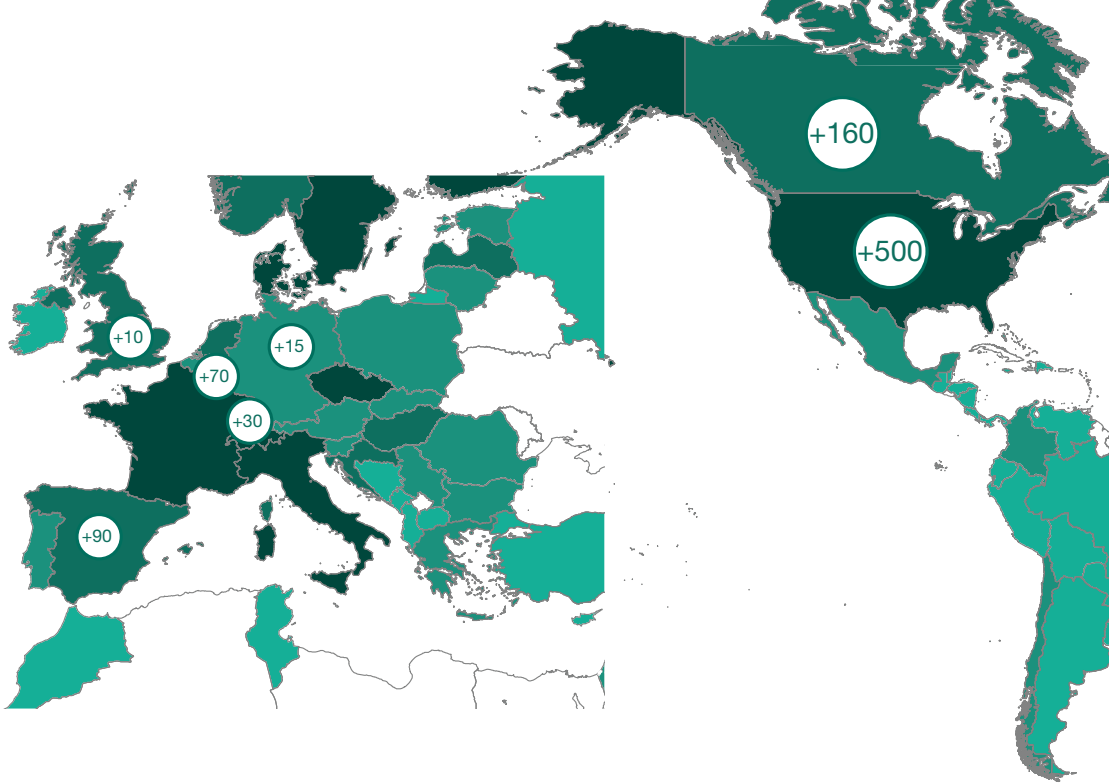


# Policy INstruments for the Environment

DATABASE

2023



The OECD started building the PINE database in the 1990s, initially with a limited scope. Today, the database includes information on over 3 900 policy instruments relevant to environmental protection and natural resource management in 130 countries globally.

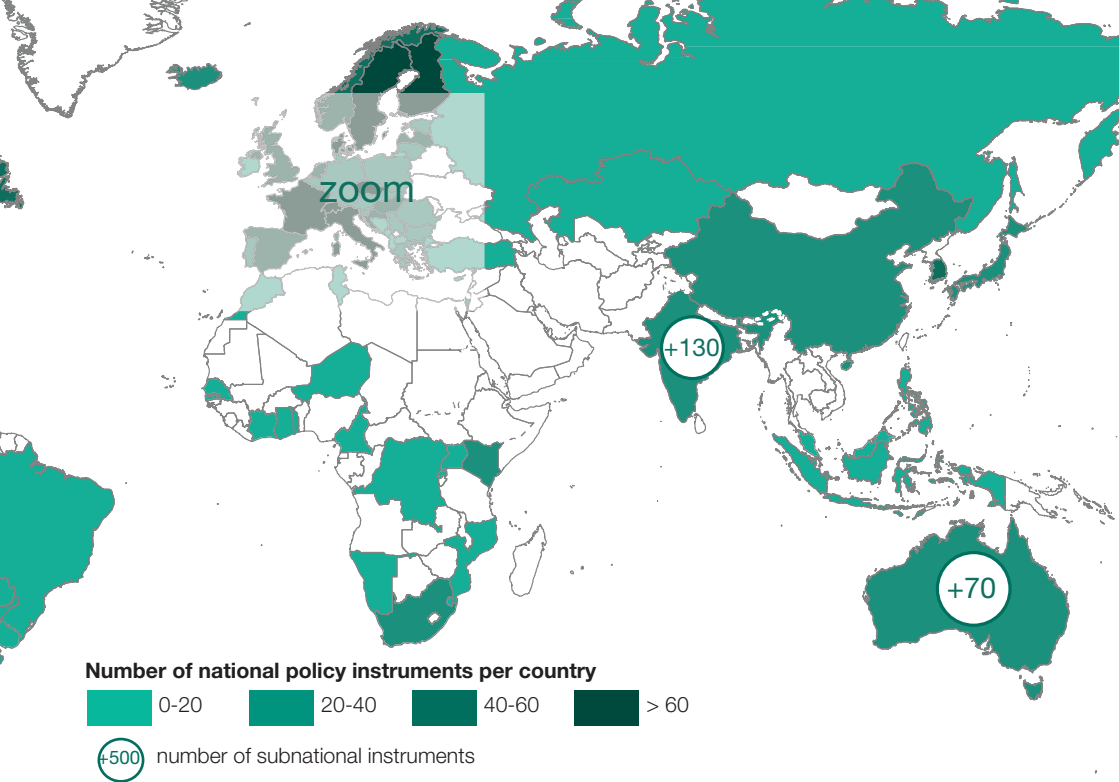
The database contains structured and harmonised data. For each instrument, the following information is collected:

- when it was introduced
- what it applies to
- the geographical coverage
- the environmental domains it addresses
- the industries concerned
- revenues, costs, rates
- exemptions.

## A unique database

### **Taxes, subsidies, and other economic instruments provide important market signals**

that can influence the behaviour of producers and consumers. They can incorporate environmental costs and benefits into the budgets of businesses and households, by increasing (or decreasing) the price of a product or service. As such, they help internalise the use of natural resources or the emission of pollutants into firms' or households' decisions. Economic instruments can be an effective and cost-efficient way to achieve environmental goals, such as fighting air pollution and climate change, or protecting biodiversity.



## Responding to growing demands

for monitoring and analysing policies that affect the environment and natural resources requires reliable, comprehensive, and timely data on a range of policy instruments.

Since the early 1970s, the role of economic instruments has been growing: the number of applications for pollution control and natural resource management has increased considerably; the variety of policy instruments in use has grown; and other types of economic instruments (e.g., deposit-refund schemes, performance bonds or liability payments) have also appeared.

## “Policy Instruments for the Environment” is a systematic and structured database suitable for statistical analysis.

PINE provides the same type of information for each policy instrument, structured into a large number of quantitative and qualitative variables.

**Everything is linked.** PINE is a relational database: all pieces of information are linked through unique identifiers.

**Everything in one place.** PINE gathers essential descriptive information in one place, saving the time that users would otherwise need to invest in researching original sources, which are often hundreds of pages of documents in national languages.



# Taxes and fees

**Environmentally related taxes and fees increase the cost of polluting products or activities and, consequently, discourage their consumption and production, regardless of the intended purpose of the tax.**

The use of environmentally related taxes and fees is expanding in all countries. They represent over a third of the instruments in the PINE database. This includes more than 1 871 taxes and 620 fees in 129 countries.

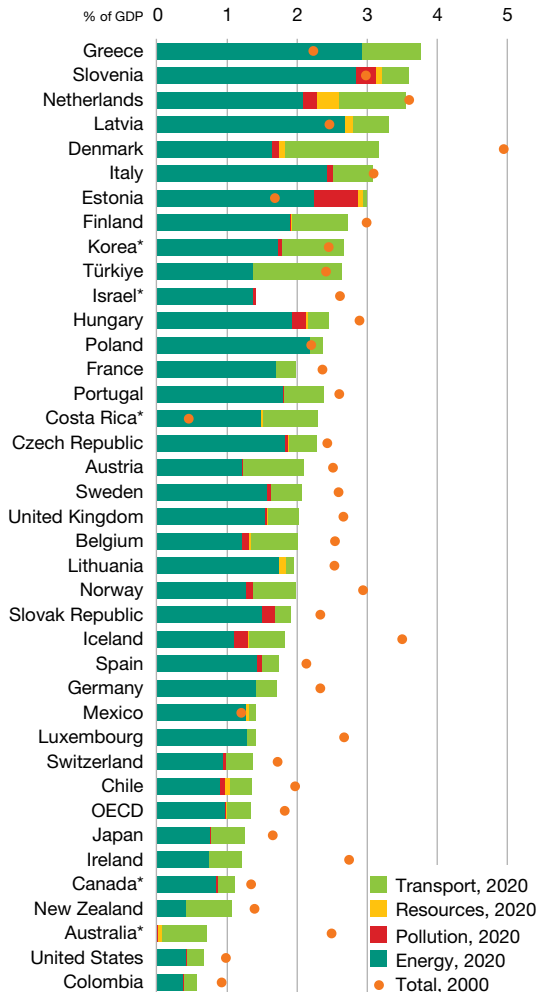
The database captures information on rates, revenue, frequency and responsibility for payments, exemptions, etc.

The tax bases covered include:

- **energy** products (including vehicle fuels)
- motor vehicles and **transport** services
- measured or estimated **pollution** emissions to air and water, ozone depleting substances, certain non-point sources of water pollution, waste management and noise
- management of **resources**: water, land, soil, forests, biodiversity, wildlife and fish stocks.

<http://oe.cd/ds/etr>

**Environmentally related tax revenue**  
OECD countries, 2020



Note: \*shows latest available year. Indicators on environmentally related tax revenue are available for more than 110 countries.

# Tradable permits and offsets

**Tradable permits are used to allocate emission or resource exploitation rights. They are increasingly used around the world to help achieve policy objectives in mitigating climate change, air pollution, water scarcity or over-harvesting of fisheries.**

The PINE database currently covers more than 130 different tradable permit systems in 50 countries. It captures information on annual revenue, permit type (quotas, credits, user rights, offsets, etc.), allocation type (e.g., auctioning, [un]conditional grandfathering), geographic dimension (local, regional, national, international), industry, etc.

## EXAMPLE

### Tradable fishing rights

The PINE database includes information on 23 tradable quota systems for fisheries management (also referred to as individually transferrable quotas, or ITQs). Fishing quotas set species-specific total allowable catch for a given time period. Some systems also allocate harvesting privileges collectively to a coastal community.

Iceland's economy is heavily reliant on the fishing industry. The gradual introduction of a transferable fishing quota system between 1984 and the early 1990s was key in maintaining the sustainability and profitability of the fishing industry. The system works by setting total allowable catches based on scientific recommendations of what is biologically sustainable, and assigning ITQs to fishers, expressed as a share of the total allowed catch. Quota owners have an incentive to ensure that total numbers are not set too high, as that would undermine the rent and the value of their quotas.

*OECD Environmental Performance Reviews  
Iceland 2014, <http://oe.cd/epr-iceland>*



# Deposit-refund schemes

**A deposit-refund scheme places a surcharge on the price of potentially polluting products. When pollution is avoided, by returning the products or their residuals, the surcharge is refunded. Deposit-refund schemes are not limited to bottles; they also cover lead-acid batteries, motor vehicles or scrapped tyres. Additionally, deposit-refund schemes allow reusing and recycling materials, avoiding further extraction of natural resources.**

The PINE database covers 68 different deposit-refund schemes – 44 at a national level and 24 at a subnational level – in 29 countries.

It captures information, when available, on annual revenue, deposit rate, refund rate, return percentage, industry, product category, administrative costs, etc.

**PIONEER** The first schemes to encourage return of soda water containers date all the way back to 1799, in Ireland, but the PINE database does not go back that far. The oldest scheme registered in the database is the Oregon bottle bill, introduced in 1971. Retailers pay the distributor for each bottle purchased, and turn to consumers to collect deposits.

**EXAMPLE** Scrapped tyres deposit-refund systems in Denmark achieve a return ratio of 97%.



# Environmentally beneficial subsidies and payments

**A subsidy is environmentally beneficial if it reduces directly or indirectly the use of something that has a proven, specific negative impact on the environment. It can take many forms: VAT exemptions on electric cars, feed-in tariffs on renewable energy generation, tax credits for environmentally relevant investment, or provision of public funds for nature conservation projects.**

The PINE database contains information on more than 1 117 environmentally beneficial subsidies and payments in 53 countries. The database covers, when available, annual costs, subsidy type, recipients, type of subsidised activity, industry, product category, etc.



## **EXAMPLE** Payments for biodiversity

In Switzerland, a large share of payments under its agricultural policy has been explicitly devoted to the protection of farms, biodiversity, and the landscape. To be eligible, farmers must provide evidence of good ecological performance, including allocating at least 7% of agricultural land (3.5% for special crops) as biodiversity-promotion areas. In 2015, these areas covered around 15% of the utilised agricultural area, suggesting the positive incentive effect of these payments.

*OECD Environmental Performance Reviews  
Switzerland 2017, <http://oe.cd/epr-switzerland>*

Data on environmentally beneficial subsidies and payments in the PINE database can be usefully complemented with information on environmentally harmful subsidies from the OECD Inventory of Support Measures for Fossil Fuels.

[www.oecd.org/site/tadffss](http://www.oecd.org/site/tadffss)

# Voluntary approaches

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**Voluntary approaches are not economic instruments, but commitments by firms or industries to improve their environmental performance beyond legal obligations. Voluntary approaches can be negotiated between a government authority and private parties, or between private parties. Voluntary agreements engage stakeholders and allow building consensus but are rarely supported by regular oversight to verify their environmental impact.**

The PINE database covers 160 voluntary approaches implemented in 24 countries, including unilateral commitments, negotiated agreements or voluntary programmes. Voluntary programmes are quite popular, but most of them are not reported in the database yet. PINE contains information on purpose, evaluation mechanism, revenue, participants, environmental domain, product category, type of voluntary approach, regional scope, legal status, monitoring type, administrative costs, etc.



## EXAMPLE Covenants

With the Netherlands' long tradition of dialogue and negotiation, the use of negotiated agreements, called "covenants" or "gentlemen's agreements" is commonplace. Some covenants include a sanction. For example, firms participating in energy efficiency agreements may receive a tax exemption if they reach their targets or lose it if they do not.

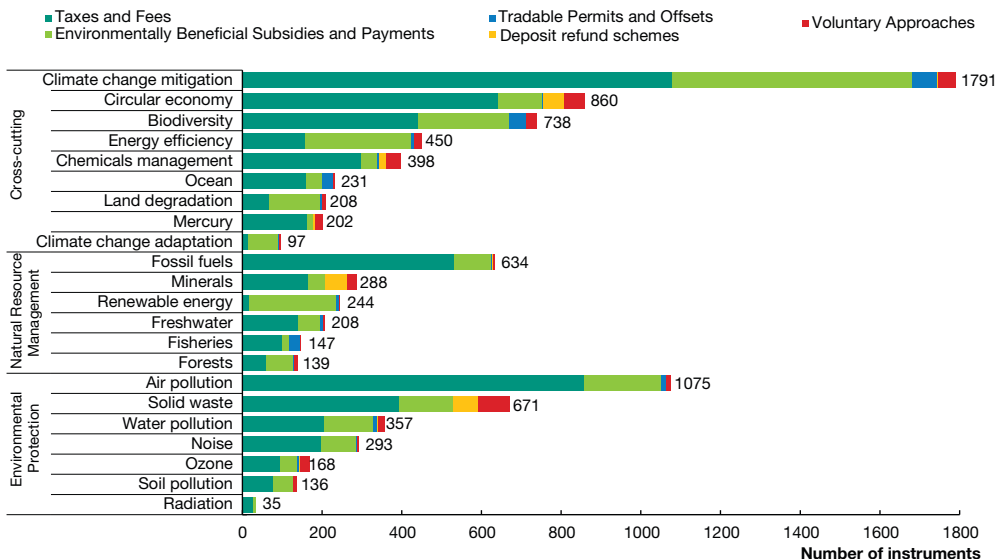
Firms participating in the Covenant for the basic metals industry must prepare environmental plans every 4 years, stating their current emission figures and plans to reduce them. If they do not fulfil their plans, they will be excluded from the covenant and subject to a less flexible permit system.

*OECD Environmental Performance Reviews  
Netherlands 2015, <http://oe.cd/epr-netherlands>*



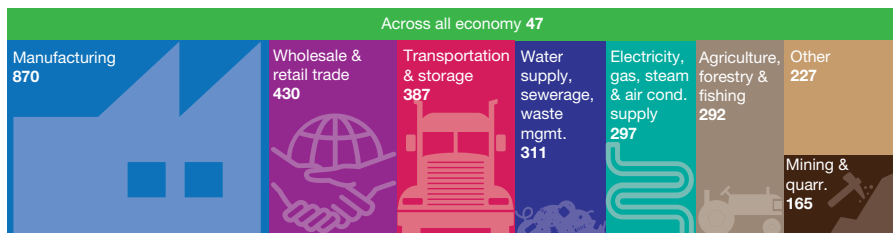
# Environmental domains

Each instrument in the database is tagged with one or more of the environmental domains it addresses: water pollution, climate change mitigation, climate change adaptation, land degradation, etc. Responding to growing demands for tracking environmental policy, the database covers a comprehensive list of domains.



# Industry categories

Instruments are also tagged with the industry categories concerned, using the United Nations' International Standard Industrial Classification of All Economic Activities (ISIC) Rev. 4.



# Collaboration opportunities

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**The OECD is reaching out to other international organisations and governments in all countries in order to:**

- **Expand the geographic coverage** of data collection, eventually achieving global coverage.
- **Expand the policy scope** of the database to cover non-market-based instruments such as regulations, information instruments, or public direct investment.
- **Reinforce the industry dimension** to allow policy instruments to be linked with industry-level economic statistics. Aligning the data in PINE with industrial activities will complement the implementation of the System of Environmental-Economic Accounting (SEEA). This will allow links to environmental pressures and economic outcomes to be made via input-output analyses. It can also help better understand the role of environmental policy for international trade and competitiveness.
- **Reinforce the environmental justice dimension** of PINE. For example, by collecting detailed characteristics on policy instruments pricing luxury environmentally related goods or instruments improving the disposable income of vulnerable households in relation to their use of natural resources and ecosystem services. This could support the analyses of the distributional impacts of environmental policies.
- **Strengthen the links of policy data collected with legislative texts, policy documents and scientific literature** This could allow analysing the regulatory framework, or the scientific research associated with the instrument.
- **Explore new sources of data and new data technologies** to populate and cross-examine policy information for countries with unavailable or outdated information.

Such improvements will contribute to the provision of the database as a public good which will advance environmental policies worldwide.

# Access the database

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Browse the PINE homepage.

<http://oe.cd/pine>

## Summary statistics

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- Our page on environmentally related taxation shows key indicators on tax revenue by country:

<http://oe.cd/env-taxes>

- More detailed indicators on tax revenue are available at the OECD statistical portal:

<http://oe.cd/ds/ertr>

## Policy microdata

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Explore and extract the data.

<https://pinedatabase.oecd.org/>

- by country
- by type of economic instrument (taxes, tradable permit, etc.)
- by environmental domain

## Contribute

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The information in the PINE database is collected via a network of 450 country experts (including government agencies, research institutes and international organisations). Registered experts update the data once per year through a password-protected interface. The OECD Secretariat then harmonises and validates the data, in consultation with countries, before they are published.

Contact us if you have any feedback, or if you would like to help expand and improve the database.

[pinedatabase@oecd.org](mailto:pinedatabase@oecd.org)

Taxes, subsidies, and other economic instruments provide important market signals that can influence the behaviour of producers and consumers.

“**P**olicy **I**Nstruments for the **E**nvironment” is a unique database, gathering key quantitative and qualitative information on 3 900 instruments, in all OECD countries and many others.

Website: <http://oe.cd/pine>

Email: [pinedatabase@oecd.org](mailto:pinedatabase@oecd.org)



## Contacts

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