.3	11.0%	1.24	Uruguay
0.1	-	2.4	0.2	2.7	2.8%	-	0.0	0.0	192.8	62.5%	0.69	Venezuela
0.1	-	2.4	0.2	2.7	2.8%	-	0.0	0.0	26.8	47.0%	0.89	Other non-OECD Americas
7.8	**2.3**	**249.9**	**55.7**	**315.7**	**2.5%**	**4.0**	**10.4**	**1.9**	**4 184.5**	**17.4%**	**1.39**	**Non-OECD Americas**
0.0	-	0.0	0.1	0.1	14.3%	-	3.0	-	17.4	72.6%	1.01	Bahrain
1.9	0.3	14.0	4.4	20.6	9.0%	-	0.2	2.3	376.2	81.8%	0.67	Islamic Republic of Iran
0.2	-	2.9	1.4	4.6	4.9%	-	-	0.2	128.4	83.4%	0.65	Iraq
0.0	-	0.3	0.3	0.6	5.0%	-	-	-	12.3	76.4%	0.56	Jordan
0.1	-	0.1	0.3	0.4	17.5%	0.0	-	0.3	49.5	92.6%	0.64	Kuwait
0.0	-	0.2	0.2	0.5	5.9%	-	-	-	7.7	73.1%	0.37	Lebanon
0.0	-	0.2	0.2	0.4	10.6%	-	-	-	41.4	96.8%	0.67	Oman
0.0	-	0.0	0.1	0.2	17.7%	-	-	-	31.6	91.6%	0.95	Qatar
0.5	-	3.1	2.4	6.0	9.0%	0.0	-	2.3	247.2	87.8%	0.44	Saudi Arabia
0.2	0.2	3.1	0.9	4.4	4.3%	-	-	-	60.0	79.9%	1.12	Syrian Arab Republic
0.1	-	0.2	0.5	0.8	14.2%	-	0.4	0.4	80.7	93.7%	0.40	United Arab Emirates
0.0	-	1.7	0.7	2.5	1.2%	-	-	-	14.7	48.5%	0.38	Yemen
3.2	**0.5**	**25.9**	**11.4**	**40.9**	**7.7%**	**0.0**	**3.7**	**5.5**	**1 067.0**	**84.8%**	**0.58**	**Middle East**

1. Please refer to the chapter *Country notes* in Part I.
2. Please refer to the chapter *Geographical Coverage* in Part I.
3. GHG / GDP PPP ratio is expressed in kg of CO_2-equivalent per 2010 USD.

2000 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

	CO_2						CH_4					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
World [1]	**23 144.3**	**454.2**	**1 623.1**	**5 942.2**	**31 163.8**	**75.7%**	**2 401.7**	**3 770.9**	**1 484.4**	**95.6**	**7 752.6**	**31.0%**
Annex I Parties	*13 548.3*	*132.4*	*712.2*	*988.0*	*15 380.9*	*88.9%*	*768.1*	*835.0*	*597.6*	*31.3*	*2 232.0*	*34.4%*
Annex II Parties	*10 825.1*	*58.1*	*519.3*	*690.6*	*12 093.1*	*90.0%*	*460.0*	*655.6*	*436.2*	*10.8*	*1 562.6*	*29.4%*
North America	*6 158.8*	*29.6*	*210.5*	*209.4*	*6 608.2*	*93.6%*	*308.6*	*250.9*	*192.1*	*6.9*	*758.6*	*40.7%*
Europe	*3 161.3*	*22.4*	*205.5*	*66.3*	*3 455.6*	*92.1%*	*113.2*	*230.9*	*210.2*	*0.7*	*555.0*	*20.4%*
Asia Oceania	*1 504.9*	*6.1*	*103.3*	*415.0*	*2 029.3*	*74.5%*	*38.1*	*173.7*	*33.9*	*3.2*	*248.9*	*15.3%*
Annex I EIT	*2 513.3*	*71.8*	*169.9*	*295.1*	*3 050.1*	*84.8%*	*300.2*	*152.3*	*117.4*	*20.4*	*590.3*	*50.9%*
Non-Annex I Parties	*8 741.9*	*321.8*	*910.9*	*4 954.2*	*14 928.7*	*60.7%*	*1 622.6*	*2 935.8*	*886.8*	*64.3*	*5 509.6*	*29.5%*
Annex B Kyoto Parties	*4 655.6*	*78.3*	*305.5*	*494.6*	*5 534.0*	*85.5%*	*260.0*	*432.8*	*285.9*	*3.8*	*982.5*	*26.5%*
Intl. aviation bunkers	**355.8**	**-**	**-**	**-**	**355.8**	**100.0%**	**0.1**	**-**	**-**	**-**	**0.1**	**100.0%**
Intl. marine bunkers	**498.4**	**-**	**-**	**-**	**498.4**	**100.0%**	**10.9**	**-**	**-**	**-**	**10.9**	**100.0%**
Non-OECD Total	**9 832.3**	**371.9**	**974.6**	**5 166.9**	**16 345.7**	**62.4%**	**1 827.4**	**2 968.4**	**926.8**	**82.7**	**5 805.3**	**31.5%**
OECD Total	**12 457.9**	**82.3**	**648.5**	**775.3**	**13 963.9**	**89.8%**	**563.3**	**802.4**	**557.6**	**12.9**	**1 936.3**	**29.1%**
Canada	516.2	6.2	30.1	40.9	593.3	88.0%	68.6	27.8	28.4	2.9	127.7	53.7%
Chile	48.6	0.9	3.9	0.4	53.9	91.9%	4.4	8.1	8.2	0.1	20.7	21.0%
Mexico	359.6	6.6	25.0	72.0	463.2	79.1%	37.0	63.9	23.0	1.8	125.6	29.4%
United States	5 642.6	23.4	180.4	168.5	6 014.9	94.2%	240.0	223.1	163.7	4.0	630.9	38.0%
OECD Americas	**6 567.0**	**37.1**	**239.4**	**281.8**	**7 125.3**	**92.7%**	**350.0**	**322.9**	**223.3**	**8.8**	**905.0**	**38.7%**
Australia	334.7	3.5	12.9	409.2	760.3	44.5%	30.9	107.8	15.3	2.9	156.9	19.7%
Israel [2]	54.8	-	4.2	0.3	59.4	92.3%	0.2	1.0	3.8	0.0	5.0	3.4%
Japan	1 141.2	2.5	87.2	4.3	1 235.3	92.6%	6.0	37.9	14.1	0.1	58.1	10.3%
Korea	431.7	4.5	41.6	3.1	480.9	90.7%	5.6	15.7	15.8	0.1	37.3	15.0%
New Zealand	29.0	0.1	3.2	1.4	33.7	86.2%	1.2	28.0	4.5	0.1	33.9	3.7%
OECD Asia Oceania	**1 991.5**	**10.6**	**149.2**	**418.4**	**2 569.6**	**77.9%**	**43.9**	**190.5**	**53.5**	**3.3**	**291.2**	**15.1%**
Austria	61.9	0.4	4.6	1.2	68.1	91.4%	2.1	5.3	3.9	0.0	11.3	18.4%
Belgium	113.7	0.0	10.1	1.0	124.8	91.1%	4.6	7.8	4.9	0.0	17.3	26.4%
Czech Republic	121.3	2.3	5.9	1.4	131.0	94.4%	4.4	5.1	4.2	0.0	13.7	32.1%
Denmark	50.8	0.5	1.7	1.2	54.1	94.7%	1.2	6.4	1.7	-	9.3	13.0%
Estonia	14.5	0.5	0.8	0.2	16.0	94.1%	0.3	0.7	1.6	0.0	2.7	12.3%
Finland	54.6	0.4	2.4	0.8	58.1	94.6%	1.2	2.5	9.5	0.0	13.2	9.3%
France	364.5	1.4	27.6	8.5	402.1	91.0%	7.9	45.6	18.9	0.1	72.6	10.9%
Germany	812.4	6.4	40.1	13.4	872.3	93.9%	24.4	37.8	36.1	0.1	98.4	24.8%
Greece	88.0	0.1	7.9	2.2	98.2	89.7%	14.7	4.5	4.2	0.0	23.3	62.8%
Hungary	53.3	0.5	3.9	0.8	58.4	92.0%	2.3	3.5	3.9	0.0	9.7	23.4%
Iceland	2.2	-	0.7	0.0	2.9	75.4%	0.0	0.3	0.2	0.0	0.5	1.3%
Ireland	40.8	0.1	2.6	0.7	44.2	92.5%	2.0	14.1	1.8	0.0	17.9	11.0%
Italy	420.3	4.0	28.6	7.9	460.8	92.1%	7.0	22.0	25.5	0.1	54.4	12.8%
Latvia	6.8	0.0	0.4	0.4	7.6	89.7%	0.5	1.0	0.6	0.0	2.1	24.3%
Luxembourg	8.1	-	0.7	0.1	8.8	91.5%	0.1	0.4	0.1	-	0.6	11.4%
Netherlands	161.5	0.6	14.2	1.1	177.4	91.4%	6.2	12.1	11.1	0.1	29.6	20.9%
Norway	31.9	1.9	8.1	0.9	42.9	78.8%	14.1	2.6	3.0	0.1	19.8	71.3%
Poland	289.7	5.3	16.0	3.1	314.0	93.9%	38.5	17.5	13.8	0.0	69.9	55.1%
Portugal	57.8	0.2	5.7	3.7	67.5	86.0%	0.7	5.0	7.2	0.0	12.9	5.3%
Slovak Republic	36.9	1.0	4.2	0.1	42.2	89.7%	1.2	2.1	2.6	0.0	5.9	19.6%
Slovenia	14.1	0.0	1.0	0.7	15.7	89.4%	1.2	1.3	1.0	0.0	3.6	34.3%
Spain	278.5	2.3	24.8	14.4	320.1	87.8%	3.7	24.3	13.7	0.1	41.9	8.9%
Sweden	52.0	1.4	3.8	1.4	58.5	91.2%	0.9	3.9	8.9	0.0	13.7	6.7%
Switzerland	42.0	0.0	2.4	0.5	44.9	93.5%	0.5	3.8	1.1	0.0	5.4	8.8%
Turkey	201.5	2.5	22.3	2.2	228.5	89.3%	7.8	26.8	42.9	0.0	77.5	10.1%
United Kingdom	520.4	2.9	19.5	7.2	550.0	95.1%	22.0	32.5	58.3	0.1	112.9	19.5%
OECD Europe	**3 899.4**	**34.6**	**260.0**	**75.1**	**4 269.0**	**92.2%**	**169.5**	**289.0**	**280.8**	**0.7**	**740.1**	**22.9%**
IEA/Accession/Association	*16 836.4*	*129.3*	*1 146.7*	*921.3*	*19 033.7*	*89.1%*	*974.0*	*1 496.6*	*804.8*	*18.3*	*3 293.7*	*29.6%*
European Union - 28	*3 785.8*	*32.1*	*243.9*	*75.2*	*4 137.0*	*92.3%*	*156.8*	*272.3*	*247.5*	*0.7*	*677.3*	*23.2%*
G20	*19 107.1*	*187.7*	*1 283.2*	*1 661.6*	*22 239.6*	*86.8%*	*1 296.7*	*1 845.6*	*934.4*	*57.0*	*4 133.7*	*31.4%*
Africa	*658.1*	*129.0*	*56.4*	*3 559.9*	*4 403.4*	*17.9%*	*429.9*	*589.7*	*135.0*	*14.3*	*1 168.9*	*36.8%*
Americas	*7 347.8*	*60.5*	*310.8*	*1 053.0*	*8 772.1*	*84.5%*	*487.2*	*895.3*	*346.9*	*35.8*	*1 765.2*	*27.6%*
Asia	*8 163.4*	*166.4*	*861.4*	*552.1*	*9 743.3*	*85.5%*	*1 024.4*	*1 756.5*	*648.3*	*21.3*	*3 450.4*	*29.7%*
Europe	*5 757.1*	*94.8*	*378.4*	*366.6*	*6 591.8*	*88.8%*	*417.0*	*393.5*	*334.4*	*21.2*	*1 166.2*	*35.8%*
Oceania	*363.7*	*3.6*	*16.1*	*410.6*	*794.0*	*46.3%*	*32.2*	*135.9*	*19.8*	*3.1*	*190.9*	*16.9%*

1. Total World includes Non-OECD total, OECD total as well as international bunkers. 2.Please refer to the chapter *Geographical Coverage* in Part I.
Sources: IEA, CO_2 emissions from fuel combustion. EDGAR 4.3.2 and 4.2 FT2010 databases for other emissions.

2000 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

N_2O						HFCs	PFCs	SF_6	Total			
Energy	Industrial processes	Agriculture	Other	Total	Share of energy	Industrial processes			Total	Share of energy	GHG / GDP PPP [3]	
237.8	**194.5**	**1 821.0**	**323.1**	**2 576.5**	**9.2%**	**341.3**	**125.6**	**111.7**	**42 071.5**	**62.4%**	**0.69**	**World [1]**
138.8	*99.6*	*530.6*	*119.9*	*888.9*	*15.6%*	*259.9*	*93.2*	*80.7*	*18 935.5*	*77.0%*	*0.52*	*Annex I Parties*
122.0	*68.0*	*416.9*	*83.9*	*690.8*	*17.7%*	*236.0*	*60.9*	*70.8*	*14 714.1*	*77.9%*	*0.46*	*Annex II Parties*
86.7	*21.6*	*187.4*	*45.2*	*340.9*	*25.4%*	*137.3*	*28.2*	*48.5*	*7 921.8*	*83.1%*	*0.57*	*North America*
24.1	*41.6*	*151.7*	*26.9*	*244.4*	*9.9%*	*60.5*	*17.9*	*14.9*	*4 348.3*	*76.4%*	*0.32*	*Europe*
11.2	*4.7*	*77.8*	*11.8*	*105.5*	*10.6%*	*38.2*	*14.8*	*7.3*	*2 444.0*	*63.8%*	*0.51*	*Asia Oceania*
14.7	*29.1*	*92.6*	*30.6*	*167.0*	*8.8%*	*22.6*	*31.7*	*9.0*	*3 870.7*	*74.9%*	*1.06*	*Annex I EIT*
92.2	*94.9*	*1 290.4*	*184.4*	*1 661.9*	*5.5%*	*81.5*	*32.4*	*31.0*	*22 245.2*	*48.5%*	*0.91*	*Non-Annex I Parties*
36.5	*61.6*	*277.9*	*40.2*	*416.2*	*8.8%*	*66.4*	*22.0*	*15.7*	*7 036.9*	*71.5%*	*0.44*	*Annex B Kyoto Parties*
3.0	**-**	**-**	**2.2**	**5.2**	**57.3%**	**-**	**-**	**-**	**361.1**	**99.4%**	**..**	**Intl. aviation bunkers**
3.8	**-**	**-**	**16.6**	**20.5**	**18.7%**	**-**	**-**	**-**	**529.8**	**96.9%**	**..**	**Intl. marine bunkers**
94.8	**67.4**	**1 313.8**	**200.4**	**1 676.4**	**5.7%**	**86.5**	**59.0**	**34.2**	**24 007.1**	**50.5%**	**0.99**	**Non-OECD Total**
136.2	**127.1**	**507.2**	**103.9**	**874.4**	**15.6%**	**254.8**	**66.6**	**77.5**	**17 173.6**	**77.1%**	**0.47**	**OECD Total**
7.2	1.3	21.9	5.8	36.3	20.0%	7.0	8.3	4.7	777.4	77.0%	0.69	Canada
0.4	0.7	5.0	0.7	6.8	6.0%	-	0.0	0.0	81.5	66.7%	0.39	Chile
2.7	41.0	32.2	5.7	81.5	3.3%	4.2	0.9	0.8	676.1	60.0%	0.47	Mexico
79.4	20.3	165.5	39.4	304.6	26.1%	130.2	19.9	43.8	7 144.4	83.8%	0.56	United States
89.8	**63.3**	**224.6**	**51.6**	**429.2**	**20.9%**	**141.4**	**29.0**	**49.3**	**8 679.3**	**81.2%**	**0.56**	**OECD Americas**
3.1	1.7	59.0	4.1	67.9	4.6%	2.9	1.4	0.4	989.8	37.6%	1.43	Australia
0.3	0.2	0.8	1.0	2.2	11.3%	0.8	0.1	1.0	68.5	80.7%	0.43	Israel [2]
7.7	3.1	8.4	7.3	26.5	29.2%	35.0	12.9	6.8	1 374.6	84.2%	0.34	Japan
3.0	6.5	4.7	3.4	17.6	17.0%	10.6	2.7	3.9	553.0	80.4%	0.57	Korea
0.4	-	10.4	0.3	11.1	3.2%	0.4	0.4	0.1	79.6	38.5%	0.77	New Zealand
14.4	**11.5**	**83.3**	**16.1**	**125.3**	**11.5%**	**49.6**	**17.6**	**12.2**	**3 065.5**	**67.2%**	**0.52**	**OECD Asia Oceania**
0.5	0.8	2.5	0.7	4.5	12.2%	1.2	0.2	0.3	85.5	75.9%	0.28	Austria
0.7	4.6	3.0	0.8	9.1	7.5%	1.1	0.0	0.1	152.5	78.0%	0.41	Belgium
1.5	1.2	3.1	0.9	6.6	22.6%	0.5	0.0	0.0	151.8	85.4%	0.72	Czech Republic
0.5	1.0	4.7	0.5	6.7	7.3%	0.7	0.0	0.1	70.9	74.6%	0.32	Denmark
0.1	-	0.5	0.1	0.7	14.9%	0.0	0.0	0.0	19.4	79.7%	0.93	Estonia
1.5	1.2	3.1	0.6	6.3	23.1%	0.4	0.1	0.1	78.2	73.7%	0.44	Finland
3.4	6.4	32.4	3.3	45.5	7.5%	11.0	1.6	2.3	535.1	70.5%	0.26	France
5.2	4.4	29.4	5.3	44.3	11.8%	13.2	2.3	5.3	1 035.9	81.9%	0.35	Germany
0.8	0.7	3.6	0.9	6.0	12.8%	2.9	0.4	0.1	131.0	79.0%	0.50	Greece
0.3	1.7	3.9	0.5	6.4	5.2%	0.5	0.4	0.0	75.4	74.7%	0.43	Hungary
0.0	-	0.3	0.0	0.4	4.8%	0.0	0.1	0.0	3.9	56.2%	0.41	Iceland
0.3	0.7	6.7	0.3	8.0	3.8%	0.5	0.5	0.1	71.2	60.6%	0.48	Ireland
2.6	7.8	13.7	4.1	28.3	9.3%	8.3	0.8	1.2	553.8	78.3%	0.27	Italy
0.1	-	0.9	0.1	1.1	10.6%	0.2	0.0	-	11.1	67.5%	0.43	Latvia
0.1	-	0.1	0.1	0.3	28.4%	0.1	0.0	-	9.7	84.4%	0.29	Luxembourg
0.8	4.9	6.0	1.2	12.9	6.0%	7.6	1.3	0.3	229.0	73.8%	0.35	Netherlands
0.3	1.7	1.8	0.4	4.2	7.2%	0.2	5.4	0.9	73.4	65.6%	0.30	Norway
3.4	4.2	16.4	2.0	26.0	13.0%	0.8	0.6	0.2	411.4	81.9%	0.75	Poland
0.7	0.3	2.7	0.7	4.4	15.3%	0.4	0.0	0.1	85.4	69.6%	0.32	Portugal
0.3	1.0	1.2	0.3	2.8	11.3%	0.1	0.1	-	51.1	76.9%	0.61	Slovak Republic
0.1	-	0.8	0.2	1.1	12.1%	0.2	0.2	0.0	20.8	74.3%	0.47	Slovenia
2.4	2.4	17.2	3.2	25.2	9.6%	3.9	2.8	2.3	396.1	72.4%	0.33	Spain
1.1	0.7	3.6	0.7	6.1	17.7%	0.6	0.8	0.2	80.1	69.2%	0.25	Sweden
0.5	0.0	1.4	0.4	2.3	19.5%	1.0	0.1	0.3	54.0	79.5%	0.16	Switzerland
2.0	2.5	20.9	5.4	30.7	6.4%	1.1	0.6	0.9	339.4	63.0%	0.40	Turkey
2.9	3.8	19.5	3.9	30.0	9.5%	7.4	1.3	1.1	702.7	78.0%	0.37	United Kingdom
32.0	**52.3**	**199.4**	**36.2**	**319.9**	**10.0%**	**63.8**	**19.9**	**16.1**	**5 428.7**	**76.2%**	**0.35**	**OECD Europe**
167.6	*154.0*	*833.5*	*152.0*	*1 307.2*	*12.8%*	*303.8*	*80.7*	*89.0*	*24 108.2*	*75.1%*	*..*	*IEA/Accession/Association*
30.4	*53.7*	*186.5*	*32.0*	*302.6*	*10.0%*	*62.2*	*14.5*	*13.9*	*5 207.4*	*76.9%*	*0.36*	*European Union - 28*
180.6	*170.8*	*1 008.9*	*196.5*	*1 556.8*	*11.6%*	*323.6*	*110.4*	*99.0*	*28 463.1*	*73.0%*	*0.57*	*G20*
15.6	*6.0*	*336.3*	*29.5*	*387.4*	*4.0%*	*0.6*	*2.9*	*2.7*	*5 965.8*	*20.7%*	*2.21*	*Africa*
99.3	*66.0*	*460.7*	*82.4*	*708.5*	*14.0%*	*142.7*	*34.6*	*50.5*	*11 473.6*	*69.7%*	*0.59*	*Americas*
73.2	*49.6*	*705.6*	*129.7*	*958.1*	*7.6%*	*109.5*	*35.9*	*34.2*	*14 331.4*	*65.8%*	*0.69*	*Asia*
39.4	*71.2*	*249.1*	*58.3*	*418.0*	*9.4%*	*85.2*	*50.3*	*23.9*	*8 335.3*	*75.6%*	*0.48*	*Europe*
3.5	*1.7*	*69.4*	*4.4*	*79.0*	*4.4%*	*3.3*	*1.8*	*0.5*	*1 069.4*	*37.7%*	*1.34*	*Oceania*

1. GHG / GDP PPP ratio is expressed in kg of CO_2-equivalent per 2010 USD.
2. Please refer to the chapter *Geographical Coverage* in Part I.

2000 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

	CO_2						CH_4					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
Non-OECD Total	**9 832.3**	**371.9**	**974.6**	**5 166.9**	**16 345.7**	**62.4%**	**1 827.4**	**2 968.4**	**926.8**	**82.7**	**5 805.3**	**31.5%**
Albania	3.1	0.0	0.1	0.2	3.4	91.8%	0.1	2.1	0.9	0.0	3.2	4.4%
Armenia	3.4	-	0.1	0.2	3.8	90.9%	0.3	1.1	0.2	0.0	1.6	19.5%
Azerbaijan	27.3	0.3	0.2	0.5	28.3	97.6%	3.6	4.8	1.5	0.0	9.9	36.0%
Belarus	52.1	0.2	3.5	2.5	58.2	89.8%	0.8	10.0	3.8	0.0	14.6	5.5%
Bosnia and Herzegovina	13.7	-	0.5	2.7	16.9	81.0%	0.9	1.4	0.3	0.0	2.7	35.2%
Bulgaria	42.2	1.0	4.4	0.4	47.9	90.1%	1.2	2.8	6.1	0.0	10.1	12.1%
Croatia	16.8	0.0	2.4	1.6	20.8	80.7%	1.1	1.4	1.0	0.0	3.6	32.0%
Cyprus [2]	6.3	-	0.7	0.0	7.0	89.7%	0.0	0.3	1.1	-	1.4	1.7%
FYR of Macedonia	8.5	0.0	0.5	1.0	9.9	85.8%	0.3	0.9	0.5	0.0	1.8	18.6%
Georgia	4.6	0.0	0.5	0.2	5.4	86.4%	0.5	2.6	0.4	0.0	3.5	13.2%
Gibraltar	0.3	-	0.0	-	0.3	99.8%	0.0	-	0.0	-	0.0	5.5%
Kazakhstan	112.0	8.7	5.0	3.0	128.7	93.8%	24.4	11.3	4.2	0.0	39.9	61.1%
Kosovo [1]	5.1	..	..	..	..	..	..	..	..	..	..	..
Kyrgyzstan	4.5	0.0	0.2	0.4	5.1	87.8%	0.1	3.0	1.3	-	4.4	2.8%
Lithuania	10.2	0.0	1.3	0.3	11.9	85.9%	0.7	2.3	1.5	0.0	4.4	16.1%
Malta	2.1	-	0.0	0.0	2.2	98.5%	0.0	0.1	0.1	-	0.1	2.5%
Republic of Moldova	6.5	-	0.1	0.1	6.8	96.2%	0.4	1.3	0.4	-	2.1	18.2%
Montenegro [1]	..	..	..	..	..	..	..	..	..	..	..	..
Romania	86.2	1.0	8.8	1.4	97.3	89.6%	6.7	9.8	4.2	0.0	20.7	32.2%
Russian Federation	1 474.2	28.0	88.5	279.2	1 869.9	80.3%	208.8	69.9	62.3	20.2	361.2	57.8%
Serbia [1]	43.0	0.6	1.8	1.2	46.5	93.7%	1.8	4.5	4.6	0.0	10.9	16.5%
Tajikistan	2.2	-	0.5	0.2	2.8	76.9%	0.1	2.5	0.7	-	3.3	3.7%
Turkmenistan	36.7	2.1	0.4	0.4	39.5	98.1%	19.4	5.2	0.7	-	25.3	76.7%
Ukraine	295.0	31.9	29.0	3.2	359.1	91.0%	32.5	24.8	10.7	0.1	68.1	47.7%
Uzbekistan	114.0	2.4	3.8	1.1	121.3	95.9%	24.1	13.1	3.1	0.0	40.3	59.8%
Non-OECD Europe and Eurasia	**2 370.1**	**76.2**	**152.2**	**299.7**	**2 898.3**	**84.4%**	**328.0**	**175.3**	**109.7**	**20.5**	**633.4**	**51.8%**
Algeria	61.5	17.5	5.1	2.4	86.5	91.3%	68.3	5.2	6.3	0.0	79.8	85.6%
Angola	4.6	11.8	0.1	553.1	569.7	2.9%	29.6	46.3	2.5	0.9	79.3	37.3%
Benin	1.4	-	0.1	23.9	25.4	5.6%	0.8	3.4	1.1	-	5.3	14.6%
Botswana	4.0	-	0.1	29.4	33.6	12.0%	0.5	5.5	0.4	0.0	6.4	7.7%
Cameroon	2.8	6.4	0.5	131.4	141.1	6.5%	15.2	14.9	2.7	1.8	34.7	43.9%
Congo	0.5	4.0	0.0	22.0	26.5	17.0%	9.4	1.8	0.6	0.1	11.8	79.6%
Côte d'Ivoire	6.3	0.2	0.3	55.5	62.3	10.4%	3.4	5.9	2.7	0.3	12.3	27.5%
Dem. Rep. of the Congo	0.9	0.8	0.1	921.9	923.7	0.2%	6.9	67.9	8.0	6.0	88.9	7.8%
Egypt	99.7	4.1	17.1	2.1	123.1	84.4%	15.9	15.8	10.8	0.0	42.4	37.4%
Eritrea [1]	0.6	-	0.0	0.1	0.7	84.3%	0.3	2.6	0.5	-	3.4	8.9%
Ethiopia [1]	3.2	-	0.4	81.0	84.6	3.8%	9.3	36.4	8.9	0.7	55.3	16.8%
Gabon	1.5	5.0	0.1	3.3	9.9	65.4%	11.4	0.3	0.3	-	12.0	94.8%
Ghana	5.0	-	1.1	57.1	63.2	7.9%	2.5	6.4	3.1	0.3	12.4	20.5%
Kenya	7.8	-	0.7	12.4	20.9	37.2%	7.9	15.5	4.5	0.2	28.1	27.9%
Libya	36.8	9.0	3.8	0.2	49.7	92.1%	24.3	0.9	1.6	0.0	26.8	90.5%
Mauritius	2.4	0.0	0.0	0.0	2.4	99.4%	0.1	0.1	0.2	-	0.4	25.2%
Morocco	29.5	-	5.5	0.5	35.6	83.1%	0.2	6.4	5.6	-	12.2	2.0%
Mozambique	1.3	-	0.2	227.4	228.9	0.6%	2.2	19.5	3.0	0.1	24.8	9.0%
Namibia	1.9	-	0.0	24.8	26.7	7.1%	0.1	5.7	0.3	0.0	6.0	1.0%
Niger [1]	0.6	0.0	0.0	0.8	1.5	44.6%	1.0	9.5	1.6	-	12.1	8.6%
Nigeria	43.8	53.9	1.5	65.9	165.0	59.1%	143.5	34.5	18.3	0.3	196.5	73.0%
Senegal	3.5	-	0.4	1.7	5.6	62.9%	1.0	4.6	1.6	0.0	7.1	13.9%
South Africa	280.5	12.9	13.8	31.1	338.3	86.7%	33.5	25.1	13.5	0.2	72.3	46.3%
South Sudan [1]	..	..	..	..	..	..	..	..	..	..	..	..
Sudan [1]	5.5	0.3	0.1	268.8	274.6	2.1%	7.7	67.2	5.5	0.3	80.7	9.5%
United Rep. of Tanzania	2.6	-	0.4	130.2	133.1	2.0%	5.4	27.0	5.2	0.2	37.8	14.4%
Togo	0.9	-	0.3	11.3	12.6	7.6%	1.3	1.6	0.7	0.0	3.7	36.0%
Tunisia	17.6	0.5	2.8	0.4	21.3	85.2%	3.1	2.5	2.1	-	7.7	40.1%
Zambia	1.7	-	0.3	295.5	297.4	0.6%	3.0	25.1	1.8	0.5	30.4	10.0%
Zimbabwe	13.3	0.3	1.0	18.1	32.6	41.7%	2.4	9.4	2.1	0.0	13.9	17.4%
Other Africa	16.4	2.4	0.7	587.3	606.7	3.1%	19.6	122.5	19.8	2.4	164.3	12.0%
Africa	**658.1**	**129.0**	**56.4**	**3 559.9**	**4 403.4**	**17.9%**	**429.9**	**589.7**	**135.0**	**14.3**	**1 168.9**	**36.8%**

1. Please refer to the chapter *Country notes* in Part I.
2. Please refer to the chapter *Geographical Coverage* in Part I.

2000 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

N_2O						HFCs	PFCs	SF_6	Total			
Energy	Industrial processes	Agriculture	Other	Total	Share of energy	Industrial processes			Total	Share of energy	GHG / GDP PPP [3]	
94.8	**67.4**	**1 313.8**	**200.4**	**1 676.4**	**5.7%**	**86.5**	**59.0**	**34.2**	**24 007.1**	**50.5%**	**0.99**	**Non-OECD Total**
0.1	-	0.7	0.1	0.8	7.1%	0.0	-	-	7.4	44.2%	0.47	Albania
0.0	-	0.3	0.1	0.4	1.3%	0.0	-	-	5.9	63.8%	0.67	Armenia
0.1	-	1.5	0.3	1.8	4.0%	0.0	0.0	-	40.1	77.9%	1.14	Azerbaijan
0.4	0.3	7.8	0.5	9.0	4.6%	0.1	0.0	-	82.0	65.3%	1.15	Belarus
0.1	-	0.8	0.2	1.0	7.9%	0.1	0.4	-	21.1	69.9%	0.93	Bosnia and Herzegovina
0.3	0.6	2.1	0.4	3.4	8.2%	0.1	0.0	-	61.6	72.5%	0.85	Bulgaria
0.2	0.8	1.5	0.2	2.7	5.8%	0.0	0.1	-	27.2	66.5%	0.41	Croatia
0.0	-	0.2	0.1	0.3	8.1%	0.1	-	-	8.8	71.9%	0.42	Cyprus [2]
0.1	-	0.5	0.1	0.6	8.9%	0.1	-	-	12.3	72.2%	0.69	FYR of Macedonia
0.1	0.6	1.1	0.1	1.9	3.2%	0.0	-	-	10.7	48.1%	0.76	Georgia
0.0	-	-	0.0	0.0	31.1%	-	-	-	0.4	94.6%	0.47	Gibraltar
0.7	-	9.6	0.9	11.2	6.4%	0.1	-	-	179.9	81.0%	1.19	Kazakhstan
..	..	..	..	..	..	..	..	..	..	..	..	Kosovo [1]
0.0	-	1.1	0.1	1.3	1.3%	0.0	-	-	10.7	42.8%	1.08	Kyrgyzstan
0.1	1.3	1.9	0.2	3.5	2.9%	0.2	0.0	-	20.1	55.0%	0.49	Lithuania
0.0	-	0.0	0.0	0.1	11.7%	0.1	-	-	2.4	89.1%	0.27	Malta
0.0	-	0.6	0.1	0.7	5.2%	0.0	-	-	9.6	72.6%	1.15	Republic of Moldova
..	..	..	..	..	..	..	..	..	..	..	..	Montenegro [1]
0.6	3.1	5.8	1.0	10.4	5.3%	0.1	0.8	0.0	129.3	73.0%	0.59	Romania
6.3	10.8	35.2	22.4	74.7	8.4%	19.8	29.0	8.6	2 363.2	72.7%	1.29	Russian Federation
0.2	0.5	2.2	0.4	3.3	7.4%	1.9	0.4	-	63.1	72.4%	1.13	Serbia [1]
0.0	-	0.9	0.1	1.0	0.3%	0.0	0.9	-	8.1	28.5%	1.12	Tajikistan
0.1	0.5	2.0	0.2	2.7	2.1%	0.0	-	-	67.5	86.2%	2.86	Turkmenistan
1.1	4.1	11.5	1.9	18.6	5.7%	0.1	0.4	0.1	446.4	80.8%	1.93	Ukraine
0.5	0.1	7.2	0.6	8.4	5.8%	0.2	-	-	170.3	82.8%	2.85	Uzbekistan
10.8	**22.6**	**94.5**	**29.8**	**157.7**	**6.8%**	**22.9**	**32.1**	**8.8**	**3 753.2**	**74.2%**	**1.25**	**Non-OECD Europe and Eurasia**
0.2	0.6	2.7	0.8	4.3	4.9%	0.1	-	0.3	171.0	86.3%	0.55	Algeria
0.3	-	29.3	0.9	30.5	0.9%	0.0	-	-	679.5	6.8%	12.02	Angola
0.1	-	2.2	0.1	2.3	3.0%	-	-	-	33.1	6.9%	2.95	Benin
0.1	-	3.0	0.1	3.2	1.8%	-	-	-	43.2	10.6%	2.45	Botswana
0.3	-	9.0	1.5	10.7	2.6%	-	0.6	-	187.1	13.2%	4.99	Cameroon
0.0	-	1.3	0.1	1.5	2.7%	0.0	-	-	39.8	35.1%	2.81	Congo
0.2	-	3.9	0.5	4.6	4.0%	-	-	-	79.2	12.7%	1.64	Côte d'Ivoire
0.8	-	43.2	4.5	48.5	1.6%	-	-	-	1 061.1	0.9%	43.47	Dem. Rep. of the Congo
0.3	3.1	12.0	2.0	17.4	1.9%	0.1	1.6	1.1	185.7	64.6%	0.37	Egypt
0.0	-	1.2	0.0	1.2	1.8%	-	-	-	5.4	17.5%	0.96	Eritrea [1]
1.2	-	19.3	1.7	22.1	5.3%	0.0	-	-	162.0	8.4%	4.02	Ethiopia [1]
0.1	-	0.2	0.1	0.4	19.9%	0.0	-	-	22.3	80.5%	1.04	Gabon
0.3	-	3.8	0.5	4.7	6.2%	0.0	0.2	-	80.4	9.7%	1.92	Ghana
0.4	-	8.1	0.7	9.3	4.8%	-	0.0	-	58.3	27.5%	0.89	Kenya
0.2	-	0.7	0.4	1.2	13.0%	-	-	0.2	77.8	90.1%	0.68	Libya
0.0	-	0.1	0.0	0.2	10.3%	0.0	-	-	3.0	84.4%	0.24	Mauritius
0.3	-	4.4	0.7	5.4	5.1%	-	-	-	53.1	56.6%	0.41	Morocco
0.3	-	12.5	0.5	13.2	1.9%	0.0	0.0	-	267.0	1.4%	26.86	Mozambique
0.1	-	3.0	0.1	3.1	1.9%	-	-	-	35.9	5.6%	3.16	Namibia
0.2	-	4.1	0.2	4.5	3.5%	-	-	-	18.1	10.2%	2.15	Niger [1]
4.1	-	17.1	3.7	24.9	16.3%	0.1	-	0.2	386.7	63.4%	1.13	Nigeria
0.0	-	2.2	0.2	2.4	2.0%	-	-	-	15.2	30.1%	0.82	Senegal
2.3	1.4	14.6	2.9	21.3	11.0%	0.3	0.5	1.0	433.7	75.9%	1.01	South Africa
..	..	..	..	..	..	..	..	..	..	..	..	South Sudan [1]
0.4	-	35.0	0.9	36.2	1.0%	-	-	-	391.5	3.5%	5.15	Sudan [1]
0.6	-	14.7	1.0	16.2	3.6%	-	-	-	187.2	4.6%	3.88	United Rep. of Tanzania
0.1	-	1.1	0.1	1.2	4.7%	-	-	-	17.5	13.4%	2.81	Togo
0.2	0.4	1.5	0.3	2.4	8.2%	-	-	-	31.3	68.4%	0.43	Tunisia
0.2	0.4	19.3	0.6	20.6	1.1%	0.0	-	-	348.4	1.4%	16.06	Zambia
0.4	-	4.9	0.4	5.6	6.6%	-	-	-	52.1	31.4%	1.69	Zimbabwe
2.2	-	61.9	4.2	68.3	3.3%	0.0	-	-	839.4	4.8%	5.06	Other Africa
15.6	**6.0**	**336.3**	**29.5**	**387.4**	**4.0%**	**0.6**	**2.9**	**2.7**	**5 965.8**	**20.7%**	**2.21**	**Africa**

1. Please refer to the chapter *Country notes* in Part I.
2. Please refer to the chapter *Geographical Coverage* in Part I.
3. GHG / GDP PPP ratio is expressed in kg of CO_2-equivalent per 2010 USD.

2000 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

	CO_2						CH_4					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
Bangladesh	20.9	0.0	4.3	10.1	35.3	59.3%	5.5	77.6	16.8	0.4	100.3	5.5%
Brunei Darussalam	4.4	0.4	0.1	0.1	5.0	96.5%	4.8	0.0	0.1	0.0	4.9	98.0%
Cambodia	2.0	-	0.0	4.7	6.7	29.3%	1.7	14.6	1.7	0.1	18.1	9.3%
DPR of Korea	70.0	6.7	76.4	68.8	221.8	34.6%	87.1	445.6	139.7	3.1	675.5	12.9%
India	890.4	1.0	14.8	1.5	907.7	98.2%	1.2	3.4	5.7	0.0	10.4	11.6%
Indonesia	255.3	-	3.3	3.1	261.7	97.6%	11.6	4.7	5.8	0.2	22.3	52.1%
Malaysia	115.0	9.6	23.7	79.1	227.5	54.8%	74.7	89.4	45.1	4.8	214.0	34.9%
Mongolia	9.0	4.1	9.7	11.6	34.3	38.1%	26.4	6.1	5.2	0.4	38.1	69.2%
Myanmar	9.3	-	0.1	11.6	20.9	44.4%	0.3	10.3	0.4	0.7	11.8	2.6%
Nepal	3.1	0.2	0.4	86.6	90.3	3.6%	5.6	55.2	7.4	2.8	71.1	7.9%
Pakistan	94.4	-	0.2	2.9	97.4	96.8%	2.2	20.8	2.7	0.2	25.9	8.5%
Philippines	68.1	2.2	8.9	2.0	81.1	86.6%	20.6	92.0	18.9	0.0	131.4	15.6%
Singapore	42.1	0.0	6.0	3.7	51.8	81.3%	4.7	37.5	14.7	0.0	56.9	8.3%
Sri Lanka	10.5	-	2.8	0.2	13.6	77.6%	0.4	0.0	1.4	0.0	1.8	22.3%
Chinese Taipei	214.3	-	0.5	1.0	215.8	99.3%	1.2	7.4	2.4	0.0	11.0	11.0%
Thailand	152.3	0.3	16.5	34.7	203.8	74.9%	17.4	66.4	12.1	0.2	96.2	18.1%
Viet Nam	44.2	1.4	7.9	25.9	79.4	57.5%	12.9	62.4	12.3	0.3	87.9	14.7%
Other non-OECD Asia	11.4	0.6	0.4	79.7	92.0	13.0%	2.8	20.4	4.6	2.4	30.2	9.2%
Asia (excl. China)	**2 016.7**	**26.5**	**175.8**	**427.3**	**2 646.3**	**77.2%**	**281.2**	**1 013.8**	**297.0**	**15.7**	**1 607.7**	**17.5%**
People's Rep. of China	3 086.7	45.6	458.5	103.8	3 694.7	84.8%	377.4	579.2	209.0	5.0	1 170.6	32.2%
Hong Kong, China	40.3	1.3	0.7	0.2	42.5	98.0%	0.1	0.0	1.9	-	2.1	6.0%
China	**3 127.1**	**47.0**	**459.2**	**104.0**	**3 737.2**	**84.9%**	**377.5**	**579.2**	**211.0**	**5.0**	**1 172.7**	**32.2%**
Argentina	139.3	2.1	4.9	57.5	203.8	69.4%	21.4	87.7	11.2	1.4	121.8	17.6%
Bolivia	7.1	0.7	0.4	117.1	125.3	6.2%	3.1	16.7	1.6	3.6	25.0	12.4%
Brazil	292.3	7.8	34.6	408.8	743.5	40.4%	38.6	297.7	64.9	17.2	418.4	9.2%
Colombia	54.2	1.9	5.0	11.6	72.7	77.2%	12.5	43.3	8.7	0.1	64.7	19.3%
Costa Rica	4.5	-	0.5	0.5	5.5	81.7%	0.0	2.6	0.8	0.0	3.4	1.5%
Cuba	27.3	0.2	1.1	2.4	31.0	88.8%	1.2	8.1	4.8	0.1	14.2	8.4%
Curaçao [2]	5.6	-	0.0	0.0	5.7	99.1%	0.1	0.0	0.0	-	0.1	87.8%
Dominican Republic	18.4	-	1.2	1.0	20.6	89.1%	0.3	4.4	2.7	0.0	7.5	4.4%
Ecuador	18.1	2.5	1.0	2.4	24.1	85.6%	6.4	9.9	2.5	0.0	18.8	34.0%
El Salvador	5.2	-	0.4	0.5	6.1	85.4%	0.4	1.7	1.0	0.0	3.1	12.5%
Guatemala	8.6	0.0	0.8	65.3	74.6	11.5%	1.2	6.7	1.9	2.3	12.0	9.9%
Haiti	1.4	-	0.2	0.0	1.6	84.9%	0.9	2.7	1.9	0.0	5.5	16.2%
Honduras	4.5	-	0.4	10.7	15.6	28.8%	0.4	3.2	1.0	0.2	4.8	7.6%
Jamaica	9.8	-	0.4	0.1	10.3	95.0%	0.6	0.8	0.7	0.0	2.0	27.2%
Nicaragua	3.5	-	0.2	0.1	3.8	93.1%	0.4	4.9	0.9	0.0	6.2	6.0%
Panama	4.9	-	0.3	0.7	5.9	82.3%	0.2	2.6	0.6	0.0	3.3	5.0%
Paraguay	3.3	-	0.3	38.9	42.5	7.7%	0.8	16.3	1.1	0.8	18.9	4.0%
Peru	26.4	0.4	1.7	3.6	32.2	83.4%	2.3	11.7	5.3	0.1	19.5	11.8%
Suriname [1]	1.5	0.0	0.0	0.1	1.6	92.5%	0.0	0.5	0.1	0.0	0.6	6.0%
Trinidad and Tobago	10.1	0.2	8.8	0.1	19.2	53.6%	5.7	0.1	1.0	0.1	6.9	82.0%
Uruguay	5.1	0.0	0.3	0.1	5.5	93.2%	0.1	20.5	0.9	-	21.6	0.6%
Venezuela	116.2	7.5	8.0	44.3	176.0	70.3%	40.5	27.9	6.8	0.8	75.9	53.3%
Other non-OECD Americas	13.6	0.0	0.9	5.2	19.7	69.1%	0.2	2.5	3.0	0.2	5.9	4.0%
Non-OECD Americas	**780.8**	**23.4**	**71.4**	**771.2**	**1 646.7**	**48.8%**	**137.2**	**572.4**	**123.6**	**27.0**	**860.2**	**16.0%**
Bahrain	15.8	0.0	1.8	0.0	17.6	90.0%	2.5	0.0	0.4	0.0	2.9	83.9%
Islamic Republic of Iran	312.2	21.4	17.4	2.2	353.2	94.4%	78.0	23.5	20.5	0.0	122.0	63.9%
Iraq	70.5	14.1	1.4	0.7	86.7	97.6%	37.4	3.3	7.0	0.0	47.6	78.5%
Jordan	14.2	-	1.1	0.1	15.4	92.3%	0.2	0.4	1.8	-	2.4	6.4%
Kuwait	46.3	5.6	2.8	0.1	54.8	94.6%	19.9	0.1	1.1	0.0	21.1	94.2%
Lebanon	14.0	-	1.2	0.1	15.2	91.9%	0.1	0.3	1.2	-	1.6	6.4%
Oman	20.4	4.3	0.6	0.0	25.3	97.6%	15.3	0.6	0.7	-	16.6	92.3%
Qatar	21.3	6.6	4.2	0.0	32.0	86.9%	23.6	0.1	0.7	0.0	24.5	96.5%
Saudi Arabia	234.6	7.6	20.8	0.9	263.9	91.8%	51.3	2.6	9.2	0.2	63.3	81.1%
Syrian Arab Republic	37.0	6.1	2.2	0.5	45.8	94.1%	16.2	3.2	3.8	-	23.2	69.7%
United Arab Emirates	79.8	2.9	5.4	0.2	88.3	93.7%	25.0	0.6	1.3	0.0	26.9	92.9%
Yemen	13.3	1.4	0.7	0.0	15.5	95.1%	4.3	3.2	3.0	-	10.4	40.9%
Middle East	**879.4**	**70.0**	**59.6**	**4.9**	**1 013.8**	**93.6%**	**273.6**	**38.0**	**50.5**	**0.3**	**362.4**	**75.5%**

1. Please refer to the chapter *Country notes* in Part I.
2. Please refer to the chapter *Geographical Coverage* in Part I.

2000 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

N_2O						HFCs	PFCs	SF_6	Total			
Energy	Industrial processes	Agriculture	Other	Total	Share of energy	Industrial processes			Total	Share of energy	GHG / GDP PPP [3]	
0.6	-	16.2	1.9	18.6	3.3%	-	-	-	154.3	17.5%	0.73	Bangladesh
0.0	-	0.1	0.0	0.1	8.0%	0.1	-	-	10.1	95.1%	0.42	Brunei Darussalam
0.1	-	2.3	0.3	2.7	5.5%	-	-	-	27.5	13.8%	1.68	Cambodia
13.2	1.6	147.0	22.3	184.0	7.2%	10.3	2.3	3.3	1 097.2	16.1%	9.82	DPR of Korea
0.9	0.5	2.2	1.2	4.8	18.3%	0.1	5.3	1.5	929.8	96.1%	0.36	India
0.4	-	2.0	0.7	3.1	12.1%	2.0	-	-	289.1	92.5%	0.24	Indonesia
4.1	0.2	55.0	8.1	67.4	6.1%	-	0.2	0.8	509.8	39.9%	1.38	Malaysia
0.5	0.5	7.6	1.3	9.9	4.9%	0.0	0.1	0.4	82.9	48.2%	7.58	Mongolia
0.1	-	4.5	0.5	5.1	1.2%	-	-	-	37.8	25.5%	0.47	Myanmar
0.5	-	11.8	2.6	14.9	3.5%	-	-	-	176.3	5.3%	4.92	Nepal
0.4	-	3.1	0.6	4.1	9.5%	-	-	-	127.4	76.1%	0.27	Pakistan
1.7	0.7	17.5	3.0	22.8	7.4%	-	-	0.3	235.7	39.3%	0.73	Philippines
0.6	0.0	8.6	1.7	10.9	5.7%	-	-	0.2	119.9	39.6%	0.59	Singapore
0.1	5.4	0.0	0.9	6.4	1.8%	0.8	0.5	0.2	23.4	47.2%	0.23	Sri Lanka
0.3	-	1.4	0.5	2.1	12.9%	-	-	-	228.9	94.3%	0.40	Chinese Taipei
2.0	0.4	14.1	1.9	18.3	10.7%	-	-	0.4	318.7	54.0%	0.56	Thailand
0.9	-	17.1	1.8	19.8	4.7%	-	-	-	187.1	31.8%	0.93	Viet Nam
0.2	-	7.4	2.3	9.9	2.5%	0.0	-	-	132.1	11.3%	1.69	Other non-OECD Asia
26.6	**9.2**	**317.7**	**51.4**	**405.0**	**6.6%**	**13.3**	**8.4**	**7.2**	**4 687.9**	**50.1%**	**0.65**	**Asia (excl. China)**
27.8	26.3	297.9	43.2	395.1	7.0%	48.1	9.3	10.3	5 328.1	66.4%	1.18	People's Rep. of China
0.2	-	0.0	0.4	0.5	31.3%	-	-	0.1	45.3	92.7%	0.20	Hong Kong, China
28.0	**26.3**	**297.9**	**43.5**	**395.7**	**7.1%**	**48.1**	**9.3**	**10.4**	**5 373.4**	**66.6%**	**1.13**	**China**
1.4	0.1	36.2	2.5	40.1	3.4%	0.1	0.2	0.2	366.2	44.8%	0.78	Argentina
0.1	-	7.6	2.5	10.2	1.3%	-	-	-	160.5	6.9%	4.45	Bolivia
5.0	1.6	118.9	17.1	142.6	3.5%	0.2	4.9	0.7	1 310.3	26.2%	0.67	Brazil
0.6	0.3	16.1	1.1	18.0	3.2%	-	0.0	0.0	155.4	44.5%	0.47	Colombia
0.1	0.1	1.3	0.1	1.5	5.2%	0.0	-	-	10.5	44.2%	0.28	Costa Rica
0.3	0.6	5.2	0.4	6.6	4.6%	0.0	-	-	51.8	56.1%	0.42	Cuba
0.0	-	0.0	0.0	0.1	30.8%	-	-	-	5.8	98.2%	2.77	Curaçao [2]
0.1	-	1.5	0.3	2.0	7.0%	-	-	-	30.0	62.7%	0.45	Dominican Republic
0.1	-	3.3	0.4	3.8	3.3%	0.0	-	-	46.7	58.1%	0.51	Ecuador
0.1	-	1.0	0.2	1.3	7.1%	0.0	-	-	10.5	53.8%	0.29	El Salvador
0.3	-	4.0	1.8	6.0	4.2%	0.2	-	-	92.8	10.8%	1.34	Guatemala
0.1	-	1.2	0.1	1.4	5.2%	-	-	-	8.5	27.6%	0.58	Haiti
0.1	-	2.9	0.3	3.3	2.5%	-	-	-	23.7	20.8%	1.12	Honduras
0.1	-	0.4	0.2	0.6	8.6%	0.0	-	-	13.0	80.3%	0.63	Jamaica
0.1	-	2.7	0.1	2.9	2.6%	-	-	-	12.9	31.0%	0.75	Nicaragua
0.0	-	0.9	0.1	1.0	4.4%	-	-	-	10.3	49.6%	0.33	Panama
0.1	-	6.7	0.7	7.5	1.7%	-	-	-	68.9	6.0%	2.18	Paraguay
0.2	0.0	5.3	0.7	6.3	3.7%	0.1	-	-	58.0	50.6%	0.35	Peru
0.0	-	0.1	0.1	0.2	12.0%	-	-	-	2.4	63.4%	0.53	Suriname [1]
0.0	-	5.9	0.1	6.0	0.7%	0.0	-	-	32.2	49.7%	1.48	Trinidad and Tobago
0.5	0.0	10.3	1.5	12.3	3.7%	0.6	0.6	0.2	40.6	14.1%	0.97	Uruguay
0.1	-	2.3	0.4	2.8	5.2%	0.0	0.0	0.0	254.7	64.5%	0.74	Venezuela
0.1	-	2.3	0.4	2.8	5.2%	0.0	0.0	0.0	28.5	49.2%	0.83	Other non-OECD Americas
9.6	**2.7**	**236.1**	**30.9**	**279.3**	**3.4%**	**1.3**	**5.6**	**1.2**	**2 794.2**	**34.0%**	**0.70**	**Non-OECD Americas**
0.0	-	0.0	0.1	0.1	19.2%	-	0.3	-	21.0	87.5%	0.71	Bahrain
2.0	0.5	18.0	5.7	26.2	7.7%	-	0.2	1.6	503.2	82.2%	0.66	Islamic Republic of Iran
0.3	-	3.3	1.9	5.5	5.7%	-	-	0.1	140.0	87.4%	0.50	Iraq
0.0	-	0.3	0.4	0.8	6.0%	0.0	-	-	18.6	77.7%	0.51	Jordan
0.1	-	0.1	0.3	0.6	23.6%	0.2	-	0.3	77.0	93.4%	0.55	Kuwait
0.1	-	0.3	0.3	0.7	10.4%	-	-	-	17.5	80.8%	0.44	Lebanon
0.1	-	0.3	0.2	0.6	10.7%	0.0	-	-	42.5	94.2%	0.44	Oman
0.1	-	0.1	0.1	0.3	24.3%	-	-	-	56.7	90.8%	0.89	Qatar
0.8	-	2.9	3.1	6.8	12.2%	0.1	-	1.2	335.4	87.8%	0.45	Saudi Arabia
0.3	0.2	3.5	1.2	5.1	5.1%	-	-	-	74.1	80.3%	0.87	Syrian Arab Republic
0.2	-	0.5	0.7	1.3	12.6%	-	0.3	0.6	117.4	91.9%	0.37	United Arab Emirates
0.2	-	2.0	1.1	3.3	6.3%	-	-	-	29.2	65.7%	0.44	Yemen
4.2	**0.6**	**31.3**	**15.3**	**51.4**	**8.2%**	**0.3**	**0.7**	**3.9**	**1 432.6**	**85.7%**	**0.54**	**Middle East**

1. Please refer to the chapter *Country notes* in Part I.
2. Please refer to the chapter *Geographical Coverage* in Part I.
3. GHG / GDP PPP ratio is expressed in kg of CO_2-equivalent per 2010 USD.

2005 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

	CO_2						CH_4					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
World [1]	**27 045.0**	**445.6**	**2 027.6**	**7 189.3**	**36 707.5**	**74.9%**	**2 731.6**	**4 008.2**	**1 568.5**	**154.3**	**8 462.5**	**32.3%**
Annex I Parties	*13 875.9*	*121.5*	*732.0*	*914.0*	*15 643.3*	*89.5%*	*774.1*	*803.5*	*579.8*	*38.1*	*2 195.5*	*35.3%*
Annex II Parties	*11 100.7*	*54.7*	*510.4*	*701.6*	*12 367.5*	*90.2%*	*424.5*	*639.0*	*404.3*	*24.4*	*1 492.3*	*28.4%*
North America	*6 243.5*	*23.6*	*199.4*	*393.7*	*6 860.1*	*91.4%*	*278.9*	*258.9*	*192.6*	*22.4*	*752.8*	*37.0%*
Europe	*3 273.9*	*14.2*	*209.4*	*63.4*	*3 561.0*	*92.3%*	*103.8*	*220.2*	*181.8*	*0.7*	*506.5*	*20.5%*
Asia Oceania	*1 583.3*	*17.0*	*101.7*	*244.5*	*1 946.4*	*82.2%*	*41.9*	*159.9*	*29.9*	*1.3*	*233.0*	*18.0%*
Annex I EIT	*2 548.8*	*64.5*	*194.1*	*209.8*	*3 017.3*	*86.6%*	*342.1*	*138.7*	*129.8*	*13.7*	*624.4*	*54.8%*
Non-Annex I Parties	*12 174.4*	*324.1*	*1 295.7*	*6 275.3*	*20 069.5*	*62.3%*	*1 944.8*	*3 204.7*	*988.7*	*116.1*	*6 254.3*	*31.1%*
Annex B Kyoto Parties	*4 879.7*	*65.4*	*325.2*	*321.9*	*5 592.2*	*88.4%*	*261.0*	*406.4*	*260.1*	*2.1*	*929.6*	*28.1%*
Intl. aviation bunkers	**422.8**	**-**	**-**	**-**	**422.8**	**100.0%**	**0.1**	**-**	**-**	**-**	**0.1**	**100.0%**
Intl. marine bunkers	**571.9**	**-**	**-**	**-**	**571.9**	**100.0%**	**12.6**	**-**	**-**	**-**	**12.6**	**100.0%**
Non-OECD Total	**13 203.3**	**365.4**	**1 381.2**	**6 391.8**	**21 341.8**	**63.6%**	**2 195.3**	**3 223.8**	**1 036.8**	**127.0**	**6 582.9**	**33.3%**
OECD Total	**12 847.0**	**80.2**	**646.4**	**797.4**	**14 371.0**	**90.0%**	**523.5**	**784.4**	**531.7**	**27.3**	**1 866.9**	**28.0%**
Canada	541.2	3.8	31.3	157.6	733.8	74.3%	60.8	30.9	29.9	12.0	133.5	45.5%
Chile	54.4	0.5	4.4	0.5	59.9	91.8%	3.7	7.9	9.6	0.2	21.4	17.4%
Mexico	412.3	4.6	25.5	84.1	526.4	79.2%	37.2	64.6	24.6	2.6	129.0	28.9%
United States	5 702.3	19.8	168.1	236.1	6 126.3	93.4%	218.1	228.0	162.8	10.4	619.3	35.2%
OECD Americas	**6 710.2**	**28.7**	**229.3**	**478.3**	**7 446.4**	**90.5%**	**319.8**	**331.4**	**226.9**	**25.1**	**903.2**	**35.4%**
Australia	371.9	12.1	15.4	238.5	637.9	60.2%	35.8	94.5	14.0	1.1	145.4	24.6%
Israel [2]	58.8	0.0	2.8	0.5	62.2	94.6%	0.8	1.0	4.0	0.0	5.8	13.3%
Japan	1 177.7	4.8	84.5	4.3	1 271.3	93.0%	4.9	35.9	11.3	0.1	52.2	9.4%
Korea	457.5	11.0	43.9	2.5	515.0	91.0%	4.2	15.5	16.7	0.1	36.4	11.4%
New Zealand	33.7	0.1	1.7	1.7	37.2	90.7%	1.2	29.5	4.6	0.0	35.3	3.3%
OECD Asia Oceania	**2 099.6**	**28.0**	**148.5**	**247.5**	**2 523.6**	**84.3%**	**46.8**	**176.4**	**50.6**	**1.4**	**275.1**	**17.0%**
Austria	74.1	0.5	5.1	1.3	81.0	92.1%	2.2	4.9	3.7	0.0	10.7	20.1%
Belgium	107.3	-	10.3	1.0	118.7	90.4%	6.3	6.8	4.1	0.0	17.1	36.5%
Czech Republic	118.5	1.8	5.9	1.0	127.1	94.6%	4.3	4.6	4.4	0.0	13.4	32.2%
Denmark	48.4	0.4	1.6	0.9	51.4	95.1%	1.5	6.2	1.5	-	9.2	16.6%
Estonia	16.8	0.7	0.8	0.2	18.5	94.7%	0.4	0.7	1.5	0.0	2.6	13.7%
Finland	54.9	0.4	2.6	0.6	58.5	94.5%	2.2	2.4	8.2	0.0	12.8	17.4%
France	371.8	2.4	26.2	7.0	407.4	91.8%	7.6	44.0	18.2	0.1	69.9	10.9%
Germany	786.8	2.6	38.0	10.9	838.3	94.2%	17.1	35.2	29.2	0.1	81.6	21.0%
Greece	95.2	0.1	8.4	1.2	104.9	90.9%	14.8	4.3	4.5	0.0	23.6	62.8%
Hungary	54.7	0.3	4.2	0.6	59.8	91.9%	2.3	3.2	4.2	0.0	9.7	23.8%
Iceland	2.2	-	0.9	0.0	3.2	70.5%	0.0	0.3	0.2	0.0	0.5	0.9%
Ireland	44.2	0.5	2.3	0.6	47.6	93.9%	2.3	14.5	1.7	-	18.5	12.3%
Italy	456.3	0.4	33.8	7.5	497.9	91.7%	6.5	19.5	21.3	0.0	47.4	13.8%
Latvia	7.6	-	0.4	0.3	8.3	91.8%	0.6	1.0	0.6	0.0	2.2	27.3%
Luxembourg	11.5	-	0.6	0.1	12.2	94.4%	0.1	0.4	0.1	-	0.5	12.4%
Netherlands	167.0	0.6	13.1	1.0	181.8	92.2%	6.3	11.1	7.2	0.1	24.7	25.5%
Norway	34.5	1.4	7.5	0.9	44.2	81.1%	16.1	2.6	2.7	0.1	21.5	75.2%
Poland	296.5	3.4	14.6	2.7	317.2	94.5%	35.6	18.3	13.2	0.0	67.1	53.0%
Portugal	61.4	0.0	5.9	11.2	78.5	78.1%	0.8	5.1	7.2	0.1	13.3	6.3%
Slovak Republic	37.3	0.9	4.5	0.2	42.8	89.0%	1.2	1.9	3.2	0.0	6.2	19.1%
Slovenia	15.5	-	2.2	0.7	18.4	84.2%	1.4	1.3	1.1	0.0	3.8	36.7%
Spain	333.6	1.4	27.5	10.2	372.7	89.9%	3.3	24.8	14.9	0.1	43.1	7.7%
Sweden	49.1	0.8	4.4	1.6	55.9	89.3%	1.0	3.8	8.6	0.0	13.3	7.2%
Switzerland	44.0	0.0	2.6	0.5	47.1	93.3%	0.6	3.8	1.4	0.0	5.8	9.7%
Turkey	216.5	2.3	26.6	2.5	247.9	88.3%	7.4	25.3	44.3	0.0	77.1	9.6%
United Kingdom	531.5	2.7	18.6	6.7	559.5	95.5%	15.1	30.5	47.1	0.1	92.9	16.3%
OECD Europe	**4 037.2**	**23.5**	**268.6**	**71.7**	**4 401.0**	**92.3%**	**156.9**	**276.6**	**254.3**	**0.8**	**688.6**	**22.8%**
IEA/Accession/Association	*19 796.0*	*127.9*	*1 413.2*	*962.5*	*22 299.7*	*89.3%*	*1 128.2*	*1 505.2*	*802.9*	*32.9*	*3 469.2*	*32.5%*
European Union - 28	*3 921.2*	*20.9*	*251.2*	*70.9*	*4 264.3*	*92.4%*	*142.5*	*261.4*	*220.4*	*0.7*	*625.1*	*22.8%*
G20	*22 209.6*	*202.1*	*1 576.4*	*2 288.6*	*26 276.7*	*85.3%*	*1 504.3*	*1 932.4*	*950.9*	*99.9*	*4 487.6*	*33.5%*
Africa	*857.3*	*124.2*	*73.0*	*3 898.3*	*4 952.8*	*19.8%*	*445.1*	*655.0*	*154.4*	*16.7*	*1 271.2*	*35.0%*
Americas	*7 566.2*	*45.4*	*314.6*	*2 057.6*	*9 983.8*	*76.2%*	*467.9*	*1 012.6*	*365.6*	*92.6*	*1 938.6*	*24.1%*
Asia	*11 300.8*	*184.3*	*1 215.2*	*718.7*	*13 419.0*	*85.6%*	*1 319.3*	*1 848.3*	*711.3*	*29.4*	*3 908.3*	*33.8%*
Europe	*5 920.4*	*79.6*	*407.8*	*274.4*	*6 673.5*	*89.9%*	*449.6*	*368.3*	*318.6*	*14.5*	*1 150.9*	*39.1%*
Oceania	*405.6*	*12.1*	*17.1*	*240.2*	*675.1*	*61.9%*	*37.0*	*124.0*	*18.6*	*1.1*	*180.8*	*20.4%*

1. Total World includes Non-OECD total, OECD total as well as international bunkers. 2.Please refer to the chapter *Geographical Coverage* in Part I.
Sources: IEA, CO_2 emissions from fuel combustion. EDGAR 4.3.2 and 4.2 FT2010 databases for other emissions.

2005 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

N_2O						HFCs	PFCs	SF_6	Total			
Energy	Industrial processes	Agriculture	Other	Total	Share of energy	Industrial processes			Total	Share of energy	GHG / GDP PPP [3]	
257.4	**212.1**	**2 001.6**	**382.2**	**2 853.3**	**9.0%**	**620.0**	**99.0**	**125.2**	**48 867.5**	**62.4%**	**0.66**	**World [1]**
130.4	*101.8*	*526.8*	*120.6*	*879.6*	*14.8%*	*385.4*	*69.9*	*70.1*	*19 243.8*	*77.4%*	*0.46*	*Annex I Parties*
112.9	*64.9*	*412.9*	*88.5*	*679.2*	*16.6%*	*346.8*	*42.7*	*59.2*	*14 987.6*	*78.0%*	*0.42*	*Annex II Parties*
76.4	*19.3*	*197.7*	*53.1*	*346.5*	*22.0%*	*229.0*	*18.2*	*44.0*	*8 250.6*	*80.3%*	*0.53*	*North America*
24.5	*41.8*	*143.8*	*25.3*	*235.4*	*10.4%*	*78.0*	*12.8*	*10.4*	*4 404.0*	*77.6%*	*0.30*	*Europe*
12.1	*3.8*	*71.3*	*10.1*	*97.3*	*12.4%*	*39.8*	*11.7*	*4.8*	*2 333.0*	*70.9%*	*0.45*	*Asia Oceania*
15.1	*35.9*	*92.7*	*26.3*	*170.0*	*8.9%*	*34.9*	*26.6*	*9.4*	*3 882.6*	*76.5%*	*0.82*	*Annex I EIT*
119.1	*110.2*	*1 474.8*	*239.7*	*1 943.9*	*6.1%*	*234.6*	*29.0*	*55.1*	*28 586.5*	*50.9%*	*0.88*	*Non-Annex I Parties*
38.4	*64.8*	*266.1*	*38.0*	*407.3*	*9.4%*	*93.5*	*15.5*	*11.3*	*7 049.4*	*74.4%*	*0.39*	*Annex B Kyoto Parties*
3.5	**-**	**-**	**2.6**	**6.2**	**57.3%**	**-**	**-**	**-**	**429.0**	**99.4%**	**..**	**Intl. aviation bunkers**
4.4	**-**	**-**	**19.3**	**23.7**	**18.7%**	**-**	**-**	**-**	**608.2**	**96.8%**	**..**	**Intl. marine bunkers**
120.9	**79.2**	**1 497.0**	**250.8**	**1 948.0**	**6.2%**	**246.9**	**51.1**	**58.9**	**30 229.6**	**52.5%**	**0.93**	**Non-OECD Total**
128.5	**132.9**	**504.6**	**109.5**	**875.5**	**14.7%**	**373.0**	**47.9**	**66.3**	**17 600.6**	**77.2%**	**0.43**	**OECD Total**
6.2	1.4	22.9	11.3	41.8	15.0%	13.6	6.4	4.0	933.1	65.6%	0.73	Canada
0.4	0.8	5.5	0.7	7.5	5.7%	-	0.0	0.0	88.8	66.6%	0.34	Chile
3.2	53.9	32.1	6.5	95.7	3.3%	8.8	0.2	0.4	760.5	60.1%	0.48	Mexico
70.1	17.9	174.9	41.9	304.7	23.0%	215.4	11.8	40.0	7 317.5	82.1%	0.51	United States
80.0	**74.1**	**235.3**	**60.4**	**449.7**	**17.8%**	**237.7**	**18.4**	**44.4**	**9 099.9**	**78.4%**	**0.52**	**OECD Americas**
3.9	1.7	51.8	3.0	60.4	6.4%	5.9	0.9	0.4	850.9	49.8%	1.04	Australia
0.3	0.2	0.8	1.0	2.3	11.5%	1.5	0.1	0.5	72.4	82.7%	0.41	Israel [2]
7.8	2.1	8.0	6.8	24.7	31.5%	33.1	10.7	4.3	1 396.2	85.6%	0.33	Japan
3.0	2.2	4.7	3.0	12.8	23.2%	6.2	3.1	4.4	578.0	82.3%	0.47	Korea
0.4	-	11.5	0.3	12.2	3.5%	0.8	0.2	0.1	85.8	41.2%	0.68	New Zealand
15.3	**6.2**	**76.8**	**14.1**	**112.4**	**13.6%**	**47.6**	**15.0**	**9.7**	**2 983.3**	**73.4%**	**0.45**	**OECD Asia Oceania**
0.7	0.3	2.2	0.7	3.9	17.0%	2.2	0.3	0.2	98.2	78.8%	0.30	Austria
0.7	3.8	2.8	0.8	8.0	8.4%	2.2	0.0	0.1	146.1	78.2%	0.36	Belgium
1.4	1.1	3.2	0.8	6.5	22.0%	1.3	0.0	0.0	148.3	84.9%	0.58	Czech Republic
0.5	0.5	4.5	0.5	6.0	8.4%	1.4	0.0	0.0	68.0	74.8%	0.29	Denmark
0.1	-	0.6	0.1	0.8	17.3%	0.0	0.0	0.0	22.0	82.0%	0.75	Estonia
1.7	1.6	2.9	0.5	6.6	25.2%	0.9	0.0	0.0	78.9	75.0%	0.39	Finland
3.3	4.3	31.9	3.1	42.6	7.8%	14.7	1.0	1.5	537.2	71.7%	0.24	France
4.8	4.7	28.5	4.4	42.4	11.3%	16.9	1.9	5.2	986.3	82.3%	0.33	Germany
0.8	0.5	3.3	0.9	5.6	14.7%	2.3	0.1	0.1	136.7	81.2%	0.43	Greece
0.3	2.9	4.0	0.7	7.9	3.9%	1.4	0.4	0.0	79.2	72.7%	0.37	Hungary
0.0	0.0	0.3	0.0	0.4	4.3%	0.1	0.1	0.0	4.2	53.7%	0.36	Iceland
0.3	0.0	6.6	0.3	7.2	4.3%	1.0	0.3	0.1	74.8	63.3%	0.39	Ireland
3.2	6.5	12.0	3.8	25.4	12.5%	10.5	0.8	0.8	583.0	80.0%	0.28	Italy
0.1	-	0.9	0.1	1.2	11.9%	1.0	0.0	-	12.7	65.6%	0.34	Latvia
0.1	-	0.1	0.1	0.3	31.5%	0.1	0.0	-	13.1	89.0%	0.34	Luxembourg
0.8	6.5	5.6	1.1	13.9	5.6%	3.6	0.5	0.1	224.6	77.8%	0.32	Netherlands
0.3	1.8	1.8	0.4	4.3	7.1%	0.4	4.0	0.3	74.7	70.1%	0.28	Norway
3.9	4.7	16.9	1.9	27.4	14.1%	2.0	0.5	0.2	414.4	81.9%	0.65	Poland
0.6	0.4	2.8	0.7	4.5	13.3%	0.7	0.0	0.1	97.2	64.6%	0.35	Portugal
0.4	1.2	1.2	0.3	3.1	11.9%	0.4	0.1	-	52.5	75.5%	0.49	Slovak Republic
0.1	-	0.8	0.2	1.1	11.7%	0.4	0.1	0.0	23.8	71.4%	0.45	Slovenia
2.8	1.6	16.1	3.4	23.8	11.6%	7.4	2.1	0.7	449.8	75.8%	0.32	Spain
1.1	7.2	3.4	0.7	12.3	8.6%	1.3	0.7	0.2	83.8	62.0%	0.23	Sweden
0.4	0.0	1.4	0.4	2.2	17.2%	1.9	0.1	0.3	57.5	78.2%	0.15	Switzerland
2.3	1.0	21.0	5.7	30.0	7.8%	3.3	0.5	1.5	360.4	63.4%	0.33	Turkey
2.5	2.1	17.7	3.7	26.1	9.8%	10.4	0.8	0.5	690.1	80.0%	0.31	United Kingdom
33.2	**52.7**	**192.5**	**35.1**	**313.5**	**10.6%**	**87.7**	**14.5**	**12.1**	**5 517.4**	**77.0%**	**0.32**	**OECD Europe**
177.9	*162.4*	*874.9*	*168.7*	*1 383.9*	*12.9%*	*558.8*	*61.1*	*97.9*	*27 870.6*	*76.2%*	*..*	*IEA/Accession/Association*
31.3	*55.9*	*179.7*	*30.6*	*297.5*	*10.5%*	*84.2*	*10.1*	*9.9*	*5 291.1*	*77.8%*	*0.33*	*European Union - 28*
191.8	*183.8*	*1 095.2*	*231.7*	*1 702.5*	*11.3%*	*588.4*	*87.6*	*109.6*	*33 252.3*	*72.5%*	*0.55*	*G20*
18.0	*6.5*	*373.8*	*34.0*	*432.3*	*4.2%*	*1.8*	*2.3*	*3.4*	*6 663.8*	*21.7%*	*1.91*	*Africa*
91.2	*76.8*	*526.8*	*118.5*	*813.4*	*11.2%*	*242.4*	*23.8*	*46.2*	*13 048.1*	*62.6%*	*0.59*	*Americas*
95.9	*48.8*	*796.3*	*152.0*	*1 093.0*	*8.8%*	*250.4*	*32.1*	*55.3*	*18 758.2*	*68.8%*	*0.68*	*Asia*
40.1	*78.2*	*241.4*	*52.5*	*412.3*	*9.7%*	*118.6*	*39.7*	*19.7*	*8 414.8*	*77.0%*	*0.43*	*Europe*
4.3	*1.7*	*63.3*	*3.3*	*72.6*	*5.9%*	*6.7*	*1.1*	*0.5*	*936.7*	*49.0%*	*0.99*	*Oceania*

1. GHG / GDP PPP ratio is expressed in kg of CO_2-equivalent per 2010 USD.
2. Please refer to the chapter *Geographical Coverage* in Part I.

2005 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

	CO_2						CH_4					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
Non-OECD Total	**13 203.3**	**365.4**	**1 381.2**	**6 391.8**	**21 341.8**	**63.6%**	**2 195.3**	**3 223.8**	**1 036.8**	**127.0**	**6 582.9**	**33.3%**
Albania	3.8	0.0	0.3	0.1	4.2	91.1%	0.2	2.0	1.0	0.0	3.1	5.3%
Armenia	4.1	-	0.3	0.2	4.6	89.6%	0.4	1.3	0.3	0.0	1.9	19.2%
Azerbaijan	29.0	0.4	0.9	0.5	30.7	95.6%	4.3	5.9	1.7	0.0	11.8	36.4%
Belarus	55.0	2.1	4.3	2.1	63.6	89.9%	0.9	9.7	5.8	0.0	16.4	5.2%
Bosnia and Herzegovina	15.9	0.2	0.6	0.2	17.0	94.8%	1.2	1.4	0.5	0.0	3.1	39.1%
Bulgaria	46.5	0.5	5.0	0.2	52.2	90.1%	1.2	2.4	5.9	0.0	9.5	12.8%
Croatia	19.9	0.0	2.7	1.2	23.8	83.6%	1.4	1.5	1.1	0.0	4.0	35.4%
Cyprus [2]	7.0	-	0.8	0.0	7.9	89.4%	0.0	0.3	1.2	-	1.6	1.0%
FYR of Macedonia	8.9	0.0	0.7	0.1	9.7	91.7%	0.3	0.8	0.6	0.0	1.7	19.1%
Georgia	4.1	0.0	0.7	0.2	5.0	82.1%	0.4	2.5	0.4	0.0	3.3	12.5%
Gibraltar	0.4	-	0.0	-	0.4	99.9%	0.0	-	0.0	-	0.0	3.4%
Kazakhstan	156.9	7.3	7.9	5.7	177.8	92.3%	29.6	14.6	4.5	0.0	48.6	60.8%
Kosovo [1]	6.6	..	..	..	..	..	..	..	..	..	..	..
Kyrgyzstan	4.9	0.0	0.4	0.6	5.9	83.4%	0.1	3.2	1.3	-	4.6	2.3%
Lithuania	12.4	0.0	1.5	0.5	14.4	86.4%	0.8	2.2	1.5	0.0	4.5	16.7%
Malta	2.7	-	0.0	0.0	2.8	98.4%	0.0	0.1	0.1	-	0.1	1.7%
Republic of Moldova	7.7	-	0.3	0.1	8.1	94.7%	0.4	1.2	0.4	-	2.0	19.8%
Montenegro [1]	2.0	..	..	..	..	..	..	..	..	..	..	..
Romania	92.7	0.5	10.3	1.2	104.7	89.0%	6.2	10.2	5.1	0.0	21.6	28.9%
Russian Federation	1 481.7	32.7	102.4	195.6	1 812.4	83.6%	250.3	62.0	71.3	13.5	397.1	63.0%
Serbia [1]	49.6	0.6	2.3	0.6	53.0	94.6%	1.6	4.0	4.3	0.0	9.9	15.8%
Tajikistan	2.3	0.0	0.8	0.2	3.3	71.2%	0.2	3.2	0.8	-	4.1	3.9%
Turkmenistan	48.1	4.1	0.5	0.6	53.3	97.9%	29.0	8.1	0.8	-	37.9	76.6%
Ukraine	293.9	21.6	35.3	3.3	354.1	89.1%	35.6	19.6	11.0	0.1	66.3	53.7%
Uzbekistan	107.1	3.6	4.6	1.2	116.5	95.1%	27.8	15.9	3.4	0.0	47.2	59.0%
Non-OECD Europe and Eurasia	**2 463.4**	**73.7**	**182.6**	**214.4**	**2 934.0**	**86.5%**	**391.8**	**171.9**	**122.9**	**13.8**	**700.4**	**55.9%**
Algeria	77.4	13.2	7.3	1.1	99.1	91.5%	62.9	5.3	7.0	0.0	75.2	83.6%
Angola	6.1	9.5	0.5	624.7	640.8	2.4%	26.7	50.1	3.1	2.8	82.7	32.3%
Benin	2.7	-	0.1	27.7	30.5	8.8%	0.9	4.0	1.3	-	6.2	14.4%
Botswana	4.3	-	0.2	9.0	13.4	31.8%	0.5	3.3	0.4	0.0	4.2	11.1%
Cameroon	2.9	5.6	0.6	111.2	120.3	7.1%	13.7	14.6	3.2	0.8	32.3	42.5%
Congo	0.8	3.5	0.0	30.4	34.8	12.6%	8.5	2.5	0.7	0.1	11.8	72.2%
Côte d'Ivoire	5.8	0.1	0.3	53.7	59.8	9.8%	4.3	6.0	3.0	0.1	13.4	32.0%
Dem. Rep. of the Congo	1.3	0.8	0.2	866.0	868.4	0.2%	7.9	63.3	9.6	6.2	87.0	9.1%
Egypt	144.6	3.5	23.5	2.5	174.1	85.1%	26.0	17.7	11.8	0.0	55.5	46.9%
Eritrea [1]	0.6	-	0.0	0.0	0.6	89.1%	0.4	2.5	0.6	-	3.5	10.6%
Ethiopia [1]	4.5	-	0.7	92.2	97.4	4.6%	14.8	45.5	10.3	0.9	71.5	20.7%
Gabon	1.7	4.7	0.1	2.9	9.4	68.1%	10.7	0.3	0.3	-	11.4	94.4%
Ghana	6.4	0.0	0.8	56.3	63.5	10.1%	3.0	6.8	3.7	0.1	13.6	22.2%
Kenya	7.5	-	1.2	5.1	13.7	54.4%	9.0	17.3	5.3	0.1	31.6	28.3%
Libya	43.0	9.3	4.2	0.2	56.6	92.3%	27.7	1.3	1.7	0.0	30.7	90.1%
Mauritius	3.0	0.0	0.0	0.0	3.0	99.5%	0.2	0.0	0.2	-	0.4	39.0%
Morocco	39.2	-	6.4	0.5	46.1	85.0%	0.4	6.5	5.9	-	12.8	2.8%
Mozambique	1.5	0.0	1.1	317.1	319.7	0.5%	3.3	26.2	3.5	0.5	33.5	9.9%
Namibia	2.5	-	0.0	12.9	15.4	16.2%	0.1	5.6	0.3	0.0	6.0	1.1%
Niger [1]	0.7	0.0	0.0	1.1	1.9	39.3%	1.5	11.8	1.9	-	15.3	10.1%
Nigeria	56.4	42.2	1.7	76.0	176.3	55.9%	129.5	38.7	21.6	0.3	190.2	68.1%
Senegal	4.6	-	1.1	1.7	7.5	62.0%	1.0	4.9	1.8	-	7.7	12.8%
South Africa	372.3	27.3	16.2	33.2	449.0	89.0%	37.2	26.7	14.2	0.2	78.3	47.5%
South Sudan [1]	..	..	..	..	..	..	..	..	..	..	..	..
Sudan [1]	9.9	0.6	0.2	313.1	323.7	3.2%	8.5	77.7	6.4	0.4	93.0	9.1%
United Rep. of Tanzania	5.1	0.0	0.6	215.3	221.0	2.3%	7.3	34.8	6.2	0.8	49.1	14.9%
Togo	1.0	-	0.3	17.4	18.7	5.1%	1.5	2.2	0.9	0.0	4.6	33.1%
Tunisia	19.5	0.6	3.1	0.2	23.4	85.8%	3.4	2.5	2.2	-	8.1	42.4%
Zambia	2.1	-	0.3	386.5	388.9	0.5%	3.4	31.7	2.1	0.9	38.2	9.0%
Zimbabwe	10.3	0.4	0.7	21.6	32.9	32.4%	2.4	8.1	2.2	0.1	12.8	18.7%
Other Africa	19.6	2.9	1.4	618.6	642.5	3.5%	28.4	137.0	23.2	2.3	191.0	14.9%
Africa	**857.3**	**124.2**	**73.0**	**3 898.3**	**4 952.8**	**19.8%**	**445.1**	**655.0**	**154.4**	**16.7**	**1 271.2**	**35.0%**

1. Please refer to the chapter *Country notes* in Part I.
2. Please refer to the chapter *Geographical Coverage* in Part I.

2005 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

N_2O						HFCs	PFCs	SF_6	Total			
Energy	Industrial processes	Agriculture	Other	Total	Share of energy	Industrial processes			Total	Share of energy	GHG / GDP PPP [3]	
120.9	**79.2**	**1 497.0**	**250.8**	**1 948.0**	**6.2%**	**246.9**	**51.1**	**58.9**	**30 229.6**	**52.5%**	**0.93**	**Non-OECD Total**
0.1	-	0.7	0.1	0.8	6.5%	0.1	-	-	8.2	49.2%	0.39	Albania
0.0	-	0.5	0.1	0.5	1.4%	0.4	-	-	7.5	60.4%	0.48	Armenia
0.1	-	2.0	0.3	2.4	4.8%	0.1	0.1	-	45.1	74.9%	0.68	Azerbaijan
0.5	0.3	8.6	0.5	9.8	4.7%	0.5	0.0	-	90.3	64.7%	0.88	Belarus
0.1	-	0.7	0.2	0.9	9.3%	0.5	0.1	-	21.7	80.4%	0.73	Bosnia and Herzegovina
0.3	0.7	2.0	0.4	3.4	8.9%	0.4	0.0	-	65.5	74.1%	0.68	Bulgaria
0.2	0.8	1.5	0.2	2.6	5.9%	0.1	0.0	-	30.5	70.5%	0.37	Croatia
0.0	-	0.2	0.1	0.3	10.9%	0.2	-	-	10.0	70.9%	0.40	Cyprus [2]
0.0	-	0.4	0.1	0.5	9.4%	0.1	-	-	12.1	77.0%	0.61	FYR of Macedonia
0.0	0.6	1.1	0.1	1.9	2.6%	0.0	-	-	10.2	44.6%	0.50	Georgia
0.0	-	-	0.0	0.0	37.5%	-	-	-	0.4	95.2%	0.48	Gibraltar
0.9	-	10.9	1.0	12.8	6.8%	0.4	-	-	239.7	81.2%	0.97	Kazakhstan
..	..	..	..	..	..	..	..	..	..	..	..	Kosovo [1]
0.0	-	1.1	0.1	1.2	1.2%	0.0	-	-	11.7	43.0%	0.97	Kyrgyzstan
0.1	1.9	2.0	0.2	4.3	2.7%	0.7	0.0	-	23.9	55.7%	0.41	Lithuania
0.0	-	0.0	0.0	0.1	11.4%	0.1	-	-	3.1	88.0%	0.31	Malta
0.0	-	0.6	0.1	0.7	6.2%	0.0	-	-	10.9	74.8%	0.93	Republic of Moldova
..	..	..	..	..	..	..	..	..	..	..	..	Montenegro [1]
0.5	2.8	6.1	1.0	10.3	4.7%	0.5	0.3	0.0	137.4	72.7%	0.47	Romania
6.0	14.6	33.3	17.8	71.7	8.4%	26.0	24.9	8.9	2 340.9	75.6%	0.95	Russian Federation
0.3	0.5	2.5	0.4	3.8	8.0%	4.9	0.1	-	71.8	72.5%	0.95	Serbia [1]
0.0	-	1.1	0.1	1.2	0.3%	0.0	0.3	-	9.0	28.0%	0.78	Tajikistan
0.1	0.6	3.6	0.2	4.5	1.9%	0.1	-	-	95.7	84.9%	3.16	Turkmenistan
1.2	5.0	11.7	2.0	20.0	6.0%	0.3	0.3	0.3	441.1	79.9%	1.32	Ukraine
0.4	0.1	8.1	0.6	9.2	4.2%	0.7	-	-	173.6	80.1%	2.23	Uzbekistan
10.8	**27.9**	**98.4**	**25.7**	**162.9**	**6.6%**	**36.1**	**26.3**	**9.1**	**3 868.8**	**76.0%**	**0.94**	**Non-OECD Europe and Eurasia**
0.2	0.7	2.9	0.9	4.7	4.4%	0.2	-	0.3	179.5	85.7%	0.45	Algeria
0.3	-	31.8	2.2	34.3	0.9%	0.0	-	-	757.8	5.6%	10.02	Angola
0.1	-	2.6	0.2	2.8	3.1%	-	-	-	39.5	9.2%	2.91	Benin
0.1	-	1.7	0.1	1.9	2.8%	-	-	-	19.5	24.6%	0.92	Botswana
0.3	-	8.8	0.9	10.0	3.0%	-	0.4	-	163.0	13.8%	3.62	Cameroon
0.0	-	1.8	0.1	1.9	2.2%	0.0	-	-	48.5	26.7%	2.81	Congo
0.2	-	4.0	0.4	4.7	5.3%	-	-	-	77.9	13.4%	1.62	Côte d'Ivoire
0.9	-	40.3	4.6	45.8	2.0%	-	-	-	1 001.2	1.1%	34.03	Dem. Rep. of the Congo
1.0	3.1	14.5	2.2	20.8	4.8%	0.4	1.4	1.1	253.1	69.2%	0.42	Egypt
0.0	-	1.2	0.0	1.2	1.6%	-	-	-	5.4	18.0%	0.85	Eritrea [1]
1.4	-	23.9	2.0	27.4	5.1%	0.0	-	-	196.3	10.6%	3.57	Ethiopia [1]
0.1	-	0.2	0.1	0.4	21.7%	0.0	-	-	21.1	81.4%	0.90	Gabon
0.3	-	4.2	0.4	4.9	5.5%	0.0	0.0	-	82.1	11.8%	1.53	Ghana
0.5	-	8.8	0.8	10.1	4.9%	-	0.0	-	55.5	30.5%	0.71	Kenya
0.2	-	0.7	0.4	1.3	14.4%	-	-	0.3	88.9	90.1%	0.60	Libya
0.0	-	0.1	0.1	0.2	15.0%	0.0	-	-	3.6	88.4%	0.24	Mauritius
0.3	-	4.5	0.8	5.6	5.8%	-	-	-	64.6	61.8%	0.40	Morocco
0.3	-	17.0	0.8	18.1	1.6%	0.1	0.2	-	371.5	1.4%	24.41	Mozambique
0.1	-	2.8	0.1	2.9	2.8%	-	-	-	24.3	10.9%	1.68	Namibia
0.2	-	5.2	0.3	5.6	3.0%	-	-	-	22.7	10.7%	2.23	Niger [1]
4.4	-	19.5	4.2	28.0	15.6%	0.4	-	0.3	395.2	58.8%	0.70	Nigeria
0.1	-	2.3	0.2	2.6	2.0%	-	-	-	17.7	32.0%	0.76	Senegal
2.6	2.1	15.1	3.2	22.9	11.3%	0.6	0.4	1.4	552.7	79.5%	1.07	South Africa
..	..	..	..	..	..	..	..	..	..	..	..	South Sudan [1]
0.5	-	40.6	1.1	42.2	1.1%	-	-	-	458.8	4.2%	4.42	Sudan [1]
0.7	-	19.6	1.5	21.8	3.2%	-	-	-	291.9	4.5%	4.28	United Rep. of Tanzania
0.1	-	1.4	0.1	1.6	4.1%	-	-	-	24.9	10.2%	3.79	Togo
0.2	0.3	1.5	0.3	2.3	9.1%	-	-	-	33.8	70.2%	0.39	Tunisia
0.3	0.4	23.6	0.9	25.2	1.0%	0.0	-	-	452.3	1.3%	15.44	Zambia
0.4	-	4.3	0.5	5.2	7.2%	-	-	-	50.9	26.4%	2.42	Zimbabwe
2.4	-	69.0	4.6	76.0	3.2%	0.1	-	-	909.6	5.9%	3.97	Other Africa
18.0	**6.5**	**373.8**	**34.0**	**432.3**	**4.2%**	**1.8**	**2.3**	**3.4**	**6 663.8**	**21.7%**	**1.91**	**Africa**

1. Please refer to the chapter *Country notes* in Part I.
2. Please refer to the chapter *Geographical Coverage* in Part I.
3. GHG / GDP PPP ratio is expressed in kg of CO_2-equivalent per 2010 USD.

2005 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

	CO_2						CH_4					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
Bangladesh	32.0	0.0	5.3	6.1	43.4	73.7%	7.2	79.5	19.0	0.1	105.8	6.8%
Brunei Darussalam	4.8	0.2	0.1	0.1	5.3	95.5%	4.7	0.0	0.1	0.0	4.9	97.7%
Cambodia	2.6	-	0.0	6.6	9.2	28.6%	1.6	17.6	1.9	0.2	21.3	7.3%
DPR of Korea	75.3	18.4	97.4	57.4	248.4	37.7%	101.5	459.6	155.5	2.1	718.7	14.1%
India	1 079.6	0.7	15.4	1.5	1 097.2	98.5%	1.2	2.9	6.0	0.0	10.2	12.0%
Indonesia	318.5	-	3.9	2.3	324.7	98.1%	13.5	5.1	6.1	0.1	24.7	54.4%
Malaysia	155.8	6.4	29.6	191.8	383.6	42.3%	83.5	94.9	49.9	12.9	241.2	34.6%
Mongolia	11.0	4.9	15.0	18.2	49.1	32.4%	32.4	6.3	6.1	0.7	45.4	71.3%
Myanmar	10.6	0.0	0.1	6.1	16.8	63.1%	1.2	7.3	0.5	0.2	9.2	12.9%
Nepal	3.1	0.0	0.3	121.2	124.7	2.5%	7.8	69.6	7.9	3.3	88.6	8.8%
Pakistan	115.0	-	0.1	3.9	119.0	96.6%	2.5	21.7	2.9	0.3	27.3	9.1%
Philippines	71.5	0.3	12.3	4.6	88.7	80.9%	21.5	104.0	21.2	-	146.7	14.6%
Singapore	37.9	0.4	8.2	6.2	52.7	72.7%	7.0	39.4	16.0	0.0	62.4	11.2%
Sri Lanka	13.4	-	4.8	0.2	18.4	72.9%	0.5	0.0	1.8	0.0	2.3	22.1%
Chinese Taipei	253.6	-	0.7	1.6	256.0	99.1%	1.2	8.0	2.5	0.0	11.7	10.4%
Thailand	200.2	0.5	23.0	46.7	270.4	74.2%	21.1	69.5	13.5	0.8	104.9	20.1%
Viet Nam	79.1	1.2	17.2	31.5	129.0	62.3%	22.4	66.4	13.4	0.8	102.9	21.8%
Other non-OECD Asia	15.5	0.8	0.5	79.2	96.0	17.0%	3.6	21.9	5.4	2.4	33.4	10.8%
Asia (excl. China)	**2 479.4**	**33.8**	**234.0**	**585.2**	**3 332.5**	**75.4%**	**334.2**	**1 073.7**	**329.6**	**23.9**	**1 761.5**	**19.0%**
People's Rep. of China	5 357.7	46.1	716.2	109.4	6 229.4	86.7%	564.3	601.0	229.6	4.7	1 399.6	40.3%
Hong Kong, China	41.3	1.5	0.5	0.2	43.5	98.3%	0.1	0.0	1.9	-	2.0	5.7%
China	**5 399.0**	**47.6**	**716.7**	**109.6**	**6 273.0**	**86.8%**	**564.4**	**601.0**	**231.5**	**4.7**	**1 401.6**	**40.3%**
Argentina	149.4	1.4	7.6	41.2	199.6	75.6%	23.8	97.0	11.6	0.9	133.4	17.9%
Bolivia	9.1	0.3	0.6	237.9	247.9	3.8%	5.5	22.6	1.8	7.9	37.9	14.6%
Brazil	310.5	4.9	35.3	1 107.8	1 458.5	21.6%	42.2	378.7	75.1	53.0	549.0	7.7%
Colombia	53.6	1.1	5.2	4.8	64.7	84.5%	11.4	46.2	9.4	0.0	67.0	17.0%
Costa Rica	5.4	-	0.8	0.5	6.7	81.7%	0.1	2.3	0.8	0.0	3.2	3.9%
Cuba	25.0	0.2	0.7	3.1	29.1	86.7%	1.2	6.7	4.7	0.1	12.7	9.4%
Curaçao [2]	6.0	-	0.0	0.0	6.0	99.1%	0.1	0.0	0.0	-	0.1	87.9%
Dominican Republic	18.2	-	1.1	4.8	24.0	75.7%	0.3	5.0	3.2	0.3	8.8	3.6%
Ecuador	23.9	2.8	1.4	1.6	29.7	89.9%	7.5	11.9	2.7	0.0	22.1	33.9%
El Salvador	6.3	-	0.4	0.5	7.2	87.0%	0.4	2.0	1.1	0.0	3.5	12.1%
Guatemala	10.6	0.0	0.9	33.2	44.7	23.8%	1.2	5.3	2.1	1.4	10.1	11.8%
Haiti	2.0	-	0.2	0.1	2.3	86.6%	2.7	2.7	2.4	0.0	7.8	34.9%
Honduras	7.2	-	0.5	13.9	21.6	33.2%	0.4	5.4	1.1	0.4	7.3	6.0%
Jamaica	10.3	-	0.3	0.1	10.7	95.7%	0.6	0.7	0.8	-	2.0	28.9%
Nicaragua	4.0	-	0.2	0.1	4.4	92.1%	0.3	5.3	1.0	0.0	6.6	5.3%
Panama	6.8	-	0.4	0.3	7.5	90.7%	0.1	3.0	0.6	-	3.7	3.5%
Paraguay	3.5	-	0.3	60.4	64.2	5.4%	0.9	17.0	1.2	1.9	21.0	4.2%
Peru	28.6	0.2	2.4	19.4	50.6	57.0%	2.5	13.6	5.7	0.4	22.1	11.1%
Suriname [1]	1.7	0.0	0.0	0.6	2.3	72.2%	0.0	0.5	0.1	0.0	0.6	6.4%
Trinidad and Tobago	17.5	0.3	16.7	0.1	34.7	51.5%	11.1	0.1	1.8	0.3	13.3	83.5%
Uruguay	5.2	-	0.2	0.1	5.5	92.9%	0.2	22.0	0.9	-	23.2	0.7%
Venezuela	137.1	5.4	8.9	43.8	195.2	73.0%	35.1	30.8	7.5	0.8	74.2	47.3%
Other non-OECD Americas	14.2	0.0	0.9	5.1	20.3	70.3%	0.3	2.5	3.0	0.1	5.9	4.4%
Non-OECD Americas	**856.0**	**16.7**	**85.2**	**1 579.4**	**2 537.3**	**34.4%**	**148.1**	**681.1**	**138.7**	**67.4**	**1 035.4**	**14.3%**
Bahrain	20.6	0.0	2.3	0.0	22.9	89.8%	3.7	0.0	0.5	0.0	4.2	87.1%
Islamic Republic of Iran	417.6	24.4	25.0	2.2	469.3	94.2%	100.6	23.4	23.6	0.1	147.7	68.1%
Iraq	73.2	14.1	1.8	0.4	89.5	97.5%	35.2	3.3	7.9	0.0	46.4	75.8%
Jordan	17.9	-	1.8	0.1	19.7	90.7%	0.2	0.5	2.0	-	2.7	7.4%
Kuwait	64.7	6.4	4.0	0.1	75.3	94.5%	24.0	0.2	1.3	0.0	25.5	94.2%
Lebanon	14.5	-	2.0	0.1	16.5	87.6%	0.1	0.3	1.5	-	1.9	5.4%
Oman	25.2	5.1	2.8	0.1	33.1	91.4%	20.3	0.7	1.0	-	21.9	92.6%
Qatar	33.2	4.5	5.9	0.0	43.6	86.5%	26.8	0.1	1.0	0.0	27.9	96.2%
Saudi Arabia	298.0	8.2	32.2	1.0	339.4	90.2%	60.9	3.0	11.2	0.3	75.3	80.8%
Syrian Arab Republic	53.4	2.3	2.3	0.5	58.6	95.2%	8.3	4.2	4.3	-	16.8	49.0%
United Arab Emirates	111.1	2.1	8.9	0.3	122.4	92.6%	26.1	0.8	1.9	0.0	28.9	90.4%
Yemen	18.8	2.1	0.8	0.1	21.8	96.1%	5.6	4.4	3.5	-	13.6	41.6%
Middle East	**1 148.2**	**69.3**	**89.7**	**4.9**	**1 312.1**	**92.8%**	**311.7**	**40.9**	**59.6**	**0.5**	**412.7**	**75.5%**

1. Please refer to the chapter *Country notes* in Part I.
2. Please refer to the chapter *Geographical Coverage* in Part I.

2005 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

N_2O						HFCs	PFCs	SF_6	Total			
Energy	Industrial processes	Agriculture	Other	Total	Share of energy	Industrial processes			Total	Share of energy	GHG / GDP PPP [3]	
0.8	-	17.9	1.9	20.6	3.8%	-	-	-	169.7	23.5%	0.63	Bangladesh
0.0	-	0.1	0.0	0.1	8.0%	0.3	-	-	10.6	92.8%	0.39	Brunei Darussalam
0.1	-	2.6	0.4	3.1	4.7%	-	-	-	33.6	12.9%	1.31	Cambodia
15.1	1.7	161.2	23.5	201.6	7.5%	12.5	1.7	4.4	1 187.3	17.7%	10.96	DPR of Korea
1.3	0.7	1.8	1.4	5.1	24.5%	0.1	3.9	3.1	1 119.6	96.7%	0.31	India
0.4	-	1.9	0.7	3.0	13.2%	3.2	-	-	355.7	93.4%	0.23	Indonesia
4.6	0.2	59.3	14.0	78.1	5.9%	-	0.1	0.8	703.9	35.6%	1.51	Malaysia
0.7	0.4	8.8	1.6	11.4	6.1%	0.0	0.4	0.6	107.0	45.8%	7.14	Mongolia
0.1	-	3.5	0.3	3.8	2.1%	-	-	-	29.8	39.8%	0.20	Myanmar
0.6	-	15.0	3.0	18.6	3.1%	-	-	-	231.9	4.9%	5.48	Nepal
0.4	-	3.1	0.7	4.2	10.3%	-	-	-	150.5	78.3%	0.25	Pakistan
1.8	0.7	34.4	3.3	40.2	4.5%	-	-	0.8	276.3	34.4%	0.68	Philippines
0.6	0.0	9.4	1.7	11.7	5.0%	-	-	0.3	127.1	36.1%	0.49	Singapore
0.1	0.7	0.0	0.9	1.7	5.4%	1.6	0.9	0.3	25.3	55.3%	0.20	Sri Lanka
0.3	-	1.4	0.5	2.2	13.3%	-	-	-	269.9	94.5%	0.38	Chinese Taipei
2.4	0.5	14.4	2.6	19.7	11.9%	-	-	1.1	396.1	56.6%	0.54	Thailand
1.1	-	17.0	2.5	20.6	5.4%	-	-	-	252.5	41.1%	0.90	Viet Nam
0.3	-	7.9	2.5	10.6	2.5%	0.1	-	-	140.1	14.4%	1.25	Other non-OECD Asia
30.6	**4.8**	**359.5**	**61.5**	**456.4**	**6.7%**	**17.8**	**7.1**	**11.4**	**5 586.8**	**51.5%**	**0.59**	**Asia (excl. China)**
45.0	28.6	341.2	53.3	468.1	9.6%	185.4	9.7	27.7	8 319.8	72.3%	1.15	People's Rep. of China
0.2	-	0.0	0.3	0.4	37.5%	-	-	0.1	46.1	93.4%	0.17	Hong Kong, China
45.2	**28.6**	**341.2**	**53.6**	**468.6**	**9.6%**	**185.4**	**9.7**	**27.8**	**8 366.0**	**72.4%**	**1.11**	**China**
1.7	0.2	45.3	2.2	49.3	3.5%	0.3	0.1	0.3	383.1	46.0%	0.74	Argentina
0.2	-	11.4	5.3	16.9	1.1%	-	-	-	302.6	5.0%	7.21	Bolivia
5.9	1.6	158.3	40.8	206.7	2.9%	2.1	4.9	1.1	2 222.3	16.4%	0.99	Brazil
0.6	0.3	17.2	1.0	19.0	3.0%	-	0.0	0.1	150.8	44.2%	0.38	Colombia
0.1	0.0	1.1	0.1	1.3	6.6%	0.1	-	-	11.2	50.2%	0.25	Costa Rica
0.2	0.6	4.6	0.4	5.9	3.3%	0.1	-	-	47.9	55.7%	0.30	Cuba
0.0	-	0.0	0.0	0.1	31.5%	-	-	-	6.2	98.2%	2.76	Curaçao [2]
0.1	-	1.8	0.5	2.5	5.8%	-	-	-	35.3	52.9%	0.44	Dominican Republic
0.1	-	3.4	0.5	4.0	3.5%	0.1	-	-	55.9	61.5%	0.48	Ecuador
0.1	-	1.0	0.2	1.3	7.8%	0.1	-	-	12.1	56.2%	0.29	El Salvador
0.2	-	2.7	1.3	4.2	5.9%	0.5	-	-	59.6	20.2%	0.74	Guatemala
0.1	-	1.2	0.1	1.4	7.9%	-	-	-	11.5	41.8%	0.81	Haiti
0.1	-	2.7	0.5	3.3	3.4%	-	-	-	32.1	24.0%	1.20	Honduras
0.1	-	0.4	0.2	0.6	12.0%	0.1	-	-	13.4	81.6%	0.59	Jamaica
0.1	-	2.8	0.1	3.0	2.5%	-	-	-	14.0	31.8%	0.70	Nicaragua
0.1	-	1.0	0.1	1.2	5.0%	-	-	-	12.3	56.4%	0.32	Panama
0.1	-	7.5	1.4	9.0	1.4%	-	-	-	94.1	4.8%	2.71	Paraguay
0.2	-	6.2	0.9	7.3	3.0%	0.4	-	-	80.4	39.2%	0.39	Peru
0.0	-	0.1	0.1	0.2	12.5%	-	-	-	3.2	54.7%	0.53	Suriname [1]
0.0	-	6.6	0.1	6.7	0.6%	0.1	-	-	54.7	52.9%	1.70	Trinidad and Tobago
0.7	0.0	11.6	1.7	14.0	5.2%	0.9	0.3	0.2	44.1	13.7%	1.04	Uruguay
0.1	-	2.4	0.3	2.9	5.1%	0.0	0.0	0.0	272.3	65.3%	0.69	Venezuela
0.1	-	2.4	0.3	2.9	5.1%	0.0	0.0	0.0	29.0	50.5%	0.76	Other non-OECD Americas
11.2	**2.7**	**291.5**	**58.2**	**363.6**	**3.1%**	**4.7**	**5.3**	**1.8**	**3 948.2**	**26.1%**	**0.86**	**Non-OECD Americas**
0.0	-	0.0	0.1	0.1	19.9%	-	0.2	-	27.5	88.3%	0.73	Bahrain
2.4	8.3	18.3	6.9	35.9	6.7%	-	0.1	2.2	655.4	83.2%	0.65	Islamic Republic of Iran
0.4	-	2.6	2.2	5.1	6.9%	-	-	0.1	141.1	87.1%	0.49	Iraq
0.1	-	0.4	0.4	0.8	6.6%	0.1	-	-	23.4	77.6%	0.48	Jordan
0.2	-	0.1	0.4	0.7	23.8%	0.6	-	0.4	102.5	93.0%	0.49	Kuwait
0.1	-	0.4	0.4	0.8	9.4%	-	-	-	19.2	76.2%	0.40	Lebanon
0.1	-	0.4	0.3	0.8	11.5%	0.2	-	-	56.0	90.4%	0.55	Oman
0.1	-	0.0	0.2	0.3	23.5%	-	-	-	71.8	90.0%	0.76	Qatar
0.9	-	3.2	3.4	7.5	12.3%	0.2	-	1.9	424.3	86.7%	0.45	Saudi Arabia
0.4	0.2	4.4	1.4	6.4	6.2%	-	-	-	81.8	78.7%	0.79	Syrian Arab Republic
0.2	-	0.5	0.9	1.6	13.8%	-	0.2	0.8	153.9	90.7%	0.37	United Arab Emirates
0.4	-	2.3	1.3	4.0	8.9%	-	-	-	39.3	68.5%	0.48	Yemen
5.1	**8.6**	**32.6**	**17.9**	**64.2**	**8.0%**	**1.2**	**0.5**	**5.3**	**1 796.1**	**85.4%**	**0.53**	**Middle East**

1. Please refer to the chapter *Country notes* in Part I.
2. Please refer to the chapter *Geographical Coverage* in Part I.
3. GHG / GDP PPP ratio is expressed in kg of CO_2-equivalent per 2010 USD.

2010 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

	CO_2						CH_4					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
World [1]	**30 434.4**	**439.7**	**2 563.2**	**6 945.3**	**40 382.6**	**76.5%**	**3 012.5**	**4 196.2**	**1 675.5**	**162.6**	**9 046.9**	**33.3%**
Annex I Parties	*13 222.9*	*103.7*	*700.2*	*886.5*	*14 913.3*	*89.4%*	*815.5*	*771.5*	*569.2*	*46.0*	*2 202.2*	*37.0%*
Annex II Parties	*10 398.5*	*51.3*	*476.0*	*578.7*	*11 504.5*	*90.8%*	*440.0*	*613.4*	*375.6*	*24.7*	*1 453.7*	*30.3%*
North America	*5 875.5*	*29.8*	*177.5*	*379.0*	*6 461.8*	*91.4%*	*295.9*	*257.4*	*188.4*	*23.3*	*764.9*	*38.7%*
Europe	*2 991.7*	*17.1*	*192.4*	*53.1*	*3 254.3*	*92.5%*	*99.3*	*215.3*	*158.4*	*0.5*	*473.5*	*21.0%*
Asia Oceania	*1 531.3*	*4.4*	*106.1*	*146.6*	*1 788.4*	*85.9%*	*44.7*	*140.7*	*28.8*	*0.9*	*215.2*	*20.8%*
Annex I EIT	*2 548.7*	*51.2*	*183.7*	*304.3*	*3 087.9*	*84.2%*	*362.2*	*131.2*	*143.5*	*21.3*	*658.3*	*55.0%*
Non-Annex I Parties	*16 090.9*	*336.0*	*1 863.1*	*6 058.7*	*24 348.7*	*67.5%*	*2 184.7*	*3 424.7*	*1 106.3*	*116.6*	*6 832.4*	*32.0%*
Annex B Kyoto Parties	*4 631.6*	*51.9*	*297.4*	*211.3*	*5 192.1*	*90.2%*	*263.7*	*381.1*	*241.0*	*1.4*	*887.2*	*29.7%*
Intl. aviation bunkers	**457.7**	**-**	**-**	**-**	**457.7**	**100.0%**	**0.1**	**-**	**-**	**-**	**0.1**	**100.0%**
Intl. marine bunkers	**662.9**	**-**	**-**	**-**	**662.9**	**100.0%**	**12.2**	**-**	**-**	**-**	**12.2**	**100.0%**
Non-OECD Total	**16 977.3**	**368.6**	**1 938.4**	**6 315.0**	**25 599.3**	**67.8%**	**2 450.6**	**3 433.5**	**1 167.5**	**136.8**	**7 188.5**	**34.1%**
OECD Total	**12 336.4**	**71.1**	**624.8**	**630.3**	**13 662.6**	**90.8%**	**549.6**	**762.7**	**508.0**	**25.8**	**1 846.0**	**29.8%**
Canada	528.4	6.7	26.7	264.4	826.2	64.8%	61.6	27.5	27.3	20.1	136.5	45.1%
Chile	68.6	0.2	5.1	0.5	74.4	92.5%	3.3	7.6	10.3	0.2	21.5	15.5%
Mexico	440.3	7.3	25.2	39.7	512.5	87.3%	43.7	66.2	26.1	0.7	136.7	31.9%
United States	5 347.0	23.1	150.8	114.7	5 635.6	95.3%	234.3	229.9	161.1	3.2	628.5	37.3%
OECD Americas	**6 384.4**	**37.3**	**207.8**	**419.2**	**7 048.7**	**91.1%**	**342.9**	**331.2**	**224.8**	**24.2**	**923.1**	**37.1%**
Australia	389.1	3.3	16.5	140.2	549.1	71.5%	38.7	77.0	15.0	0.7	131.4	29.5%
Israel [2]	68.4	0.1	3.3	0.5	72.2	94.8%	1.4	1.2	4.4	0.0	6.9	19.6%
Japan	1 111.8	1.0	87.5	4.1	1 204.5	92.4%	4.7	34.7	9.5	0.1	49.0	9.5%
Korea	550.7	4.0	43.9	2.3	601.0	92.3%	4.4	17.4	14.8	0.1	36.7	12.1%
New Zealand	30.3	0.1	2.1	2.4	34.9	87.2%	1.4	29.1	4.3	0.1	34.8	4.0%
OECD Asia Oceania	**2 150.4**	**8.5**	**153.3**	**149.4**	**2 461.6**	**87.7%**	**50.5**	**159.3**	**48.0**	**1.0**	**258.9**	**19.5%**
Austria	68.7	0.3	5.0	1.2	75.2	91.7%	2.4	4.9	3.1	0.0	10.5	23.2%
Belgium	103.6	0.5	10.7	0.8	115.6	90.1%	6.5	6.7	3.6	0.0	16.9	38.7%
Czech Republic	112.6	1.7	5.3	0.8	120.4	94.9%	3.8	4.3	4.8	0.0	12.9	29.6%
Denmark	47.2	0.2	0.9	0.6	49.0	96.8%	1.5	6.4	1.4	-	9.3	16.1%
Estonia	18.7	0.3	0.3	0.1	19.4	97.8%	0.4	0.7	1.7	0.0	2.8	14.7%
Finland	62.0	0.4	2.6	0.5	65.4	95.3%	4.5	2.3	7.7	0.0	14.5	30.8%
France	340.8	2.0	28.2	6.5	377.4	90.8%	7.5	43.3	17.3	0.1	68.1	11.0%
Germany	758.9	5.5	40.0	12.5	816.9	93.6%	13.9	35.3	21.8	0.2	71.2	19.6%
Greece	83.4	0.0	5.5	1.1	90.1	92.6%	14.6	4.5	4.6	0.0	23.8	61.6%
Hungary	47.1	0.4	3.4	0.5	51.4	92.5%	2.3	2.9	4.0	0.0	9.3	24.6%
Iceland	1.9	-	1.7	0.0	3.7	53.1%	0.0	0.3	0.2	0.0	0.5	0.8%
Ireland	39.3	1.0	1.3	0.7	42.2	95.4%	2.2	13.5	1.3	-	17.1	13.1%
Italy	391.9	1.3	27.5	6.8	427.5	92.0%	6.8	19.9	18.2	0.0	45.0	15.2%
Latvia	8.1	-	0.4	0.4	8.9	90.6%	0.6	1.0	0.6	0.0	2.3	26.5%
Luxembourg	10.6	-	0.6	0.0	11.2	94.7%	0.1	0.4	0.1	-	0.6	10.7%
Netherlands	170.0	0.7	13.7	1.6	185.9	91.8%	6.5	11.9	5.7	0.1	24.2	26.7%
Norway	37.5	0.9	7.5	0.8	46.8	82.2%	16.0	2.4	2.5	0.1	21.0	76.0%
Poland	307.6	3.6	15.1	2.6	328.9	94.6%	33.6	18.5	13.1	0.0	65.3	51.5%
Portugal	47.5	0.0	5.2	4.2	56.9	83.6%	0.8	4.4	7.4	0.0	12.6	6.6%
Slovak Republic	34.6	1.1	5.2	0.2	41.0	87.0%	1.2	1.7	3.1	0.0	6.0	20.4%
Slovenia	15.5	-	1.8	0.6	17.9	86.3%	1.5	1.4	0.7	0.0	3.6	43.4%
Spain	262.0	0.2	20.3	6.9	289.3	90.6%	3.0	23.2	16.4	0.1	42.7	7.1%
Sweden	46.0	1.4	4.1	1.8	53.4	88.9%	1.1	3.6	7.9	0.0	12.5	8.5%
Switzerland	43.2	0.0	2.6	0.6	46.5	93.1%	0.7	3.7	6.6	0.0	11.1	6.6%
Turkey	265.8	1.2	39.8	3.5	310.2	86.1%	13.3	26.5	48.6	0.0	88.4	15.0%
United Kingdom	477.0	2.7	15.1	6.3	501.1	95.7%	11.1	28.3	32.5	0.1	71.9	15.4%
OECD Europe	**3 801.6**	**25.3**	**263.7**	**61.7**	**4 152.3**	**92.2%**	**156.1**	**272.2**	**235.1**	**0.6**	**664.1**	**23.5%**
IEA/Accession/Association	*22 233.7*	*174.0*	*1 804.2*	*806.5*	*25 018.3*	*89.6%*	*1 263.8*	*1 543.4*	*814.1*	*34.4*	*3 655.7*	*34.6%*
European Union - 28	*3 612.6*	*24.0*	*227.9*	*59.2*	*3 923.7*	*92.7%*	*135.8*	*255.1*	*192.4*	*0.6*	*583.9*	*23.3%*
G20	*24 864.0*	*236.6*	*2 000.3*	*2 389.2*	*29 490.2*	*85.1%*	*1 652.4*	*1 958.9*	*977.9*	*109.6*	*4 698.8*	*35.2%*
Africa	*996.1*	*105.0*	*85.7*	*3 491.4*	*4 678.1*	*23.5%*	*437.5*	*680.5*	*177.6*	*13.0*	*1 308.6*	*33.4%*
Americas	*7 407.2*	*53.7*	*311.3*	*2 324.6*	*10 096.8*	*73.9%*	*498.3*	*1 034.7*	*378.3*	*101.9*	*2 013.3*	*24.7%*
Asia	*14 849.7*	*208.3*	*1 767.0*	*628.5*	*17 453.6*	*86.3%*	*1 558.9*	*2 019.8*	*790.4*	*25.1*	*4 394.1*	*35.5%*
Europe	*5 641.3*	*69.3*	*380.7*	*358.3*	*6 438.2*	*88.7%*	*465.5*	*355.2*	*310.0*	*21.8*	*1 152.4*	*40.4%*
Oceania	*419.5*	*3.4*	*18.6*	*142.5*	*583.9*	*72.4%*	*40.1*	*106.0*	*19.3*	*0.7*	*166.2*	*24.1%*

1. Total World includes Non-OECD total, OECD total as well as international bunkers. 2.Please refer to the chapter *Geographical Coverage* in Part I.
Sources: IEA, CO_2 emissions from fuel combustion. EDGAR 4.3.2 and 4.2 FT2010 databases for other emissions.

2010 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

N_2O						HFCs	PFCs	SF_6	Total			
Energy	Industrial processes	Agriculture	Other	Total	Share of energy	Industrial processes			Total	Share of energy	GHG / GDP PPP [3]	
278.2	**172.2**	**2 124.9**	**407.1**	**2 982.4**	**9.3%**	**746.6**	**60.5**	**157.3**	**53 376.3**	**64.0%**	**0.60**	**World [1]**
121.1	*85.1*	*515.3*	*118.7*	*840.2*	*14.4%*	*488.7*	*43.2*	*73.7*	*18 561.2*	*76.8%*	*0.42*	*Annex I Parties*
103.2	*46.2*	*403.9*	*81.9*	*635.3*	*16.3%*	*439.3*	*26.8*	*62.0*	*14 121.5*	*77.8%*	*0.38*	*Annex II Parties*
68.8	*18.9*	*200.7*	*49.9*	*338.2*	*20.3%*	*284.1*	*11.1*	*45.0*	*7 905.1*	*79.3%*	*0.48*	*North America*
23.6	*23.7*	*141.3*	*23.0*	*211.6*	*11.2%*	*102.4*	*8.0*	*12.4*	*4 062.2*	*77.1%*	*0.27*	*Europe*
10.8	*3.7*	*61.9*	*9.1*	*85.5*	*12.7%*	*52.7*	*7.8*	*4.7*	*2 154.2*	*73.9%*	*0.40*	*Asia Oceania*
14.7	*37.4*	*90.2*	*30.7*	*173.1*	*8.5%*	*44.3*	*16.1*	*9.8*	*3 989.5*	*74.6%*	*0.71*	*Annex I EIT*
148.1	*87.1*	*1 609.6*	*263.3*	*2 108.1*	*7.0%*	*258.0*	*17.4*	*83.6*	*33 648.1*	*55.8%*	*0.75*	*Non-Annex I Parties*
37.3	*44.6*	*255.3*	*35.6*	*372.8*	*10.0%*	*124.8*	*9.5*	*13.7*	*6 600.1*	*75.5%*	*0.34*	*Annex B Kyoto Parties*
3.9	**-**	**-**	**2.9**	**6.7**	**57.3%**	**-**	**-**	**-**	**464.5**	**99.4%**	**..**	**Intl. aviation bunkers**
5.1	**-**	**-**	**22.2**	**27.3**	**18.7%**	**-**	**-**	**-**	**702.5**	**96.8%**	**..**	**Intl. marine bunkers**
148.7	**46.0**	**1 628.6**	**279.6**	**2 102.9**	**7.1%**	**277.5**	**30.8**	**85.8**	**35 284.8**	**56.5%**	**0.78**	**Non-OECD Total**
120.6	**126.1**	**496.3**	**102.4**	**845.4**	**14.3%**	**469.2**	**29.8**	**71.5**	**16 924.5**	**77.3%**	**0.39**	**OECD Total**
6.0	0.8	23.7	16.4	46.9	12.8%	17.0	3.8	4.0	1 034.5	58.3%	0.76	Canada
0.5	0.7	5.8	0.9	7.8	6.6%	-	0.0	0.0	103.6	70.1%	0.33	Chile
3.7	69.0	33.3	5.5	111.4	3.3%	11.0	0.1	0.5	772.3	64.1%	0.45	Mexico
62.8	18.1	177.1	33.4	291.3	21.5%	267.1	7.3	40.9	6 870.7	82.5%	0.46	United States
73.0	**88.5**	**239.8**	**56.2**	**457.5**	**16.0%**	**295.2**	**11.2**	**45.4**	**8 781.1**	**77.9%**	**0.48**	**OECD Americas**
3.5	1.8	42.5	2.8	50.6	7.0%	8.7	0.5	0.6	740.8	58.7%	0.79	Australia
0.2	0.0	0.9	1.1	2.2	11.1%	2.0	0.1	0.6	84.1	83.4%	0.38	Israel [2]
7.0	1.9	7.6	6.0	22.5	31.1%	42.8	7.1	4.1	1 330.0	84.5%	0.31	Japan
3.6	1.1	5.3	3.0	13.0	27.5%	3.2	1.9	6.1	662.0	85.0%	0.44	Korea
0.3	-	11.8	0.3	12.4	2.6%	1.1	0.1	0.1	83.5	38.5%	0.61	New Zealand
14.7	**4.7**	**68.1**	**13.1**	**100.7**	**14.6%**	**57.9**	**9.8**	**11.5**	**2 900.3**	**76.7%**	**0.41**	**OECD Asia Oceania**
0.7	0.3	2.2	0.6	3.8	18.1%	2.9	0.2	0.2	92.9	77.6%	0.26	Austria
0.7	4.6	2.8	0.8	8.8	7.7%	2.9	0.0	0.1	144.4	77.2%	0.33	Belgium
1.5	0.6	3.0	0.8	6.0	24.8%	1.7	0.0	0.0	141.0	84.8%	0.49	Czech Republic
0.5	0.0	4.4	0.5	5.4	10.0%	1.9	0.0	0.0	65.7	75.3%	0.27	Denmark
0.2	-	0.5	0.1	0.8	21.0%	0.1	0.0	0.0	23.0	84.8%	0.80	Estonia
2.1	1.3	2.7	0.5	6.6	32.2%	1.2	0.0	0.1	87.9	78.5%	0.42	Finland
3.5	2.5	32.2	3.0	41.2	8.4%	20.3	0.6	1.8	509.4	69.4%	0.22	France
4.6	3.5	28.9	4.1	41.0	11.3%	21.9	1.2	6.5	958.8	81.7%	0.30	Germany
0.6	0.4	3.2	0.8	5.0	12.6%	1.2	0.1	0.1	120.3	82.1%	0.38	Greece
0.3	1.3	3.6	0.6	5.8	5.8%	1.9	0.0	0.0	68.5	73.3%	0.32	Hungary
0.0	0.0	0.3	0.0	0.4	3.6%	0.1	0.1	0.0	4.7	41.8%	0.39	Iceland
0.3	-	6.6	0.3	7.1	3.6%	1.4	0.2	0.1	68.0	62.9%	0.35	Ireland
2.9	0.4	11.6	3.2	18.1	16.2%	14.0	0.6	1.0	506.2	79.6%	0.24	Italy
0.1	-	1.0	0.1	1.2	12.1%	1.4	0.0	-	13.9	63.7%	0.38	Latvia
0.1	-	0.1	0.1	0.3	32.5%	0.2	0.0	-	12.2	88.3%	0.28	Luxembourg
0.8	1.3	5.7	1.0	8.7	8.7%	4.7	0.3	0.1	223.9	79.4%	0.30	Netherlands
0.3	1.0	1.8	0.4	3.4	9.1%	0.5	2.4	0.2	74.3	73.7%	0.26	Norway
3.7	4.6	16.3	2.0	26.7	13.8%	2.8	0.3	0.3	424.2	82.2%	0.53	Poland
0.5	0.5	2.4	0.5	3.9	12.6%	1.0	0.0	0.1	74.6	65.5%	0.26	Portugal
0.3	1.2	1.2	0.3	3.0	9.9%	0.5	0.1	-	50.5	73.5%	0.37	Slovak Republic
0.1	-	0.6	0.2	0.9	15.0%	0.6	0.1	0.0	23.0	74.5%	0.40	Slovenia
2.3	1.2	15.5	2.7	21.7	10.6%	10.3	1.3	0.9	366.2	73.0%	0.25	Spain
1.1	5.3	3.2	0.7	10.2	10.7%	1.8	0.4	0.1	78.6	63.2%	0.20	Sweden
0.3	0.1	1.3	0.4	2.2	16.2%	2.5	0.1	0.5	62.7	70.7%	0.15	Switzerland
3.1	1.4	20.9	6.0	31.4	9.9%	4.6	0.3	1.9	436.9	64.9%	0.35	Turkey
2.2	1.4	16.5	3.5	23.6	9.5%	13.8	0.4	0.5	611.4	80.6%	0.27	United Kingdom
33.0	**32.9**	**188.3**	**33.1**	**287.3**	**11.5%**	**116.1**	**8.8**	**14.6**	**5 243.2**	**76.6%**	**0.29**	**OECD Europe**
185.1	*128.4*	*913.3*	*170.1*	*1 397.0*	*13.3%*	*664.9*	*37.7*	*125.6*	*30 899.1*	*77.2%*	*..*	*IEA/Accession/Association*
30.3	*36.3*	*176.1*	*28.1*	*270.8*	*11.2%*	*111.3*	*6.2*	*12.0*	*4 908.0*	*77.5%*	*0.29*	*European Union - 28*
198.2	*151.5*	*1 149.2*	*239.8*	*1 738.8*	*11.4%*	*702.1*	*53.7*	*138.3*	*36 821.8*	*73.2%*	*0.52*	*G20*
20.8	*7.3*	*382.7*	*34.9*	*445.7*	*4.7%*	*2.5*	*1.4*	*4.2*	*6 440.5*	*24.2%*	*1.43*	*Africa*
86.0	*90.2*	*561.8*	*123.6*	*861.6*	*10.0%*	*302.4*	*14.3*	*47.6*	*13 336.0*	*60.3%*	*0.55*	*Americas*
119.5	*11.6*	*890.0*	*165.9*	*1 187.0*	*10.1%*	*276.9*	*20.0*	*82.7*	*23 414.3*	*71.5%*	*0.62*	*Asia*
39.0	*61.3*	*236.1*	*54.6*	*391.0*	*10.0%*	*154.9*	*24.2*	*22.2*	*8 182.9*	*75.8%*	*0.39*	*Europe*
3.9	*1.8*	*54.3*	*3.1*	*63.0*	*6.1%*	*9.8*	*0.6*	*0.6*	*824.2*	*56.6%*	*0.77*	*Oceania*

1. GHG / GDP PPP ratio is expressed in kg of CO_2-equivalent per 2010 USD.
2. Please refer to the chapter *Geographical Coverage* in Part I.

2010 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

	CO_2						CH_4					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
Non-OECD Total	**16 977.3**	**368.6**	**1 938.4**	**6 315.0**	**25 599.3**	**67.8%**	**2 450.6**	**3 433.5**	**1 167.5**	**136.8**	**7 188.5**	**34.1%**
Albania	3.9	0.0	0.6	0.1	4.6	85.5%	0.2	1.7	0.9	0.0	2.8	6.3%
Armenia	4.0	-	0.2	0.7	5.0	81.1%	0.4	1.3	0.2	0.0	2.0	21.4%
Azerbaijan	23.5	0.4	0.6	1.0	25.6	93.4%	9.2	6.8	1.9	0.0	17.9	51.4%
Belarus	59.9	4.3	5.1	2.2	71.4	89.9%	0.8	10.3	7.9	0.0	19.0	4.2%
Bosnia and Herzegovina	20.5	0.6	1.0	0.2	22.2	94.7%	1.4	1.5	0.9	0.0	3.8	37.5%
Bulgaria	44.4	0.4	3.9	0.2	48.9	91.5%	1.2	2.0	5.7	0.0	8.9	13.6%
Croatia	18.2	0.1	2.6	0.8	21.7	84.4%	1.7	1.4	1.3	0.0	4.4	38.1%
Cyprus [2]	7.3	-	0.7	0.0	8.0	90.9%	0.0	0.3	1.3	-	1.6	0.9%
FYR of Macedonia	8.3	0.0	0.8	0.0	9.2	90.8%	0.3	0.7	1.0	0.0	2.1	16.0%
Georgia	5.0	0.0	1.0	0.2	6.2	80.6%	0.4	2.1	0.4	0.0	3.0	15.1%
Gibraltar	0.5	-	0.0	-	0.5	99.9%	0.0	-	0.0	-	0.0	3.2%
Kazakhstan	221.1	5.8	9.1	5.6	241.6	93.9%	35.7	17.2	4.9	0.0	57.8	61.7%
Kosovo [1]	8.7	..	..	..	..	..	..	..	..	..	..	..
Kyrgyzstan	6.0	0.0	0.3	0.3	6.7	90.2%	0.2	3.9	1.3	-	5.4	2.8%
Lithuania	12.3	0.0	1.4	0.3	14.0	88.2%	0.8	2.1	1.5	0.0	4.4	17.7%
Malta	2.6	-	0.0	0.0	2.6	98.3%	0.0	0.1	0.1	-	0.2	1.0%
Republic of Moldova	7.9	-	0.4	0.1	8.4	93.9%	0.4	1.0	0.5	-	1.8	22.2%
Montenegro [1]	2.6	..	..	..	..	..	..	..	..	..	..	..
Romania	74.8	0.3	7.1	1.1	83.3	90.1%	6.0	9.9	5.4	0.0	21.3	28.0%
Russian Federation	1 528.9	25.5	105.0	291.9	1 951.3	79.7%	272.3	59.9	82.2	21.1	435.5	62.5%
Serbia [1]	45.9	0.4	1.8	0.4	48.6	95.3%	1.6	3.8	4.5	0.0	9.9	16.4%
Tajikistan	2.3	0.0	0.7	0.1	3.1	73.2%	0.2	4.4	0.9	-	5.5	3.7%
Turkmenistan	56.9	3.2	1.2	1.1	62.4	96.3%	22.0	8.7	0.9	-	31.6	69.6%
Ukraine	266.2	13.7	27.0	2.6	309.5	90.4%	36.0	15.2	11.4	0.1	62.6	57.5%
Uzbekistan	97.1	2.8	6.6	1.1	107.5	92.8%	26.0	20.3	3.9	0.0	50.3	51.7%
Non-OECD Europe and Eurasia	**2 528.7**	**57.3**	**177.2**	**310.4**	**3 073.6**	**84.1%**	**416.8**	**174.6**	**139.1**	**21.3**	**751.8**	**55.4%**
Algeria	95.5	11.4	9.1	0.9	116.9	91.4%	57.9	6.1	7.8	0.0	71.9	80.5%
Angola	15.1	8.3	0.5	635.7	659.7	3.5%	26.3	52.5	3.9	1.9	84.7	31.1%
Benin	4.6	-	0.5	16.0	21.1	21.7%	1.1	3.4	1.6	-	6.0	18.0%
Botswana	3.3	-	0.2	47.3	50.8	6.4%	0.5	6.8	0.5	0.0	7.8	6.9%
Cameroon	5.0	5.0	0.5	63.7	74.3	13.6%	12.3	10.1	3.7	0.3	26.4	46.5%
Congo	1.8	3.5	0.0	27.0	32.4	16.6%	8.7	2.3	0.8	0.1	12.0	72.8%
Côte d'Ivoire	6.2	0.2	0.1	32.2	38.7	16.6%	4.7	4.7	3.0	0.0	12.4	37.8%
Dem. Rep. of the Congo	1.9	0.7	0.2	845.7	848.6	0.3%	8.7	62.3	11.6	5.6	88.2	9.8%
Egypt	176.4	3.3	28.4	3.5	211.6	84.9%	27.6	16.8	12.9	0.0	57.2	48.2%
Eritrea [1]	0.5	-	0.0	0.0	0.5	90.4%	0.4	2.7	0.7	-	3.8	11.6%
Ethiopia [1]	6.0	-	0.7	54.8	61.4	9.7%	20.6	57.7	12.0	0.3	90.5	22.7%
Gabon	2.6	3.3	0.1	3.3	9.3	63.9%	8.0	0.3	0.4	-	8.7	91.7%
Ghana	10.4	0.3	0.8	37.4	48.8	21.9%	3.9	5.9	4.3	0.0	14.2	27.6%
Kenya	11.2	-	1.7	2.5	15.4	72.9%	10.2	27.0	6.1	0.0	43.3	23.6%
Libya	48.1	7.8	5.5	0.2	61.5	90.8%	26.6	1.6	1.9	0.1	30.1	88.3%
Mauritius	3.7	0.0	0.0	0.0	3.7	99.5%	0.2	0.0	0.2	-	0.5	47.2%
Morocco	46.4	-	5.1	0.4	51.9	89.4%	0.4	6.9	6.5	-	13.7	2.9%
Mozambique	2.4	0.0	1.2	351.7	355.3	0.7%	3.9	29.0	4.0	0.7	37.6	10.5%
Namibia	3.1	-	0.0	20.9	24.0	12.8%	0.1	5.3	0.4	-	5.8	1.2%
Niger [1]	1.4	0.0	0.0	1.2	2.6	52.7%	1.8	14.6	2.3	-	18.7	9.7%
Nigeria	55.8	29.8	4.7	42.9	133.2	64.2%	112.0	38.0	25.8	0.2	176.1	63.6%
Senegal	5.5	-	1.5	1.5	8.4	64.7%	1.5	5.4	2.1	-	9.0	16.6%
South Africa	406.7	27.2	16.7	28.2	478.8	90.6%	37.8	26.2	15.4	0.2	79.7	47.5%
South Sudan [1]	..	..	..	..	..	..	..	..	..	..	..	..
Sudan [1]	15.0	0.8	0.7	216.6	233.0	6.8%	8.9	72.2	7.4	0.7	89.2	10.0%
United Rep. of Tanzania	6.1	0.0	0.8	213.4	220.4	2.8%	8.3	37.6	7.4	0.9	54.1	15.3%
Togo	2.1	-	0.4	11.0	13.5	15.3%	1.8	1.9	1.0	0.0	4.6	38.4%
Tunisia	23.3	0.9	3.2	0.2	27.6	87.6%	4.3	2.5	2.2	-	9.0	48.1%
Zambia	1.6	-	0.5	365.8	368.0	0.4%	3.9	30.7	2.5	1.0	38.2	10.3%
Zimbabwe	9.2	0.2	0.6	28.7	38.6	24.3%	2.3	8.7	2.2	0.1	13.3	17.5%
Other Africa	25.3	2.4	2.0	438.6	468.3	5.9%	32.7	141.3	27.1	0.9	202.0	16.2%
Africa	**996.1**	**105.0**	**85.7**	**3 491.4**	**4 678.1**	**23.5%**	**437.5**	**680.5**	**177.6**	**13.0**	**1 308.6**	**33.4%**

1. Please refer to the chapter *Country notes* in Part I.
2. Please refer to the chapter *Geographical Coverage* in Part I.

2010 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

N_2O						HFCs	PFCs	SF_6	Total			
Energy	Industrial processes	Agriculture	Other	Total	Share of energy	Industrial processes			Total	Share of energy	GHG / GDP PPP [3]	
148.7	**46.0**	**1 628.6**	**279.6**	**2 102.9**	**7.1%**	**277.5**	**30.8**	**85.8**	**35 284.8**	**56.5%**	**0.78**	**Non-OECD Total**
0.0	-	0.6	0.1	0.8	5.2%	0.1	-	-	8.2	50.3%	0.30	Albania
0.0	-	0.6	0.1	0.7	2.4%	0.5	-	-	8.2	54.5%	0.44	Armenia
0.2	-	2.1	0.3	2.6	6.6%	0.1	0.1	-	46.2	72.0%	0.33	Azerbaijan
0.4	0.3	10.1	0.5	11.4	3.9%	0.7	0.0	-	102.5	63.8%	0.70	Belarus
0.1	-	0.7	0.2	1.0	11.2%	0.7	0.1	-	27.8	81.2%	0.81	Bosnia and Herzegovina
0.3	0.2	1.9	0.4	2.7	10.0%	0.6	0.0	-	61.2	75.6%	0.55	Bulgaria
0.2	0.9	1.4	0.2	2.7	6.1%	0.1	0.0	-	28.9	69.7%	0.34	Croatia
0.0	-	0.2	0.1	0.3	11.3%	0.3	-	-	10.2	71.5%	0.36	Cyprus [2]
0.0	-	0.3	0.1	0.5	10.0%	0.2	-	-	11.9	73.1%	0.49	FYR of Macedonia
0.0	0.8	1.0	0.1	1.9	2.2%	0.0	-	-	11.1	49.5%	0.43	Georgia
0.0	-	-	0.0	0.0	39.6%	-	-	-	0.5	95.6%	0.55	Gibraltar
1.0	-	11.7	1.3	14.0	7.2%	0.6	-	-	313.9	83.9%	0.94	Kazakhstan
..	..	..	..	..	..	..	..	..	..	..	..	Kosovo [1]
0.0	-	1.4	0.1	1.6	1.6%	0.0	-	-	13.6	45.6%	0.92	Kyrgyzstan
0.1	2.0	2.0	0.2	4.3	2.7%	1.1	0.0	-	23.7	55.7%	0.38	Lithuania
0.0	-	0.0	0.0	0.1	11.9%	0.2	-	-	3.1	84.7%	0.28	Malta
0.0	-	0.5	0.1	0.6	6.1%	0.0	-	-	10.8	76.5%	0.79	Republic of Moldova
..	..	..	..	..	..	..	..	..	..	..	..	Montenegro [1]
0.6	2.8	6.5	0.9	10.8	5.3%	0.7	0.2	0.0	116.3	70.2%	0.35	Romania
5.7	18.2	30.6	22.3	76.9	7.4%	31.7	15.1	9.1	2 519.6	72.7%	0.86	Russian Federation
0.4	0.2	2.4	0.4	3.4	12.5%	7.0	0.1	-	68.9	70.1%	0.80	Serbia [1]
0.0	-	1.4	0.1	1.5	0.5%	0.0	0.2	-	10.4	24.3%	0.66	Tajikistan
0.1	0.9	4.0	0.2	5.2	1.9%	0.1	-	-	99.3	82.7%	2.00	Turkmenistan
1.2	5.2	11.5	2.1	20.0	6.2%	0.4	0.2	0.4	393.2	80.7%	1.12	Ukraine
0.3	0.1	9.5	0.6	10.5	3.1%	1.0	-	-	169.3	74.5%	1.45	Uzbekistan
10.9	**31.5**	**100.6**	**30.3**	**173.3**	**6.3%**	**46.1**	**16.0**	**9.5**	**4 070.4**	**74.0%**	**0.82**	**Non-OECD Europe and Eurasia**
0.3	1.2	3.3	1.1	5.9	4.7%	0.3	-	0.4	195.4	84.5%	0.43	Algeria
0.4	-	33.3	1.8	35.5	1.1%	0.0	-	-	779.9	6.4%	5.78	Angola
0.1	-	2.1	0.2	2.4	4.6%	-	-	-	29.5	19.5%	1.80	Benin
0.1	-	3.9	0.1	4.0	1.4%	-	-	-	62.6	6.2%	2.38	Botswana
0.3	-	6.0	0.6	6.9	3.8%	-	0.2	-	107.8	21.0%	2.07	Cameroon
0.0	-	1.7	0.2	1.9	2.6%	0.0	-	-	46.3	30.6%	2.08	Congo
0.3	-	3.2	0.4	3.9	6.6%	-	-	-	55.0	20.7%	1.02	Côte d'Ivoire
1.0	-	39.7	4.4	45.1	2.3%	-	-	-	981.8	1.3%	25.48	Dem. Rep. of the Congo
1.7	5.4	15.5	2.4	25.0	6.6%	0.5	0.8	1.3	296.5	70.5%	0.37	Egypt
0.0	-	1.2	0.0	1.3	1.8%	-	-	-	5.6	16.9%	0.91	Eritrea [1]
1.7	-	29.9	2.0	33.5	4.9%	0.0	-	-	185.5	15.2%	2.01	Ethiopia [1]
0.1	-	0.2	0.1	0.4	20.4%	0.0	-	-	18.4	76.0%	0.75	Gabon
0.3	-	3.5	0.5	4.3	7.0%	0.0	-	-	67.4	22.2%	0.92	Ghana
0.6	-	12.7	0.8	14.1	4.1%	-	0.0	-	72.7	30.3%	0.73	Kenya
0.2	-	0.8	0.6	1.6	14.0%	-	-	0.3	93.5	88.4%	0.52	Libya
0.0	-	0.1	0.1	0.2	15.4%	0.0	-	-	4.3	90.0%	0.23	Mauritius
0.4	-	4.8	0.9	6.0	6.6%	-	-	-	71.6	65.9%	0.34	Morocco
0.3	-	18.6	1.0	19.8	1.6%	0.1	0.1	-	412.9	1.6%	18.96	Mozambique
0.1	-	2.8	0.1	3.0	3.9%	-	-	-	32.7	10.0%	1.82	Namibia
0.2	-	6.5	0.4	7.0	2.7%	-	-	-	28.2	11.9%	2.16	Niger [1]
5.0	-	20.1	4.7	29.8	16.8%	0.6	0.0	0.4	340.0	59.6%	0.42	Nigeria
0.1	-	2.5	0.2	2.8	2.3%	-	-	-	20.3	34.6%	0.73	Senegal
2.7	0.0	15.2	3.3	21.2	12.8%	0.8	0.3	1.7	582.5	81.4%	0.97	South Africa
..	..	..	..	..	..	..	..	..	..	..	..	South Sudan [1]
0.4	-	36.4	1.4	38.3	1.1%	-	-	-	360.5	7.0%	2.46	Sudan [1]
0.8	-	20.5	1.7	23.0	3.5%	-	-	-	297.4	5.1%	3.24	United Rep. of Tanzania
0.1	-	1.2	0.1	1.4	5.7%	-	-	-	19.5	20.1%	2.54	Togo
0.2	0.3	1.6	0.3	2.4	8.9%	-	-	-	39.0	73.6%	0.36	Tunisia
0.3	0.3	22.9	1.0	24.5	1.1%	0.0	-	-	430.7	1.4%	9.68	Zambia
0.4	-	4.7	0.5	5.5	6.6%	-	-	-	57.5	21.0%	3.02	Zimbabwe
2.8	-	68.1	4.2	75.1	3.8%	0.1	-	-	745.5	8.5%	2.48	Other Africa
20.8	**7.3**	**382.7**	**34.9**	**445.7**	**4.7%**	**2.5**	**1.4**	**4.2**	**6 440.5**	**24.2%**	**1.43**	**Africa**

1. Please refer to the chapter *Country notes* in Part I.
2. Please refer to the chapter *Geographical Coverage* in Part I.
3. GHG / GDP PPP ratio is expressed in kg of CO_2-equivalent per 2010 USD.

2010 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

	CO_2						CH_4					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
Bangladesh	49.9	0.0	7.3	3.9	61.1	81.6%	9.7	87.7	20.7	0.0	118.3	8.2%
Brunei Darussalam	6.9	0.4	0.1	0.2	7.5	96.2%	5.1	0.0	0.1	0.0	5.2	97.4%
Cambodia	4.6	-	0.4	6.5	11.5	40.1%	2.5	19.7	2.1	0.2	24.5	10.2%
DPR of Korea	49.3	7.4	130.3	79.3	266.2	21.3%	128.1	495.4	170.3	3.5	797.2	16.1%
India	1 594.3	0.7	15.9	1.6	1 612.4	98.9%	1.1	2.6	6.3	0.0	10.0	10.8%
Indonesia	376.2	-	3.4	0.6	380.2	98.9%	12.5	5.0	6.3	0.0	23.8	52.6%
Malaysia	189.8	4.7	31.3	23.8	249.7	77.9%	110.6	111.9	56.8	0.4	279.8	39.5%
Mongolia	14.2	4.0	17.6	17.9	53.7	33.9%	30.1	6.4	7.1	0.7	44.3	67.9%
Myanmar	7.9	0.1	0.2	3.1	11.3	70.5%	7.8	7.6	0.5	0.1	16.1	48.5%
Nepal	4.1	0.1	0.4	131.3	135.8	3.1%	8.0	77.3	8.4	4.6	98.3	8.1%
Pakistan	129.6	-	0.6	4.5	134.7	96.2%	2.7	22.9	3.1	0.3	29.0	9.3%
Philippines	77.1	0.2	18.2	5.0	100.5	76.9%	22.7	120.8	24.0	0.0	167.5	13.6%
Singapore	44.3	0.7	7.0	8.3	60.3	74.6%	9.0	41.7	17.1	0.1	67.9	13.2%
Sri Lanka	12.4	-	6.4	0.2	19.0	65.2%	0.5	0.0	2.1	0.0	2.6	19.2%
Chinese Taipei	256.2	-	1.2	1.1	258.5	99.1%	1.3	9.1	2.6	0.0	13.0	10.2%
Thailand	223.4	0.4	23.7	37.6	285.1	78.5%	26.5	81.0	14.9	0.8	123.2	21.5%
Viet Nam	126.1	1.0	27.0	31.5	185.6	68.5%	26.7	69.4	14.5	0.7	111.3	24.0%
Other non-OECD Asia	22.1	0.1	1.2	115.2	138.6	16.0%	4.0	27.0	6.2	4.6	41.7	9.5%
Asia (excl. China)	**3 188.3**	**19.8**	**292.1**	**471.8**	**3 972.0**	**80.8%**	**408.9**	**1 185.6**	**362.9**	**16.2**	**1 973.7**	**20.7%**
People's Rep. of China	7 706.7	101.1	1 131.4	129.2	9 068.4	86.1%	668.3	647.3	261.0	7.6	1 584.2	42.2%
Hong Kong, China	42.0	-	0.7	0.2	42.9	97.9%	0.1	0.0	1.9	-	2.1	5.7%
China	**7 748.6**	**101.1**	**1 132.2**	**129.4**	**9 111.3**	**86.2%**	**668.4**	**647.3**	**263.0**	**7.6**	**1 586.3**	**42.1%**
Argentina	173.7	1.2	9.7	39.8	224.4	77.9%	22.3	84.6	10.1	1.5	118.4	18.8%
Bolivia	13.7	0.2	0.9	460.9	475.7	2.9%	6.2	29.2	2.0	20.0	57.4	10.9%
Brazil	370.5	2.5	47.5	1 268.7	1 689.1	22.1%	38.5	396.2	86.3	53.2	574.1	6.7%
Colombia	60.2	1.9	3.8	4.2	70.1	88.6%	15.3	48.8	10.2	0.0	74.4	20.6%
Costa Rica	6.6	-	0.5	0.4	7.5	88.4%	0.1	2.7	0.8	-	3.7	3.8%
Cuba	32.7	0.1	0.8	1.4	35.0	93.8%	1.0	7.5	4.7	0.0	13.2	7.6%
Curaçao [2]	4.4	-	0.1	0.0	4.4	98.7%	0.0	0.0	0.0	-	0.0	70.7%
Dominican Republic	19.6	-	1.5	1.0	22.1	88.6%	0.3	6.2	3.7	0.0	10.3	3.3%
Ecuador	32.0	3.5	1.9	1.0	38.6	92.2%	8.9	12.8	2.8	-	24.6	36.3%
El Salvador	5.8	-	0.5	0.5	6.8	85.2%	0.2	1.9	1.0	-	3.1	5.9%
Guatemala	10.3	0.0	1.1	6.5	17.9	57.8%	1.9	5.7	2.4	0.1	10.0	18.7%
Haiti	2.1	-	0.2	0.0	2.4	88.0%	3.2	2.7	2.9	0.0	8.8	36.2%
Honduras	7.3	-	0.6	3.3	11.2	65.3%	0.5	5.3	1.2	0.0	7.0	7.5%
Jamaica	6.9	-	0.5	0.2	7.6	90.6%	0.5	0.4	0.8	0.0	1.7	29.5%
Nicaragua	4.3	-	0.3	0.1	4.7	91.2%	0.4	5.5	1.1	0.0	7.0	5.0%
Panama	8.8	-	0.6	0.3	9.7	91.4%	0.1	3.1	0.7	-	3.9	3.7%
Paraguay	4.7	-	0.3	31.5	36.5	12.8%	1.4	19.5	1.3	0.7	23.0	6.3%
Peru	41.1	0.2	3.4	17.9	62.6	66.0%	5.0	14.3	5.5	0.1	25.0	20.2%
Suriname [1]	1.7	0.0	0.0	0.6	2.3	72.9%	0.0	0.5	0.1	-	0.7	5.5%
Trinidad and Tobago	22.3	0.1	18.7	0.3	41.4	54.3%	14.1	0.1	2.1	0.3	16.7	84.7%
Uruguay	6.0	-	0.3	0.1	6.4	92.8%	0.2	21.3	2.7	-	24.2	0.8%
Venezuela	171.5	6.7	9.7	64.2	252.1	70.7%	34.7	32.6	8.1	1.8	77.1	45.0%
Other non-OECD Americas	16.4	0.0	0.6	2.5	19.5	84.4%	0.2	2.6	3.0	0.0	5.9	4.1%
Non-OECD Americas	**1 022.8**	**16.4**	**103.5**	**1 905.3**	**3 048.1**	**34.1%**	**155.4**	**703.5**	**153.5**	**77.8**	**1 090.2**	**14.3%**
Bahrain	25.5	0.0	2.7	0.0	28.3	90.3%	4.5	0.0	0.7	0.0	5.2	86.6%
Islamic Republic of Iran	498.4	23.5	45.7	3.4	571.1	91.4%	114.5	22.9	26.6	0.3	164.3	69.7%
Iraq	103.5	18.1	4.0	0.7	126.4	96.3%	45.7	4.6	9.0	0.0	59.4	77.0%
Jordan	18.8	-	1.8	0.1	20.6	91.2%	0.2	0.5	2.5	-	3.2	5.6%
Kuwait	77.0	4.5	4.7	0.1	86.3	94.4%	19.2	0.2	1.7	0.0	21.1	91.1%
Lebanon	18.2	-	2.3	0.1	20.6	88.5%	0.1	0.3	1.6	-	2.0	5.0%
Oman	42.4	3.3	6.9	0.1	52.6	86.9%	19.2	0.7	1.5	0.1	21.5	88.9%
Qatar	57.1	3.8	9.2	0.0	70.1	86.9%	51.3	0.1	1.6	0.1	53.0	96.7%
Saudi Arabia	419.1	8.0	51.7	1.0	479.7	89.0%	63.0	2.8	13.5	0.4	79.8	79.0%
Syrian Arab Republic	55.9	1.9	3.0	0.8	61.6	93.9%	8.2	3.7	5.1	-	17.0	48.3%
United Arab Emirates	154.5	2.1	14.9	0.3	171.8	91.1%	27.0	1.0	3.5	0.0	31.5	85.8%
Yemen	22.4	3.8	0.9	0.1	27.2	96.3%	10.9	5.0	4.2	-	20.1	54.3%
Middle East	**1 492.8**	**69.0**	**147.7**	**6.7**	**1 716.2**	**91.0%**	**363.7**	**41.9**	**71.4**	**1.0**	**478.0**	**76.1%**

1. Please refer to the chapter *Country notes* in Part I.
2. Please refer to the chapter *Geographical Coverage* in Part I.

2010 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

N_2O						HFCs	PFCs	SF_6	Total			
Energy	Industrial processes	Agriculture	Other	Total	Share of energy	Industrial processes			Total	Share of energy	GHG / GDP PPP [3]	
0.8	-	19.3	2.3	22.4	3.7%	-	-	-	201.8	30.0%	0.55	Bangladesh
0.0	-	0.1	0.0	0.1	10.2%	0.4	-	-	13.3	92.7%	0.48	Brunei Darussalam
0.2	-	2.8	0.4	3.4	6.0%	-	-	-	39.5	18.6%	1.12	Cambodia
20.5	0.3	189.4	29.4	239.6	8.6%	17.3	1.0	5.3	1 326.7	15.5%	13.19	DPR of Korea
1.3	0.7	2.0	1.2	5.2	24.5%	0.1	2.4	4.5	1 634.6	97.7%	0.31	India
0.4	-	1.7	0.6	2.7	13.3%	4.4	-	-	411.1	94.6%	0.21	Indonesia
5.2	0.2	63.1	6.8	75.3	6.9%	-	0.1	1.0	605.8	51.2%	1.04	Malaysia
1.3	0.8	9.0	1.6	12.8	10.1%	0.1	0.2	0.7	111.8	44.3%	5.46	Mongolia
0.1	-	3.6	0.2	3.9	3.0%	-	-	-	31.3	50.8%	0.15	Myanmar
0.6	-	16.2	4.0	20.8	3.0%	-	-	-	254.9	5.0%	4.85	Nepal
0.5	-	3.4	0.8	4.7	10.4%	-	-	-	168.4	78.9%	0.24	Pakistan
2.0	0.0	38.9	3.9	44.8	4.5%	-	-	1.0	313.7	32.5%	0.61	Philippines
0.6	0.0	9.4	1.9	11.9	5.0%	-	-	0.4	140.5	38.8%	0.39	Singapore
0.1	0.7	0.0	0.9	1.7	5.9%	2.2	0.6	0.4	26.6	49.0%	0.16	Sri Lanka
0.3	-	1.8	0.5	2.6	11.9%	-	-	-	274.1	94.1%	0.32	Chinese Taipei
4.4	0.5	16.0	2.6	23.6	18.8%	-	-	1.3	433.2	58.8%	0.49	Thailand
1.3	-	17.4	3.0	21.7	6.0%	-	-	-	318.7	48.7%	0.83	Viet Nam
0.3	-	9.1	4.0	13.4	2.3%	0.1	-	-	193.8	13.7%	1.16	Other non-OECD Asia
40.0	**3.2**	**403.2**	**64.2**	**510.6**	**7.8%**	**24.6**	**4.2**	**14.6**	**6 499.7**	**56.3%**	**0.51**	**Asia (excl. China)**
58.0	1.1	385.8	61.9	506.8	11.4%	195.2	5.7	48.6	11 409.1	74.8%	0.92	People's Rep. of China
0.2	-	0.0	0.3	0.4	37.5%	-	-	0.1	45.6	92.8%	0.14	Hong Kong, China
58.2	**1.1**	**385.8**	**62.1**	**507.3**	**11.5%**	**195.2**	**5.7**	**48.8**	**11 454.6**	**74.9%**	**0.90**	**China**
1.7	0.1	47.7	2.7	52.3	3.2%	0.4	0.1	0.4	396.0	50.2%	0.60	Argentina
0.3	-	15.3	13.2	28.7	1.0%	-	-	-	561.7	3.6%	10.69	Bolivia
7.3	1.0	177.2	42.4	228.0	3.2%	3.2	2.9	1.4	2 498.7	16.8%	0.89	Brazil
0.7	0.1	18.4	1.1	20.2	3.3%	-	0.0	0.1	164.8	47.4%	0.34	Colombia
0.1	0.0	1.3	0.1	1.5	6.4%	0.1	-	-	12.8	53.6%	0.23	Costa Rica
0.2	0.5	4.8	0.4	5.8	2.7%	0.2	-	-	54.2	62.6%	0.27	Cuba
0.0	-	0.0	0.0	0.1	29.7%	-	-	-	4.5	97.6%	1.89	Curaçao [2]
0.1	-	2.2	0.3	2.6	4.7%	-	-	-	35.1	57.2%	0.32	Dominican Republic
0.2	-	4.0	0.6	4.8	4.2%	0.1	-	-	68.1	65.7%	0.50	Ecuador
0.1	-	1.2	0.2	1.4	4.5%	0.1	-	-	11.5	52.7%	0.26	El Salvador
0.4	-	2.8	0.5	3.7	10.4%	0.8	-	-	32.3	38.9%	0.34	Guatemala
0.1	-	1.2	0.2	1.5	8.0%	-	-	-	12.6	42.7%	0.86	Haiti
0.1	-	2.5	0.3	2.9	4.3%	-	-	-	21.2	37.7%	0.66	Honduras
0.1	-	0.3	0.1	0.5	11.8%	0.1	-	-	9.8	75.9%	0.45	Jamaica
0.1	-	3.1	0.2	3.4	2.3%	-	-	-	15.1	31.2%	0.67	Nicaragua
0.1	-	1.0	0.1	1.2	5.2%	-	-	-	14.8	61.1%	0.27	Panama
0.1	-	8.6	0.6	9.3	1.5%	-	-	-	68.8	9.1%	1.55	Paraguay
0.3	-	6.5	0.9	7.6	3.6%	0.5	-	-	95.7	48.7%	0.34	Peru
0.0	-	0.1	0.1	0.3	12.7%	-	-	-	3.3	53.7%	0.45	Suriname [1]
0.1	-	6.9	0.1	7.1	0.9%	0.1	-	-	65.3	56.2%	1.68	Trinidad and Tobago
0.7	0.0	12.3	2.6	15.7	4.4%	1.6	0.2	0.3	48.3	14.2%	0.86	Uruguay
0.2	-	2.4	0.3	2.9	6.3%	0.0	0.0	0.0	332.1	64.2%	0.71	Venezuela
0.2	-	2.4	0.3	2.9	6.3%	0.0	0.0	0.0	28.3	59.7%	0.71	Other non-OECD Americas
13.0	**1.7**	**322.0**	**67.4**	**404.1**	**3.2%**	**7.3**	**3.1**	**2.2**	**4 555.0**	**26.5%**	**0.79**	**Non-OECD Americas**
0.0	-	0.0	0.1	0.2	17.0%	-	0.1	-	33.7	89.1%	0.68	Bahrain
2.8	0.8	19.8	7.6	31.0	8.9%	-	0.1	2.7	769.2	83.1%	0.60	Islamic Republic of Iran
0.4	-	3.4	2.6	6.5	6.5%	-	-	0.1	192.3	87.2%	0.50	Iraq
0.0	-	0.4	0.5	0.9	5.1%	0.2	-	-	24.9	76.3%	0.37	Jordan
0.2	-	0.1	0.5	0.8	23.4%	0.9	-	0.5	109.5	92.1%	0.50	Kuwait
0.1	-	0.3	0.4	0.8	8.8%	-	-	-	23.4	78.6%	0.34	Lebanon
0.1	-	0.5	0.4	1.0	10.8%	0.3	0.0	-	75.4	86.1%	0.56	Oman
0.1	-	0.1	0.3	0.5	19.3%	-	-	-	123.6	90.8%	0.56	Qatar
1.0	-	2.5	4.0	7.4	13.6%	0.3	-	2.3	569.6	86.2%	0.47	Saudi Arabia
0.3	0.3	4.0	1.4	5.9	5.0%	-	-	-	84.6	78.5%	0.64	Syrian Arab Republic
0.2	-	0.6	1.2	2.1	11.4%	-	0.1	1.0	206.5	89.0%	0.44	United Arab Emirates
0.5	-	2.6	1.5	4.6	10.3%	-	-	-	51.8	72.4%	0.51	Yemen
5.8	**1.1**	**34.3**	**20.6**	**61.8**	**9.3%**	**1.7**	**0.3**	**6.6**	**2 264.6**	**85.3%**	**0.52**	**Middle East**

1. Please refer to the chapter *Country notes* in Part I.
2. Please refer to the chapter *Geographical Coverage* in Part I.
3. GHG / GDP PPP ratio is expressed in kg of CO_2-equivalent per 2010 USD.

2014 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

	CO_2						CH_4					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
World [1]	**32 323.1**	**562.2**	**2 666.6**	**6 492.3**	**42 044.2**	**78.2%**	**3 277.2**	**4 234.4**	**1 755.4**	**173.1**	**9 440.2**	**34.7%**
Annex I Parties	*12 631.8*	*154.4*	*562.1*	*1 571.9*	*14 920.2*	*85.7%*	*880.1*	*784.8*	*547.0*	*77.2*	*2 289.2*	*38.4%*
Annex II Parties	*9 917.9*	*64.0*	*345.0*	*1 129.9*	*11 456.8*	*87.1%*	*503.8*	*625.9*	*334.8*	*45.2*	*1 509.7*	*33.4%*
North America	*5 722.5*	*39.5*	*124.2*	*701.8*	*6 588.1*	*87.5%*	*373.3*	*247.5*	*170.3*	*41.6*	*832.7*	*44.8%*
Europe	*2 606.4*	*17.6*	*130.5*	*24.3*	*2 778.8*	*94.4%*	*94.4*	*213.4*	*139.6*	*0.6*	*448.0*	*21.1%*
Asia Oceania	*1 588.9*	*7.0*	*90.3*	*403.8*	*2 090.0*	*76.4%*	*36.2*	*165.0*	*24.8*	*2.9*	*229.0*	*15.8%*
Annex I EIT	*2 399.2*	*89.1*	*174.6*	*437.4*	*3 100.3*	*80.3%*	*364.2*	*126.2*	*155.3*	*32.0*	*677.7*	*53.7%*
Non-Annex I Parties	*18 559.1*	*407.8*	*2 104.5*	*4 920.4*	*25 991.8*	*73.0%*	*2 384.6*	*3 449.6*	*1 208.4*	*95.9*	*7 138.5*	*33.4%*
Annex B Kyoto Parties	*4 130.0*	*55.3*	*226.6*	*432.2*	*4 844.1*	*86.4%*	*279.8*	*401.4*	*220.9*	*3.7*	*905.7*	*30.9%*
Intl. aviation bunkers	**504.5**	**..**	**..**	**..**	**504.5**	**100.0%**	**0.1**	**..**	**..**	**..**	**0.1**	**100.0%**
Intl. marine bunkers	**627.7**	**..**	**..**	**..**	**627.7**	**100.0%**	**12.4**	**..**	**..**	**..**	**12.4**	**100.0%**
Non-OECD Total	**19 342.7**	**470.6**	**2 168.7**	**5 333.4**	**27 315.4**	**72.5%**	**2 655.9**	**3 456.0**	**1 277.3**	**127.3**	**7 516.5**	**35.3%**
OECD Total	**11 848.2**	**91.6**	**498.0**	**1 158.8**	**13 596.6**	**87.8%**	**608.8**	**778.4**	**478.1**	**45.8**	**1 911.1**	**31.9%**
Canada	554.4	4.7	21.2	611.5	1 191.8	46.9%	83.6	26.4	27.0	36.8	173.8	48.1%
Chile	75.8	0.1	5.4	0.2	81.4	93.2%	3.3	6.5	11.9	0.2	21.9	15.0%
Mexico	434.1	11.5	29.5	19.5	494.6	90.1%	38.5	66.0	27.9	0.2	132.6	29.0%
United States	5 168.1	34.7	103.0	90.4	5 396.2	96.4%	289.7	221.1	143.4	4.8	659.0	44.0%
OECD Americas	**6 232.4**	**51.0**	**159.1**	**721.6**	**7 164.1**	**87.7%**	**415.0**	**320.0**	**210.1**	**42.1**	**987.3**	**42.0%**
Australia	373.3	3.9	14.2	394.4	785.9	48.0%	30.4	100.5	12.4	2.7	146.1	20.8%
Israel [2]	61.3	0.0	3.5	0.3	65.1	94.2%	2.8	1.2	4.8	0.0	8.9	31.9%
Japan	1 184.4	2.9	74.1	7.5	1 268.8	93.6%	4.5	33.0	8.5	0.1	46.0	9.7%
Korea	567.8	8.8	42.2	1.6	620.4	92.9%	4.5	16.5	15.2	0.1	36.2	12.4%
New Zealand	31.2	0.1	2.0	1.9	35.3	89.0%	1.3	31.5	4.0	0.1	36.9	3.6%
OECD Asia Oceania	**2 218.0**	**15.8**	**136.0**	**405.7**	**2 775.5**	**80.5%**	**43.5**	**182.7**	**44.8**	**3.1**	**274.1**	**15.9%**
Austria	60.6	0.3	4.1	0.5	65.5	93.1%	2.4	4.8	2.7	0.0	9.9	24.1%
Belgium	87.3	0.5	6.1	0.4	94.3	93.1%	6.7	6.5	3.6	0.0	16.9	40.0%
Czech Republic	98.4	1.6	5.4	0.8	106.3	94.1%	3.3	4.3	4.9	0.0	12.6	26.3%
Denmark	34.4	0.2	1.1	0.3	36.0	96.2%	1.2	6.2	1.4	0.0	8.8	14.0%
Estonia	18.6	0.9	0.4	0.1	20.0	97.4%	0.4	0.7	1.8	0.0	2.9	13.9%
Finland	45.5	0.3	1.7	0.3	47.7	95.8%	6.1	2.3	7.5	0.0	15.9	38.2%
France	284.0	2.4	20.1	5.1	311.5	91.9%	6.5	41.4	17.3	0.1	65.3	10.0%
Germany	723.3	5.7	30.3	5.5	764.9	95.3%	13.7	35.7	18.1	0.2	67.8	20.3%
Greece	65.8	..	3.9	0.4	70.1	93.8%	14.7	4.5	4.1	0.0	23.4	63.0%
Hungary	40.0	0.4	3.4	0.3	44.2	91.5%	2.2	3.0	3.9	0.0	9.1	24.1%
Iceland	2.0	..	1.7	0.0	3.8	54.0%	0.0	0.3	0.2	0.0	0.5	0.9%
Ireland	33.9	0.5	1.3	0.3	35.9	95.6%	2.1	14.5	1.4	..	18.0	11.9%
Italy	319.7	0.4	14.0	4.2	338.3	94.6%	6.5	19.2	15.2	0.0	40.9	16.0%
Latvia	6.7	..	0.6	0.1	7.5	90.1%	0.5	1.1	0.7	0.0	2.3	22.8%
Luxembourg	9.3	..	0.5	0.0	9.7	95.2%	0.1	0.4	0.1	..	0.5	10.0%
Netherlands	148.5	0.7	5.1	0.6	154.9	96.3%	5.2	12.2	4.9	0.1	22.4	23.4%
Norway	35.4	0.6	6.8	0.1	43.0	83.9%	15.4	2.4	2.0	0.1	19.9	77.5%
Poland	279.1	2.8	15.2	1.0	298.1	94.6%	34.8	18.0	12.7	0.0	65.5	53.1%
Portugal	42.8	..	3.1	0.4	46.4	92.4%	0.9	4.4	8.2	0.0	13.5	6.9%
Slovak Republic	29.2	0.2	4.5	0.3	34.1	86.0%	1.1	1.6	3.3	0.0	6.0	18.2%
Slovenia	12.8	..	0.8	0.0	13.6	93.7%	1.5	1.3	0.6	0.0	3.4	44.5%
Spain	232.0	0.9	14.1	2.6	249.7	93.3%	2.8	22.8	16.6	0.1	42.3	6.7%
Sweden	37.3	0.5	4.2	1.2	43.2	87.5%	1.1	3.4	7.6	0.1	12.2	9.2%
Switzerland	37.9	..	2.3	0.5	40.6	93.3%	0.7	3.7	5.1	0.0	9.4	7.8%
Turkey	306.6	1.2	42.1	4.5	354.4	86.9%	12.1	32.3	55.6	0.0	100.0	12.1%
United Kingdom	406.8	4.6	10.1	1.7	423.1	97.2%	7.9	28.7	23.8	0.1	60.4	13.2%
OECD Europe	**3 397.8**	**24.8**	**202.9**	**31.6**	**3 657.0**	**93.6%**	**150.3**	**275.7**	**223.1**	**0.7**	**649.8**	**23.1%**
IEA/Accession/Association	*23 598.3*	*238.0*	*1 877.9*	*1 316.2*	*27 030.4*	*88.2%*	*1 414.5*	*1 553.2*	*817.6*	*56.1*	*3 841.3*	*36.8%*
European Union - 28	*3 159.4*	*23.4*	*166.5*	*27.4*	*3 376.7*	*94.3%*	*131.2*	*251.1*	*175.6*	*0.6*	*558.5*	*23.5%*
G20	*26 375.0*	*340.3*	*2 076.8*	*2 228.9*	*31 021.0*	*86.1%*	*1 815.6*	*1 951.4*	*994.0*	*104.0*	*4 865.1*	*37.3%*
Africa	*1 120.3*	*84.3*	*88.1*	*3 190.8*	*4 483.4*	*26.9%*	*433.4*	*687.9*	*199.2*	*11.9*	*1 332.4*	*32.5%*
Americas	*7 398.7*	*85.1*	*254.0*	*1 380.9*	*9 118.7*	*82.1%*	*589.9*	*985.8*	*367.5*	*63.0*	*2 006.3*	*29.4%*
Asia	*17 170.7*	*280.7*	*1 998.2*	*1 062.2*	*20 511.8*	*85.1%*	*1 746.5*	*2 080.8*	*868.8*	*62.7*	*4 758.9*	*36.7%*
Europe	*5 096.7*	*108.0*	*310.1*	*462.1*	*5 967.3*	*87.2%*	*463.1*	*347.9*	*303.6*	*32.6*	*1 147.2*	*40.4%*
Oceania	*404.6*	*4.1*	*16.2*	*396.3*	*821.2*	*49.8%*	*31.7*	*132.0*	*16.4*	*2.8*	*182.9*	*17.3%*

1. Total World includes Non-OECD total, OECD total as well as international bunkers. 2.Please refer to the chapter *Geographical Coverage* in Part I.
Sources: IEA, CO_2 emissions from fuel combustion. EDGAR 4.3.2 and 4.2 FT2010 databases for other emissions.

2014 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

N_2O						HFCs	PFCs	SF_6	Total			
Energy	Industrial processes	Agriculture	Other	Total	Share of energy	Industrial processes			Total	Share of energy	GHG / GDP PPP [3]	
292.6	**122.7**	**2 153.2**	**434.4**	**3 003.0**	**9.7%**	**745.4**	**43.8**	**165.5**	**55 442.1**	**65.8%**	**0.54**	**World [1]**
117.8	*41.6*	*538.7*	*141.5*	*839.6*	*14.0%*	*482.7*	*32.1*	*74.8*	*18 638.7*	*74.0%*	*0.40*	*Annex I Parties*
99.6	*29.3*	*423.8*	*96.1*	*648.8*	*15.3%*	*431.4*	*20.8*	*62.9*	*14 130.4*	*74.9%*	*0.36*	*Annex II Parties*
66.9	*19.4*	*194.8*	*62.8*	*344.0*	*19.5%*	*275.3*	*8.9*	*45.3*	*8 094.3*	*76.6%*	*0.46*	*North America*
21.5	*6.1*	*149.6*	*22.4*	*199.7*	*10.8%*	*102.7*	*5.8*	*13.0*	*3 547.9*	*77.2%*	*0.23*	*Europe*
11.1	*3.7*	*79.4*	*10.9*	*105.1*	*10.5%*	*53.3*	*6.1*	*4.6*	*2 488.1*	*66.0%*	*0.44*	*Asia Oceania*
14.9	*10.5*	*92.0*	*38.8*	*156.2*	*9.5%*	*46.2*	*11.0*	*9.9*	*4 001.4*	*71.7%*	*0.66*	*Annex I EIT*
165.8	*81.2*	*1 614.5*	*269.4*	*2 130.9*	*7.8%*	*262.7*	*11.7*	*90.7*	*35 626.2*	*60.4%*	*0.65*	*Non-Annex I Parties*
35.0	*13.1*	*283.3*	*36.9*	*368.3*	*9.5%*	*126.0*	*7.0*	*14.4*	*6 265.5*	*71.8%*	*0.31*	*Annex B Kyoto Parties*
4.2	**..**	**..**	**3.2**	**7.4**	**57.3%**	**..**	**..**	**..**	**512.0**	**99.4%**	**..**	**Intl. aviation bunkers**
4.7	**..**	**..**	**20.4**	**25.1**	**18.7%**	**..**	**..**	**..**	**665.2**	**96.9%**	**..**	**Intl. marine bunkers**
166.9	**18.2**	**1 634.4**	**293.7**	**2 113.3**	**7.9%**	**283.8**	**20.7**	**92.5**	**37 342.3**	**60.6%**	**0.68**	**Non-OECD Total**
116.7	**104.6**	**518.8**	**117.2**	**857.2**	**13.6%**	**461.6**	**23.0**	**72.9**	**16 922.5**	**74.8%**	**0.36**	**OECD Total**
6.5	0.9	27.8	27.3	62.4	10.4%	17.4	2.5	4.1	1 452.0	44.7%	0.97	Canada
0.5	0.1	5.1	0.9	6.7	8.0%	..	0.0	0.0	110.0	72.4%	0.30	Chile
3.6	71.0	33.4	5.5	113.5	3.1%	11.2	0.1	0.5	752.5	64.8%	0.39	Mexico
60.5	18.5	167.0	35.5	281.5	21.5%	257.9	6.5	41.2	6 642.3	83.6%	0.41	United States
71.0	**90.5**	**233.3**	**69.2**	**464.1**	**15.3%**	**286.5**	**9.0**	**45.8**	**8 956.8**	**75.6%**	**0.45**	**OECD Americas**
3.7	1.8	60.1	4.3	69.9	5.3%	9.6	0.4	0.6	1 012.3	40.6%	0.97	Australia
0.2	0.1	0.8	1.2	2.3	9.6%	2.0	0.1	0.7	78.9	81.5%	0.31	Israel [2]
7.0	1.9	7.2	6.4	22.6	31.1%	42.6	5.7	3.9	1 389.6	86.3%	0.31	Japan
3.6	0.7	4.9	2.9	12.2	29.9%	3.3	1.4	6.6	680.1	86.0%	0.40	Korea
0.3	..	12.1	0.3	12.7	2.7%	1.1	0.1	0.1	86.2	38.4%	0.57	New Zealand
14.9	**4.5**	**85.1**	**15.0**	**119.6**	**12.5%**	**58.6**	**7.6**	**11.8**	**3 247.2**	**70.6%**	**0.43**	**OECD Asia Oceania**
0.7	0.1	2.2	0.6	3.6	18.7%	2.9	0.2	0.2	82.3	77.8%	0.22	Austria
0.6	1.1	2.7	0.7	5.1	11.9%	2.9	0.0	0.1	119.4	79.7%	0.26	Belgium
1.4	0.4	2.8	0.8	5.3	25.5%	1.7	0.0	0.0	126.0	83.1%	0.42	Czech Republic
0.5	..	4.3	0.5	5.3	9.3%	1.9	0.0	0.0	52.1	69.8%	0.21	Denmark
0.2	..	0.5	0.1	0.8	20.9%	0.1	0.0	0.0	23.8	84.3%	0.71	Estonia
1.9	0.2	2.8	0.5	5.4	34.6%	1.2	0.0	0.1	70.3	76.3%	0.34	Finland
3.1	0.7	35.8	3.0	42.5	7.2%	20.3	0.5	1.8	442.0	67.0%	0.18	France
4.7	1.5	29.9	4.2	40.2	11.7%	21.9	0.9	7.0	902.7	82.8%	0.26	Germany
0.5	0.0	4.1	0.7	5.3	8.9%	1.2	0.1	0.1	100.2	80.8%	0.39	Greece
0.3	0.1	3.4	0.6	4.4	6.8%	1.9	0.0	0.0	59.7	72.0%	0.26	Hungary
0.0	0.0	0.3	0.0	0.4	3.8%	0.1	0.0	0.0	4.8	43.3%	0.35	Iceland
0.2	..	6.3	0.2	6.8	3.2%	1.4	0.1	0.1	62.2	58.9%	0.29	Ireland
2.6	0.1	11.1	3.1	16.8	15.4%	14.0	0.4	1.1	411.6	80.0%	0.21	Italy
0.1	..	1.0	0.1	1.3	10.9%	1.4	0.0	..	12.5	59.1%	0.29	Latvia
0.1	..	0.1	0.1	0.3	29.1%	0.2	0.0	..	10.7	87.9%	0.22	Luxembourg
0.7	1.6	5.5	0.9	8.7	8.2%	4.7	0.2	0.2	191.2	81.1%	0.25	Netherlands
0.3	0.3	1.8	0.4	2.8	10.5%	0.5	1.6	0.2	67.9	76.2%	0.22	Norway
3.5	1.0	18.5	2.0	25.0	14.1%	2.8	0.3	0.3	392.0	81.7%	0.44	Poland
0.4	0.1	2.5	0.5	3.4	12.6%	1.0	0.0	0.1	64.5	68.5%	0.24	Portugal
0.3	0.1	1.3	0.3	2.0	13.2%	0.5	0.0	..	42.7	72.0%	0.29	Slovak Republic
0.1	..	0.5	0.2	0.8	13.9%	0.6	0.0	0.0	18.4	78.0%	0.32	Slovenia
2.0	0.4	17.2	2.5	22.1	8.8%	10.3	1.0	1.0	326.2	72.8%	0.23	Spain
1.0	0.1	3.3	0.7	5.0	18.9%	1.8	0.3	0.1	62.7	63.7%	0.15	Sweden
0.3	..	1.4	0.5	2.1	14.5%	2.5	0.1	0.5	55.2	70.5%	0.12	Switzerland
3.3	1.8	22.7	6.4	34.3	9.7%	4.7	0.2	2.0	495.6	65.2%	0.30	Turkey
2.1	0.0	18.2	3.4	23.8	9.0%	13.8	0.4	0.5	522.0	80.7%	0.22	United Kingdom
30.7	**9.5**	**200.4**	**32.9**	**273.6**	**11.2%**	**116.5**	**6.4**	**15.3**	**4 718.5**	**76.4%**	**0.25**	**OECD Europe**
191.0	*107.6*	*944.0*	*194.3*	*1 436.9*	*13.3%*	*661.2*	*28.3*	*132.7*	*33 130.9*	*76.8%*	*..*	*IEA/Accession/Association*
27.9	*8.5*	*186.7*	*27.5*	*250.6*	*11.1%*	*111.7*	*4.7*	*12.6*	*4 314.9*	*77.5%*	*0.25*	*European Union - 28*
204.9	*113.4*	*1 167.6*	*248.6*	*1 734.5*	*11.8%*	*700.3*	*39.2*	*145.6*	*38 505.8*	*74.6%*	*0.47*	*G20*
21.8	*1.0*	*384.4*	*35.8*	*443.0*	*4.9%*	*2.5*	*0.9*	*4.4*	*6 266.7*	*26.5%*	*1.21*	*Africa*
85.2	*91.3*	*536.2*	*101.5*	*814.2*	*10.5%*	*293.9*	*11.1*	*48.1*	*12 292.2*	*66.4%*	*0.47*	*Americas*
135.5	*11.8*	*914.8*	*207.0*	*1 269.1*	*10.7%*	*281.1*	*14.4*	*89.5*	*26 924.8*	*71.8%*	*0.58*	*Asia*
37.1	*16.8*	*245.7*	*62.1*	*361.7*	*10.3%*	*157.2*	*16.9*	*22.9*	*7 673.1*	*74.2%*	*0.35*	*Europe*
4.1	*1.8*	*72.2*	*4.5*	*82.6*	*4.9%*	*10.7*	*0.4*	*0.6*	*1 098.5*	*40.5%*	*0.92*	*Oceania*

1. GHG / GDP PPP ratio is expressed in kg of CO_2-equivalent per 2010 USD.
2. Please refer to the chapter *Geographical Coverage* in Part I.

2014 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

	CO_2						CH_4					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
Non-OECD Total	**19 342.7**	**470.6**	**2 168.7**	**5 333.4**	**27 315.4**	**72.5%**	**2 655.9**	**3 456.0**	**1 277.3**	**127.3**	**7 516.5**	**35.3%**
Albania	4.1	0.0	0.9	0.0	5.1	80.7%	0.3	1.7	0.9	0.0	2.9	8.8%
Armenia	5.2	..	0.2	0.1	5.5	95.0%	0.4	1.5	0.3	..	2.2	19.4%
Azerbaijan	30.8	0.6	1.3	0.2	32.9	95.4%	10.1	7.1	2.1	0.0	19.3	52.2%
Belarus	57.4	2.2	5.6	2.5	67.7	88.0%	0.8	10.7	8.1	0.1	19.7	4.2%
Bosnia and Herzegovina	21.6	0.6	1.0	0.1	23.4	95.1%	1.9	1.4	1.0	0.0	4.3	45.1%
Bulgaria	41.6	0.3	4.0	0.1	46.1	91.1%	1.4	2.0	5.4	0.0	8.7	15.6%
Croatia	15.1	0.0	2.1	0.2	17.4	87.0%	1.3	1.4	1.4	0.0	4.0	31.9%
Cyprus [2]	5.8	..	0.5	0.0	6.3	91.5%	0.0	0.3	1.4	..	1.7	0.8%
FYR of Macedonia	7.4	..	0.8	0.0	8.3	90.2%	0.3	0.7	1.0	0.0	2.0	14.4%
Georgia	7.7	0.0	1.3	0.1	9.2	84.2%	0.6	2.5	0.4	0.0	3.5	16.1%
Gibraltar	0.5	..	..	0.0	0.5	99.7%	0.0	..	0.0	..	0.0	4.8%
Kazakhstan	229.8	14.0	10.5	3.2	257.6	94.7%	65.8	18.6	5.3	0.1	89.8	73.3%
Kosovo [1]	7.4	..	..	..	..	..	..	..	..	..	..	..
Kyrgyzstan	9.0	..	0.7	0.2	9.9	90.9%	0.3	4.5	1.2	..	5.9	4.5%
Lithuania	10.5	0.0	2.1	0.1	12.7	82.5%	0.7	1.9	1.5	0.0	4.2	17.6%
Malta	2.4	..	0.0	0.0	2.4	99.6%	0.0	0.0	0.0	..	0.1	1.7%
Republic of Moldova	7.2	..	0.5	0.0	7.8	93.1%	0.4	0.9	0.5	..	1.8	20.1%
Montenegro [1]	2.2	..	..	..	..	..	..	..	..	..	..	..
Romania	68.2	0.1	7.7	0.6	76.6	89.2%	5.8	8.5	5.6	0.0	20.0	29.2%
Russian Federation	1 486.9	69.3	103.7	427.3	2 087.2	74.6%	275.0	57.7	93.1	31.7	457.5	60.1%
Serbia [1]	38.1	0.6	1.9	0.1	40.8	95.0%	1.7	3.5	5.1	0.0	10.3	16.3%
Tajikistan	4.1	..	0.7	0.0	4.8	85.1%	0.5	5.1	1.1	..	6.6	7.1%
Turkmenistan	67.0	3.9	1.7	0.3	73.0	97.1%	33.0	8.9	1.0	..	42.9	76.8%
Ukraine	234.7	11.2	19.0	3.9	268.9	91.5%	35.4	14.1	12.3	0.1	61.8	57.2%
Uzbekistan	97.9	2.5	5.8	0.7	106.9	93.9%	24.6	24.7	4.5	0.0	53.8	45.7%
Non-OECD Europe and Eurasia	**2 462.8**	**105.5**	**172.0**	**440.1**	**3 180.4**	**80.8%**	**460.1**	**177.7**	**153.3**	**32.0**	**823.1**	**55.9%**
Algeria	123.1	15.6	9.9	1.0	149.6	92.7%	57.6	7.3	8.7	0.0	73.7	78.1%
Angola	19.3	6.7	0.9	566.4	593.3	4.4%	27.5	47.5	4.6	2.1	81.7	33.7%
Benin	4.8	..	0.5	12.7	18.0	26.6%	1.2	3.4	1.8	..	6.4	18.7%
Botswana	7.0	..	0.1	13.0	20.1	34.6%	0.8	3.5	0.5	..	4.8	16.0%
Cameroon	5.6	1.8	0.6	50.7	58.7	12.6%	13.1	10.5	4.2	0.3	28.1	46.5%
Congo	2.6	2.5	0.2	33.1	38.3	13.4%	7.8	2.8	0.9	0.1	11.7	67.1%
Côte d'Ivoire	8.9	0.2	0.9	26.1	36.1	25.2%	6.0	4.3	3.4	0.0	13.7	43.7%
Dem. Rep. of the Congo	4.7	0.4	0.1	767.8	773.1	0.7%	9.4	56.8	13.4	5.4	85.0	11.1%
Egypt	193.3	5.3	26.9	3.4	228.9	86.8%	28.2	17.1	14.8	0.0	60.0	46.9%
Eritrea [1]	0.6	..	0.1	0.1	0.7	78.4%	0.5	2.7	0.7	..	4.0	12.3%
Ethiopia [1]	10.1	..	1.9	58.0	70.0	14.5%	24.3	62.4	13.4	0.4	100.6	24.2%
Gabon	3.3	2.9	0.1	4.5	10.8	57.4%	7.4	0.4	0.4	..	8.3	89.6%
Ghana	13.2	0.2	1.1	39.4	53.9	24.9%	6.9	6.6	4.9	0.1	18.4	37.2%
Kenya	12.4	..	2.2	2.6	17.2	71.8%	11.3	28.6	6.8	..	46.7	24.2%
Libya	47.9	5.1	2.0	0.1	55.0	96.3%	12.1	1.6	1.9	0.1	15.7	76.9%
Mauritius	4.0	..	0.0	0.0	4.0	99.7%	0.2	0.0	0.2	..	0.4	45.2%
Morocco	53.5	..	5.2	0.8	59.5	90.0%	0.4	7.6	7.0	..	15.0	2.8%
Mozambique	3.9	0.0	1.4	315.0	320.4	1.2%	5.8	27.0	4.5	0.5	37.8	15.3%
Namibia	3.6	..	0.3	13.2	17.0	21.1%	0.1	4.6	0.5	..	5.1	1.5%
Niger [1]	2.0	0.2	0.0	0.7	2.9	74.8%	2.3	16.3	2.6	..	21.2	10.9%
Nigeria	60.1	16.3	6.9	32.3	115.6	66.1%	107.2	43.0	29.5	0.1	179.8	59.6%
Senegal	6.3	..	1.7	1.7	9.7	64.8%	1.4	5.8	2.3	0.0	9.5	14.3%
South Africa	434.6	23.1	14.2	31.7	503.6	90.9%	38.7	26.7	15.9	0.2	81.6	47.5%
South Sudan [1]	..	..	..	..	..	..	..	..	..	..	..	..
Sudan [1]	13.4	0.9	1.2	287.3	302.8	4.7%	8.5	79.6	8.2	0.2	96.6	8.8%
United Rep. of Tanzania	10.4	0.0	1.0	141.7	153.0	6.8%	9.2	35.9	8.5	0.3	53.8	17.0%
Togo	1.8	..	0.6	7.2	9.6	18.6%	2.0	1.7	1.1	0.0	4.8	41.2%
Tunisia	25.0	1.3	3.3	0.2	29.9	88.2%	4.2	2.5	2.3	..	9.0	46.5%
Zambia	3.2	..	0.9	336.0	340.0	0.9%	4.4	28.9	2.9	0.7	36.9	11.9%
Zimbabwe	11.5	0.1	0.8	20.8	33.3	35.0%	2.9	8.2	2.4	0.1	13.6	21.3%
Other Africa	30.3	1.7	3.1	423.2	458.3	7.0%	32.2	144.5	30.8	1.2	208.6	15.4%
Africa	**1 120.3**	**84.3**	**88.1**	**3 190.8**	**4 483.4**	**26.9%**	**433.4**	**687.9**	**199.2**	**11.9**	**1 332.4**	**32.5%**

1. Please refer to the chapter *Country notes* in Part I.
2. Please refer to the chapter *Geographical Coverage* in Part I.

2014 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

N_2O						HFCs	PFCs	SF_6	Total			
Energy	Industrial processes	Agriculture	Other	Total	Share of energy	Industrial processes			Total	Share of energy	GHG / GDP PPP [3]	
166.9	**18.2**	**1 634.4**	**293.7**	**2 113.3**	**7.9%**	**283.8**	**20.7**	**92.5**	**37 342.3**	**60.6%**	**0.68**	**Non-OECD Total**
0.0	..	0.6	0.1	0.8	5.7%	0.1	..	..	8.9	49.8%	0.31	Albania
0.0	..	0.7	0.1	0.8	1.9%	0.6	..	..	9.0	62.9%	0.40	Armenia
0.2	..	2.2	0.3	2.7	7.0%	0.1	0.1	..	55.0	75.7%	0.35	Azerbaijan
0.5	0.3	9.5	0.5	10.8	4.4%	0.7	0.0	..	99.0	61.5%	0.61	Belarus
0.2	..	0.7	0.2	1.1	17.2%	0.7	0.1	..	29.5	82.5%	0.83	Bosnia and Herzegovina
0.3	0.1	2.1	0.4	2.9	9.7%	0.6	0.0	..	58.3	74.7%	0.50	Bulgaria
0.1	0.3	1.4	0.2	2.0	7.3%	0.1	0.0	..	23.5	70.4%	0.29	Croatia
0.0	..	0.2	0.1	0.3	10.1%	0.3	..	..	8.6	67.5%	0.34	Cyprus [2]
0.0	..	0.3	0.1	0.5	8.5%	0.2	..	..	10.9	71.1%	0.42	FYR of Macedonia
0.1	0.8	1.1	0.1	2.1	3.4%	0.0	..	..	14.8	56.6%	0.46	Georgia
0.0	..	..	0.0	0.0	33.3%	..	..	..	0.6	95.8%	0.58	Gibraltar
1.1	..	11.4	1.5	14.0	7.7%	0.6	..	..	361.9	85.9%	0.87	Kazakhstan
..	..	..	..	..	..	..	..	..	..	..	..	Kosovo [1]
0.0	..	1.3	0.2	1.5	2.3%	0.0	..	..	17.5	53.5%	0.96	Kyrgyzstan
0.1	0.3	2.5	0.2	3.1	3.6%	1.1	0.0	..	21.0	53.8%	0.29	Lithuania
0.0	..	0.0	0.0	0.1	9.1%	0.2	..	..	2.7	87.5%	0.22	Malta
0.0	..	0.5	0.1	0.6	5.1%	0.0	..	..	10.2	74.6%	0.61	Republic of Moldova
..	..	..	..	..	..	..	..	..	..	..	..	Montenegro [1]
0.5	0.4	6.4	0.9	8.2	6.6%	0.7	0.2	0.0	105.6	70.7%	0.29	Romania
6.3	5.3	30.0	30.2	71.8	8.8%	33.5	10.2	9.1	2 669.4	68.8%	0.83	Russian Federation
0.3	0.2	1.9	0.4	2.8	12.2%	7.0	0.0	..	60.9	66.9%	0.70	Serbia [1]
0.0	..	1.5	0.1	1.6	0.7%	0.0	0.1	..	13.2	34.5%	0.63	Tajikistan
0.1	0.9	3.9	0.3	5.1	2.0%	0.1	..	..	121.2	85.8%	1.58	Turkmenistan
1.2	2.2	12.1	2.3	17.7	6.6%	0.4	0.2	0.5	349.5	80.8%	1.00	Ukraine
0.3	0.1	11.1	0.7	12.1	2.3%	1.0	..	..	173.7	72.1%	1.08	Uzbekistan
11.5	**10.9**	**101.3**	**38.8**	**162.5**	**7.1%**	**48.0**	**10.9**	**9.6**	**4 234.6**	**71.8%**	**0.77**	**Non-OECD Europe and Eurasia**
0.3	0.1	4.7	1.2	6.3	5.2%	0.3	..	0.4	230.3	85.4%	0.45	Algeria
0.4	..	30.3	2.0	32.8	1.3%	0.0	..	..	707.8	7.6%	4.29	Angola
0.1	..	2.1	0.2	2.5	5.2%	..	..	..	26.8	22.8%	1.33	Benin
0.1	..	2.3	0.1	2.5	2.9%	..	..	..	27.4	28.4%	0.83	Botswana
0.3	..	5.9	0.7	6.9	4.1%	..	0.1	..	93.9	22.1%	1.48	Cameroon
0.1	..	2.0	0.2	2.2	2.3%	0.0	..	..	52.2	24.9%	1.98	Congo
0.3	..	3.2	0.4	3.9	8.2%	..	..	..	53.8	28.7%	0.80	Côte d'Ivoire
1.2	..	36.1	4.3	41.5	2.8%	..	..	..	899.6	1.7%	17.25	Dem. Rep. of the Congo
1.3	0.2	16.5	2.7	20.6	6.1%	0.5	0.5	1.4	312.0	73.1%	0.35	Egypt
0.0	..	1.2	0.0	1.3	1.9%	..	..	..	6.0	18.3%	0.78	Eritrea [1]
1.8	..	32.7	2.1	36.7	5.0%	0.0	..	..	207.3	17.5%	1.53	Ethiopia [1]
0.1	..	0.3	0.1	0.5	21.3%	0.0	..	..	19.6	70.1%	0.64	Gabon
0.3	..	3.8	0.6	4.7	7.0%	0.0	..	..	77.0	26.7%	0.75	Ghana
0.6	..	13.1	0.9	14.7	4.4%	..	0.0	..	78.5	30.9%	0.63	Kenya
0.2	..	0.7	0.4	1.3	15.0%	..	..	0.4	72.4	90.2%	0.79	Libya
0.0	..	0.1	0.1	0.2	15.5%	0.0	..	..	4.6	90.8%	0.21	Mauritius
0.4	..	5.3	0.9	6.6	6.6%	..	..	..	81.1	67.0%	0.34	Morocco
0.4	..	17.3	0.9	18.5	2.0%	0.1	0.1	..	376.9	2.7%	13.09	Mozambique
0.1	..	2.4	0.1	2.6	5.1%	..	..	..	24.7	15.4%	1.10	Namibia
0.3	..	7.2	0.4	7.8	3.2%	..	..	..	31.9	14.8%	1.89	Niger [1]
5.3	..	22.0	5.0	32.3	16.3%	0.6	0.0	0.4	328.7	57.5%	0.34	Nigeria
0.1	..	2.8	0.3	3.1	1.9%	..	..	..	22.2	34.5%	0.70	Senegal
2.9	0.2	15.2	3.2	21.4	13.4%	0.8	0.2	1.8	609.4	81.9%	0.92	South Africa
..	..	..	..	..	..	..	..	..	..	..	..	South Sudan [1]
0.4	..	40.6	1.2	42.2	1.1%	..	..	..	441.6	5.3%	2.85	Sudan [1]
0.9	..	18.9	1.5	21.3	4.3%	..	..	..	228.2	9.0%	1.91	United Rep. of Tanzania
0.1	..	1.1	0.1	1.3	6.1%	..	..	..	15.7	24.4%	1.69	Togo
0.2	0.3	1.7	0.3	2.5	8.2%	..	..	..	41.4	74.3%	0.35	Tunisia
0.3	0.3	21.3	0.9	22.8	1.4%	0.0	..	..	399.7	2.0%	7.19	Zambia
0.4	..	4.4	0.5	5.3	7.2%	..	..	..	52.1	28.6%	2.04	Zimbabwe
2.9	..	69.0	4.6	76.5	3.8%	0.1	..	..	743.7	9.0%	2.06	Other Africa
21.8	**1.0**	**384.4**	**35.8**	**443.0**	**4.9%**	**2.5**	**0.9**	**4.4**	**6 266.7**	**26.5%**	**1.21**	**Africa**

1. Please refer to the chapter *Country notes* in Part I.
2. Please refer to the chapter *Geographical Coverage* in Part I.
3. GHG / GDP PPP ratio is expressed in kg of CO_2-equivalent per 2010 USD.

2014 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

	CO_2						CH_4					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
Bangladesh	62.9	0.0	7.6	5.1	75.6	83.2%	11.0	88.4	22.3	0.2	121.9	9.0%
Brunei Darussalam	6.7	0.2	0.1	0.1	7.1	96.9%	5.0	0.0	0.1	0.0	5.1	97.4%
Cambodia	6.1	..	0.6	7.9	14.6	41.9%	2.8	19.5	2.2	0.3	24.9	11.4%
DPR of Korea	28.7	12.8	145.9	64.2	251.6	16.5%	108.2	512.4	182.2	3.0	805.7	13.4%
India	2 018.8	2.6	16.2	1.1	2 038.8	99.2%	1.1	2.8	6.5	0.0	10.4	10.6%
Indonesia	434.9	..	3.8	2.0	440.7	98.7%	12.3	4.7	6.5	0.1	23.6	52.1%
Malaysia	220.5	5.7	34.2	536.8	797.3	28.4%	128.1	119.2	64.0	38.0	349.4	36.7%
Mongolia	17.9	6.5	17.6	17.5	59.6	41.1%	36.9	6.5	7.7	0.9	52.1	71.0%
Myanmar	20.0	0.1	0.2	9.0	29.4	68.6%	8.0	12.1	0.6	0.1	20.8	38.4%
Nepal	5.8	0.1	0.6	125.9	132.5	4.5%	9.0	80.5	8.9	4.9	103.3	8.8%
Pakistan	141.6	..	1.2	5.6	148.4	95.4%	3.1	23.7	3.3	0.4	30.5	10.2%
Philippines	95.7	1.0	16.7	2.7	116.1	83.3%	23.0	144.7	26.4	0.0	194.2	11.9%
Singapore	45.3	0.3	9.1	4.4	59.2	77.1%	9.9	43.2	18.0	0.0	71.1	13.9%
Sri Lanka	16.7	..	6.3	0.5	23.6	70.9%	0.5	0.0	2.3	0.0	2.8	18.4%
Chinese Taipei	249.7	..	0.7	1.7	252.2	99.0%	1.2	7.3	2.6	0.0	11.1	10.5%
Thailand	243.9	0.7	22.7	41.9	309.2	79.1%	27.2	74.2	15.7	1.0	118.1	23.1%
Viet Nam	143.4	2.1	26.1	32.1	203.7	71.4%	26.7	70.5	15.9	0.8	113.8	23.4%
Other non-OECD Asia	26.6	0.3	2.0	74.2	103.1	26.1%	4.2	26.4	6.9	2.3	39.7	10.5%
Asia (excl. China)	**3 785.2**	**32.7**	**311.8**	**932.9**	**5 062.5**	**75.4%**	**418.3**	**1 236.1**	**392.1**	**52.3**	**2 098.7**	**19.9%**
People's Rep. of China	9 036.5	142.8	1 329.7	107.5	10 616.4	86.5%	759.5	646.2	292.1	9.1	1 706.9	44.5%
Hong Kong, China	47.9	1.3	0.7	0.1	50.0	98.4%	0.1	0.0	2.0	..	2.1	5.6%
China	**9 084.4**	**144.1**	**1 330.4**	**107.6**	**10 666.5**	**86.5%**	**759.6**	**646.2**	**294.1**	**9.1**	**1 709.0**	**44.4%**
Argentina	185.8	3.1	9.2	23.1	221.2	85.4%	22.0	84.5	10.4	0.7	117.6	18.7%
Bolivia	18.3	0.1	1.2	50.7	70.4	26.1%	8.8	17.0	2.2	1.6	29.7	29.8%
Brazil	474.9	3.1	42.5	478.8	999.3	47.8%	41.1	378.0	86.3	16.2	521.7	7.9%
Colombia	72.7	2.1	4.6	7.3	86.6	86.3%	16.4	40.8	10.8	0.1	68.0	24.1%
Costa Rica	7.3	..	0.5	0.8	8.6	84.2%	0.1	3.0	0.9	0.0	4.1	3.3%
Cuba	29.4	0.2	0.8	2.8	33.1	89.2%	1.3	7.7	4.8	0.1	13.9	9.1%
Curaçao [2]	4.7	..	..	0.1	4.8	98.9%	0.1	0.0	0.0	..	0.1	79.3%
Dominican Republic	20.1	..	1.7	1.8	23.6	85.1%	0.4	6.7	4.1	0.1	11.3	3.2%
Ecuador	38.7	2.5	2.3	0.9	44.4	92.7%	10.0	10.8	3.0	..	23.8	41.8%
El Salvador	5.9	..	0.4	0.8	7.0	83.4%	0.2	1.7	1.0	0.0	3.0	7.6%
Guatemala	16.1	0.0	1.2	4.0	21.5	75.4%	2.1	5.8	2.7	0.1	10.6	19.7%
Haiti	2.8	..	0.3	0.0	3.0	90.8%	3.7	2.7	3.3	..	9.7	38.0%
Honduras	8.7	..	0.6	6.9	16.3	53.8%	0.6	5.8	1.3	0.1	7.8	7.1%
Jamaica	7.1	..	0.4	0.1	7.6	93.5%	0.5	0.4	0.8	..	1.7	30.0%
Nicaragua	4.5	..	0.3	0.1	4.9	92.4%	0.4	5.6	1.2	0.0	7.2	5.4%
Panama	10.6	..	0.8	0.5	11.9	89.0%	0.1	3.0	0.7	0.0	3.9	3.5%
Paraguay	5.2	..	0.5	23.6	29.2	17.7%	1.4	21.2	1.4	0.5	24.4	5.6%
Peru	48.1	0.4	4.2	6.0	58.7	82.6%	7.4	13.3	5.8	0.1	26.7	27.8%
Suriname [1]	2.0	..	0.0	1.0	3.1	64.6%	0.0	0.6	0.1	0.0	0.8	5.8%
Trinidad and Tobago	23.2	0.4	15.5	0.1	39.2	60.1%	13.5	0.1	1.9	0.3	15.8	85.4%
Uruguay	6.3	..	0.3	0.1	6.6	94.4%	0.2	22.2	2.9	..	25.3	0.8%
Venezuela	154.8	22.3	7.0	46.2	230.3	76.9%	44.3	31.9	8.6	0.9	85.7	51.7%
Other non-OECD Americas	19.0	0.0	0.6	3.4	23.1	82.5%	0.3	2.9	3.0	0.1	6.3	5.4%
Non-OECD Americas	**1 166.2**	**34.1**	**94.9**	**659.3**	**1 954.5**	**61.4%**	**174.9**	**665.8**	**157.4**	**20.9**	**1 019.0**	**17.2%**
Bahrain	29.7	0.1	3.2	0.0	33.0	90.2%	5.1	0.0	0.7	0.0	5.9	87.1%
Islamic Republic of Iran	556.5	24.6	47.2	1.1	629.4	92.3%	123.6	21.3	29.1	0.3	174.2	70.9%
Iraq	141.0	27.6	5.8	0.7	175.1	96.3%	52.3	4.4	10.3	..	67.0	78.0%
Jordan	24.0	0.0	1.9	0.0	25.9	92.6%	0.1	0.7	3.1	..	3.8	3.1%
Kuwait	79.0	2.8	6.1	0.1	87.9	93.0%	23.2	0.2	2.1	0.0	25.5	90.9%
Lebanon	22.4	..	2.3	0.0	24.7	90.6%	0.1	0.3	2.1	..	2.4	4.4%
Oman	59.9	5.0	8.0	0.1	73.0	89.0%	21.5	1.0	2.1	0.2	24.8	86.7%
Qatar	78.4	1.5	13.9	0.0	93.8	85.2%	69.2	0.1	2.2	0.1	71.6	96.6%
Saudi Arabia	506.6	3.8	64.1	0.4	575.0	88.8%	71.3	3.7	15.8	0.5	91.3	78.1%
Syrian Arab Republic	27.6	0.8	1.7	0.2	30.2	94.0%	3.7	4.2	4.9	..	12.8	28.7%
United Arab Emirates	176.3	1.5	16.3	0.2	194.3	91.5%	29.2	1.2	4.1	0.0	34.5	84.7%
Yemen	22.4	2.3	1.1	0.0	25.9	95.5%	10.2	5.2	4.8	..	20.3	50.3%
Middle East	**1 723.8**	**70.0**	**171.5**	**2.7**	**1 968.1**	**91.1%**	**409.5**	**42.3**	**81.4**	**1.1**	**534.3**	**76.6%**

1. Please refer to the chapter *Country notes* in Part I.
2. Please refer to the chapter *Geographical Coverage* in Part I.

2014 Greenhouse-gas emissions

million tonnes of CO_2 equivalent using GWP-100

N_2O						HFCs	PFCs	SF_6	Total			
Energy	Industrial processes	Agriculture	Other	Total	Share of energy	Industrial processes			Total	Share of energy	GHG / GDP PPP [3]	
0.9	..	16.4	2.5	19.7	4.4%	..	..	..	217.2	34.4%	0.47	Bangladesh
0.0	..	0.1	0.0	0.1	8.9%	0.4	..	..	12.8	93.0%	0.46	Brunei Darussalam
0.2	..	2.7	0.5	3.5	6.6%	..	..	..	42.9	21.3%	0.92	Cambodia
25.0	0.5	199.9	33.1	258.4	9.7%	17.7	0.7	5.5	1 339.6	13.0%	13.42	DPR of Korea
1.3	0.6	1.7	1.2	4.9	26.1%	0.1	1.7	4.8	2 060.7	98.2%	0.30	India
0.3	..	1.9	0.6	2.7	9.4%	4.4	..	..	471.4	94.9%	0.19	Indonesia
5.4	0.0	65.1	31.4	102.0	5.3%	..	0.0	1.1	1 249.8	28.8%	1.74	Malaysia
1.4	1.0	9.4	1.9	13.6	10.0%	0.1	0.2	0.8	126.3	49.7%	3.88	Mongolia
0.1	..	5.8	0.2	6.1	2.3%	..	..	..	56.2	50.2%	0.20	Myanmar
0.7	..	16.9	4.3	21.9	3.4%	..	..	..	257.6	6.1%	4.10	Nepal
0.6	..	3.7	0.9	5.1	11.1%	..	..	..	184.1	78.9%	0.22	Pakistan
2.1	0.1	43.0	4.1	49.3	4.3%	..	..	1.0	360.6	33.8%	0.56	Philippines
0.7	..	10.4	1.8	12.9	5.3%	..	..	0.4	143.7	39.1%	0.34	Singapore
0.1	0.7	0.0	0.9	1.7	5.7%	2.2	0.4	0.4	31.2	55.6%	0.14	Sri Lanka
0.3	..	2.0	0.6	2.9	10.8%	..	..	..	266.2	94.4%	0.27	Chinese Taipei
5.2	0.5	15.4	3.0	24.2	21.7%	..	..	1.3	452.9	61.2%	0.46	Thailand
1.5	..	18.9	3.3	23.7	6.2%	..	..	..	341.2	50.9%	0.71	Viet Nam
0.3	..	8.6	2.5	11.5	2.7%	0.1	..	..	154.4	20.3%	0.70	Other non-OECD Asia
46.2	**3.5**	**421.9**	**92.7**	**564.3**	**8.2%**	**25.0**	**2.9**	**15.4**	**7 768.7**	**55.1%**	**0.49**	**Asia (excl. China)**
66.9	1.9	393.2	71.1	533.1	12.5%	199.1	3.8	53.8	13 113.1	76.3%	0.78	People's Rep. of China
0.2	..	0.0	0.3	0.5	41.5%	..	..	0.1	52.8	93.8%	0.14	Hong Kong, China
67.1	**1.9**	**393.2**	**71.4**	**533.6**	**12.6%**	**199.1**	**3.8**	**54.0**	**13 166.0**	**76.4%**	**0.76**	**China**
1.6	0.1	50.4	2.4	54.6	3.0%	0.4	0.0	0.4	394.3	53.9%	0.57	Argentina
0.4	..	7.3	1.4	9.0	4.3%	..	..	..	109.1	25.3%	1.67	Bolivia
8.1	0.0	163.0	19.3	190.4	4.3%	3.2	1.9	1.5	1 718.0	30.7%	0.56	Brazil
0.8	0.1	17.3	1.2	19.5	4.2%	..	0.0	0.1	174.2	52.8%	0.29	Colombia
0.1	..	1.3	0.2	1.6	6.3%	0.1	..	..	14.3	52.3%	0.22	Costa Rica
0.2	0.4	4.9	0.4	6.0	2.6%	0.2	..	..	53.2	58.2%	0.24	Cuba
0.0	..	0.0	0.0	0.1	30.5%	..	..	..	4.9	97.6%	2.93	Curaçao [2]
0.1	..	2.3	0.4	2.9	4.9%	..	..	..	37.8	54.5%	0.29	Dominican Republic
0.2	..	4.3	0.7	5.3	4.7%	0.1	..	..	73.6	69.8%	0.43	Ecuador
0.1	..	1.1	0.2	1.3	4.8%	0.1	..	..	11.4	53.9%	0.24	El Salvador
0.4	..	2.9	0.5	3.8	11.3%	0.8	..	..	36.6	51.1%	0.33	Guatemala
0.1	..	1.2	0.2	1.5	9.9%	..	..	..	14.2	46.3%	0.83	Haiti
0.1	..	2.6	0.4	3.1	4.7%	..	..	..	27.2	34.7%	0.74	Honduras
0.1	..	0.3	0.1	0.4	12.6%	0.1	..	..	9.9	78.0%	0.44	Jamaica
0.1	..	3.1	0.2	3.3	2.5%	..	..	..	15.4	32.4%	0.56	Nicaragua
0.1	..	1.2	0.2	1.4	5.2%	..	..	..	17.2	62.7%	0.23	Panama
0.1	..	8.2	0.5	8.9	1.6%	..	..	..	62.5	10.7%	1.15	Paraguay
0.3	..	6.0	0.9	7.3	3.9%	0.5	..	..	93.2	60.3%	0.27	Peru
0.0	..	0.1	0.1	0.2	15.4%	..	..	..	4.1	50.4%	0.49	Suriname [1]
0.1	..	8.2	0.1	8.4	0.9%	0.1	..	..	63.5	58.5%	1.58	Trinidad and Tobago
0.7	0.0	12.6	2.1	15.4	4.4%	1.7	0.1	0.3	49.4	14.5%	0.74	Uruguay
0.2	..	2.3	0.4	2.9	5.6%	0.0	0.0	0.0	318.8	69.5%	0.63	Venezuela
0.2	..	2.3	0.4	2.9	5.6%	0.0	0.0	0.0	32.3	60.5%	0.80	Other non-OECD Americas
14.2	**0.8**	**302.9**	**32.2**	**350.1**	**4.0%**	**7.3**	**2.1**	**2.3**	**3 335.3**	**41.7%**	**0.52**	**Non-OECD Americas**
0.0	..	0.0	0.1	0.2	19.2%	..	0.1	..	39.1	89.3%	0.68	Bahrain
2.9	0.0	17.2	8.0	28.1	10.2%	..	0.0	2.9	834.6	84.8%	0.66	Islamic Republic of Iran
0.5	..	3.6	3.1	7.3	7.4%	..	..	0.1	249.5	88.8%	0.50	Iraq
0.1	..	0.4	0.6	1.1	5.0%	0.2	..	..	31.0	78.0%	0.42	Jordan
0.2	..	0.1	0.5	0.8	22.2%	0.9	..	0.5	115.7	90.9%	0.44	Kuwait
0.1	..	0.4	0.5	1.0	7.9%	..	..	..	28.1	80.3%	0.38	Lebanon
0.1	..	0.5	0.6	1.2	11.5%	0.3	0.0	..	99.3	87.2%	0.64	Oman
0.1	..	0.1	0.3	0.5	20.2%	..	..	..	166.0	89.9%	0.58	Qatar
1.2	..	2.4	4.7	8.3	14.7%	0.3	..	2.5	677.3	86.1%	0.45	Saudi Arabia
0.2	0.0	2.5	1.3	4.0	4.9%	..	..	..	47.0	68.6%	0.90	Syrian Arab Republic
0.3	..	0.6	1.5	2.3	12.4%	..	0.1	1.0	232.3	89.3%	0.41	United Arab Emirates
0.5	..	3.0	1.5	5.1	10.0%	..	..	..	51.3	69.1%	0.54	Yemen
6.2	**0.1**	**30.8**	**22.8**	**59.8**	**10.4%**	**1.7**	**0.2**	**6.9**	**2 571.0**	**85.9%**	**0.53**	**Middle East**

1. Please refer to the chapter *Country notes* in Part I.
2. Please refer to the chapter *Geographical Coverage* in Part I.
3. GHG / GDP PPP ratio is expressed in kg of CO_2-equivalent per 2010 USD.

Energy Data Officer/Statistician

Possible Staff Vacancies

International Energy Agency, Paris, France

The IEA

The International Energy Agency, based in Paris, acts as energy policy advisor to 29 member countries in their effort to ensure reliable, affordable and clean energy for their citizens. Founded during the oil crisis of 1973-74, the initial role of the IEA was to co-ordinate measures in times of oil supply emergencies. As energy markets have changed, so has the IEA. Its mandate has broadened to incorporate the "Three E's" of balanced energy policy making: energy security, economic development and environmental protection. Current work focuses on climate change policies, market reform, energy technology collaboration and outreach to the rest of the world, especially major consumers and producers of energy like China, India, Russia and the OPEC countries.

The Energy Data Centre, with a staff of around 30 people, provides a dynamic environment for young people just finishing their studies or with one to two years of work experience.

Job description

The data officers/statisticians compile, verify and disseminate information on all aspects of energy including production, transformation and consumption of all fuels, energy efficiency indicators, CO_2 emissions, and energy prices and taxes. The data officers are responsible for the production of data sets through receiving, reviewing and inputting data submissions from member countries and other sources. They check for completeness, correct calculations, internal consistency, accuracy and consistency with definitions. Often this entails proactively investigating and helping to resolve anomalies in collaboration with national administrations. The data officers/statisticians also design and implement computer macros used in the preparation of their energy statistics publication(s) alongside analysis of the data.

Principal qualifications

- University degree in a topic relevant to energy, or statistics. We currently have staff with degrees in mathematics, statistics, information technology, economics, engineering, physics, environmental studies, etc.
- Experience in the basic use of databases and computer software. Experience in Visual Basic is an advantage.
- Ability to work accurately, pay attention to detail and work to deadlines; ability to deal simultaneously with a wide variety of tasks and to organise work efficiently.
- Good communication skills; ability to work well in a team and in a multicultural environment, particularly in liaising with contacts in national administrations and industry; ability to understand, and communicate data.
- An excellent written and oral command of English; knowledge of other languages would be an asset.
- Some knowledge of energy industry operations and terminology would also be an advantage, but is not required.

Nationals of any IEA member country are eligible for appointment. Basic salaries start at 3 300 euros per month. The possibilities for advancement are good for candidates with appropriate qualifications and experience. Tentative enquiries about future vacancies are welcomed from men and women with relevant qualifications and experience. Applications in English, accompanied by a curriculum vitae, should be sent to:

Office of Management and Administration
International Energy Agency
31-35 rue de la Fédération
75739 Paris Cedex 15, France

Online Data Services

Users can instantly access not only all the data published in this book, but also all the time series used for preparing this publication and all the other statistics publications of the IEA. The data are available online, either through annual subscription or pay-per-view access. More information on this service can be found on our website: *http://data.iea.org*

Nine Annual Publications

■ World Energy Statistics 2017

World Energy Statistics presents comprehensive world energy statistics on all energy sources – coal, gas, oil, electricity, renewables and waste. It covers energy supply and consumption for 150 countries and regions, including all OECD countries, over 100 other key energy producing and consuming countries, as well as world totals. The book includes detailed tables by country in original units for the year 2015, and summary time series on production, trade, and final consumption by sector. It also presents provisional 2016 supply data for OECD countries, and initial 2016 estimates for non-OECD countries' production and trade of natural gas, primary coal and oil.

Published August 2017 - Price: Print €120; PDF €96

■ World Energy Balances 2017

World Energy Balances presents comprehensive energy balances for all the world's largest energy producing and consuming countries. It contains detailed data on the supply and consumption of energy for 150 countries and regions, including all OECD countries, over 100 other key energy producing and consuming countries, as well as world totals. The book includes graphs and detailed data by country for all energy sources – coal, gas, oil, electricity, renewables and waste - expressed in balance format, for the year 2015. Alongside this, there are summary time series on production, trade, final consumption by sector, as well as key energy and economic indicators. The volume also presents provisional 2016 supply data for OECD countries, and initial 2016 estimates for non-OECD countries' production and trade of natural gas, primary coal and oil.

Published August 2017 - Price: Print €120; PDF €96

■ Coal Information 2017

Coal Information provides a comprehensive review of historical and current market trends in the world coal sector, including 2016 provisional data. It provides a review of the world coal market in 2015, alongside a statistical overview of developments, which covers world coal production and coal reserves, coal demand by type, coal trade and coal prices. A detailed and comprehensive statistical picture of historical and current coal developments in the 35 OECD member countries, by region and individually is presented in tables and charts. Complete coal balances and coal trade data for selected years are presented on 22 major non-OECD coal-producing and -consuming countries, with summary statistics on coal supply and end-use statistics for about 40 countries and regions worldwide.

Published August 2017 - Price: Print €165; PDF €132

■ Electricity Information 2017

Electricity Information provides a comprehensive review of historical and current market trends in the OECD electricity sector, including 2016 provisional data. It provides an overview of the world electricity developments in 2015 covering world electricity and heat production, input fuel mix, supply and consumption, and electricity imports and exports. More detail is provided for the 35 OECD countries with information covering production, installed capacity, input energy mix to electricity and heat production, consumption, electricity trades, input fuel prices and end-user electricity prices. It provides comprehensive statistical details on overall energy consumption, economic indicators, electricity and heat production by energy form and plant type, electricity imports and exports, sectoral energy and electricity consumption, as well as prices for electricity and electricity input fuels for each country and regional aggregate.

Published August 2017 - Price: Print €150; PDF €120

■ Natural Gas Information 2017

Natural Gas Information is a detailed reference work on gas supply and demand covering not only the OECD countries but also the rest of the world; this publication contains essential information on LNG and pipeline trade, gas reserves, storage capacity and prices. The main part of the book concentrates on OECD countries, showing a detailed supply and demand balance for each country and for the three OECD regions: Americas, Asia-Oceania and Europe, as well as a breakdown of gas consumption by end user. Import and export data are reported by source and destination.

Published August 2017 - Price: Print €165; PDF €132

■ Oil Information 2017

Oil Information is a comprehensive reference book on current developments in oil supply and demand. This publication contains key data on world production, trade, prices and consumption of major oil product groups, with time series back to the early 1970s. Its core consists of a detailed and comprehensive picture of oil supply, demand, trade, production and consumption by end-user for each OECD country individually and for the OECD regions. Trade data are reported extensively by origin and destination.

Published August 2017 - Price: Print €165; PDF €132

■ Renewables Information 2017

Renewables Information provides a comprehensive review of historical and current market trends in OECD countries, including 2015 provisional data. It provides an overview of the development of renewables and waste in the world over the 1990 to 2015 period. A greater focus is given to the OECD countries with a review of electricity generation and capacity from renewable and waste energy sources, including detailed tables. However, an overview of developments in the world and OECD renewable and waste market is also presented. The publication encompasses energy indicators, generating capacity, electricity and heat production from renewable and waste sources, as well as production and consumption of renewables and waste.

Published August 2017 - Price: Print €110; PDF €88

CO_2 Emissions from Fuel Combustion 2017

In recognition of the fundamental importance of understanding energy related environmental issues, the IEA's *CO_2 Emissions from Fuel Combustion* provides a full analysis of emissions stemming from energy use. This annual publication has become an essential tool for analysts and policy makers in many international fora such as the Conference of the Parties, which will be meeting in Bonn, Germany, from 7 to 16 November 2017. The data in this book are designed to assist in understanding the evolution of the emissions of CO_2 from 1971 to 2015 for 150 countries and regions by sector and by fuel. Emissions were calculated using IEA energy databases and the default methods and emission factors from the *2006 IPCC Guidelines for National Greenhouse Gas Inventories*.

Published November 2017 - Price: Print €165; PDF €132

Energy Efficiency Indicators Highlights 2017

Energy Efficiiency Indicators Highlights is designed to help understand what drives final energy use in IEA member countries in order to improve and track national energy efficiency policies. It provides the first comprehensive selection of data that the IEA has been collecting each year after its member states recognised in 2009 the need to better monitor energy efficiency policies. The report includes country-specific analysis of end uses across the largest sectors – residential, services, industry and transport. It answers questions such as:

- What are the largest drivers for energy use trends in each country?
- Was energy saved because of efficiency progress over time?
- How much energy is used for space heating, appliances or cooking?
- What are the most energy-intensive industries?

Improving energy efficiency is a critical step for governments to take to move towards a sustainable energy system. This report highlights the key role of end-use energy data and indicators in monitoring progress in energy efficiency around the world.

Published December 2017 - Free pdf

Two Quarterlies

Oil, Gas, Coal and Electricity

Oil, Gas, Coal and Electricity provides detailed and up-to-date quarterly statistics on oil, natural gas, coal and electricity for the OECD countries. Oil statistics cover production, trade, refinery intake and output, stock changes and consumption for crude oil, NGL and nine selected product groups. Statistics for electricity, natural gas and coal show supply and trade. Oil and coal import and export data are reported by origin and destination. Gas imports and exports data are reported by entries and exits of physical flows. Moreover, oil and coal production are reported on a worldwide basis.

Published Quarterly - Price €120, annual subscription: Print €380; PDF €304

Energy Prices and Taxes

Energy Prices and Taxes responds to the needs of the energy industry and OECD governments for up-to-date information on prices and taxes in national and international energy markets. It contains crude oil import prices by crude stream, industry prices and consumer prices. The end-user prices for OECD member countries cover main oil products, gas, coal and electricity. Every issue includes full notes on sources and methods and a description of price components in each country. Time series availability varies with each data series.

Published Quarterly - Price €120, annual subscription: Print €380; PDF €304

Electronic Editions

CD-ROMs and Online Data Services

To complement its publications, the Energy Data Centre produces CD-ROMs containing the complete databases which are used for preparing the statistics publications. Built-in software allows you to access and manipulate all these data in a very user-friendly manner and includes graphic facilities. These databases are also available on the internet from our online data service.

Annual CD-ROMS / Online Databases

- World Energy Statistics 2017 — Price: €800 (single user)
- World Energy Balances 2017 — Price: €800 (single user)
- **World Energy Statistics and Balances 2017** — Price: €1 400 (single user)
  (Combined subscription of the above two series)
- Coal Information 2017 — Price: €550 (single user)
- Electricity Information 2017 — Price: €550 (single user)
- Natural Gas Information 2017 — Price: €550 (single user)
- Oil Information 2017 — Price: €550 (single user)
- Renewables Information 2017 — Price: €400 (single user)
- CO_2 Emissions from Fuel Combustion 2017 — Price: €550 (single user)

Quarterly CD-ROMs / Online Databases

- Energy Prices and Taxes — Price: (four quarters) €900 (single user)

A description of these services is available on our website: ***http://data.iea.org***

Other Online Services

The Monthly Oil Data Service

The IEA *Monthly Oil Data Service* provides the detailed databases of historical and projected information which is used in preparing the IEA's monthly *Oil Market Report* (OMR). The IEA Monthly Oil Data Service comprises three packages available separately or combined as a subscriber service on the Internet. The data are available at the same time as the official release of the Oil Market Report.

The packages include:

- Supply, Demand, Balances and Stocks — Price: €6 150 (single user)
- Trade — Price: €2 050 (single user)
- Field-by-Field Supply — Price: €3 080 (single user)
- **Complete Service** — **Price: €9 200 (single user)**

A description of this service is available on our website: ***www.iea.org/statistics/mods***

The Monthly Gas Data Service

The service provides monthly natural gas data for OECD countries:

- Supply balances in terajoules and cubic metres;
- Production, trade, stock changes and levels where available, gross inland deliveries, own use and losses;
- Highly detailed trade data with about 50 import origins and export destinations;
- LNG trade detail available from January 2002,
- From 2011 onwards, transit volumes are included and trade data corresponds to entries/exits.

The databases cover the time period January 1984 to current month with a time lag of two months for the most recent data.

- Monthly Gas Data Service: Natural Gas Balances & Trade
  Historical plus 12 monthly updates — Price: €800 (single user)

For more information consult: ***www.iea.org/statistics/mgds***

Moreover, the IEA statistics website contains a wealth of free statistics covering oil, natural gas, coal, electricity, renewables, energy-related CO_2 emissions and more for 150 countries and regions and historic data for the last 20 years. It also contains Sankey flows to enable users to explore visually how a country's energy balance shifts over up to 40 years, starting with production and continuing through transformation to see important changes in supply mix or share of consumption. The IEA Energy Atlas offers panoramas on every aspect of energy on a global basis and for 150 individual countries, with interactive maps and customisable charts that detail and compare a host of data based on the Agency's authoritative statistics. The website also includes free headline energy data in excel format for all OECD countries and global regions from 1971 onwards as well as for Association countries from 1990 onwards.

The IEA statistics website can be accessed at *www.iea.org/statistics/*


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(61 2017 17 1E1) ISBN 978-92-64-27819-6 ISSN 2219-9446
Typeset by the IEA, October 2017

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statistics

2017

(61 2017 17 1E1) €96

ISBN 978-92-64-27819-6

ISSN 2219-9446