

**Climate Change Expert Group**  
Paper No. 2015(5)

# **Encouraging Increased Climate Action by Non-Party Stakeholders**

Yoko Nobuoka (OECD), Jane Ellis (OECD) and  
Sarah Pyndt Andersen (OECD)

**October 2015**

## OECD/IEA CLIMATE CHANGE EXPERT GROUP PAPERS

This series is designed to make available to a wider readership selected papers on climate change issues that have been prepared for the OECD/IEA Climate Change Expert Group (CCXG). The CCXG (formerly called the Annex I Expert Group) is a group of government delegates from OECD and other industrialised countries. The aim of the group is to promote dialogue and enhance understanding on technical issues in the international climate change negotiations. CCXG papers are developed in consultation with experts from a wide range of developed and developing countries, including those participating in the regular Global Forum on the Environment organised by the CCXG. The full papers are generally available only in English.

The opinions expressed in these papers are the sole responsibility of the author(s) and do not necessarily reflect the views of the OECD, the IEA or their member countries, or the endorsement of any approach described herein.

Comments on the series are welcome, and should be sent to:

OECD Environment Directorate, 2 rue André Pascal, 75775 PARIS CEDEX 16, France, or by e-mail to [env.contact@oecd.org](mailto:env.contact@oecd.org)

-----  
OECD/IEA Climate Change Expert Group Papers are published on  
[www.oecd.org/environment/cc/ccxg.htm](http://www.oecd.org/environment/cc/ccxg.htm)  
-----

This document and any map included herein are 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.

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.

<p>This document has been produced with the financial assistance of the European Union. The views expressed herein can in no way be taken to reflect the official opinion of the European Union.</p>
--

© Copyright OECD/IEA (2015)

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgement of OECD as source and copyright owner is given.

All requests for commercial use and translation rights should be submitted to [rights@oecd.org](mailto:rights@oecd.org)

Applications for permission to reproduce or translate all or part of this material should be addressed to:

Head of Publications Service, OECD/IEA  
2 rue André-Pascal, 75775 Paris Cedex 16, France  
or  
9 rue de la Fédération, 75739 Paris Cedex 15, France

## FOREWORD

This document was prepared by the OECD and IEA Secretariats in response to a request from the Climate Change Expert Group (CCXG) on the United Nations Framework Convention on Climate Change (UNFCCC). The Climate Change Expert Group oversees development of analytical papers for the purpose of providing useful and timely input to the climate change negotiations. These papers may also be useful to national policy-makers and other decision-makers. Authors work with the CCXG to develop these papers. However, the papers do not necessarily represent the views of the OECD or the IEA, nor are they intended to prejudge the views of countries participating in the CCXG. Rather, they are Secretariat information papers intended to inform Member countries, as well as the UNFCCC audience.

Members of the CCXG are those countries who are OECD members and/or who are listed in Annex I of the UNFCCC (as amended by the Conference of the Parties in 1997 and 2010). The Annex I Parties or countries referred to in this document are: Australia, Austria, Belarus, Belgium, Bulgaria, Canada, Croatia, Czech Republic, Denmark, the European Community, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, the Netherlands, New Zealand, Norway, Poland, Portugal, Romania, the Russian Federation, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom of Great Britain and Northern Ireland, and the United States of America. Korea, Mexico, Chile and Israel are also members of the CCXG. Where this document refers to “countries” or “governments”, it is also intended to include “regional economic organisations”, if appropriate.

## ACKNOWLEDGEMENTS

The authors would like to acknowledge the helpful comments from their OECD/IEA colleagues Simon Buckle, Nathalie Cliquot, Jan Corfee-Morlot, Kate Eklin, Takahiro Hasegawa, Takashi Hattori, Christina Hood, Takayoshi Kato, Virginie Marchal, Tadashi Matsumoto and Sara Moarif. The paper also benefited from participants’ comments at the CCXG Global Forum on the Environment in September 2015, where a draft version of this paper was presented, and subsequent written comments from the governments of Denmark, the Netherlands and Sweden as well as CDP and ICLEI.

The Secretariat would like to thank Australia (Department of Foreign Affairs and Trade), Belgium (Federal Public Service Health, Food Chain Safety and Environment), the European Commission, Finland (Ministry of the Environment), Germany (Ministry for Environment, Nature, Conservation, Building and Nuclear Safety), Japan (Government of Japan), Netherlands (Ministry of Infrastructure and Environment), New Zealand (Ministry for the Environment), Norway (Ministry of Foreign Affairs), Sweden (Swedish Energy Agency), and Switzerland (Federal Office for the Environment) for their direct funding of the CCXG in 2015 and Japan, the OECD and the IEA for their in-kind support.

### **Questions and comments should be sent to:**

Jane Ellis  
OECD Environment Directorate  
2, rue André-Pascal  
75775 Paris Cedex 16  
France  
Email: [jane.ellis@oecd.org](mailto:jane.ellis@oecd.org)

All OECD and IEA information papers for the Climate Change Expert Group on the UNFCCC can be downloaded from: [www.oecd.org/environment/cc/ccxg.htm](http://www.oecd.org/environment/cc/ccxg.htm)

## ABSTRACT

### Encouraging Increased Climate Action by Non-Party Stakeholders

Limiting the increase in global average temperature to below 2°C compared to pre-industrial levels will require ambitious mitigation action by a broad range of actors including Parties to the United Nations Framework Convention on Climate Change (UNFCCC), i.e., national governments, and non-party stakeholders (NPS). This paper focuses on three types of NPS, namely, sub-national governments, the private sector and financial institutions, and examines how the 2015 agreement could help the NPS encourage increased mitigation actions as well as the financing for such actions. The paper identifies five barriers that can prevent NPS from enhancing their actions and assesses how the current process under the UNFCCC is addressing these barriers for the pre-2020 period. It also explores options to establish or enhance links between the UNFCCC and NPS in the 2015 agreement for post-2020, in order to further address the barriers and enhance actions by NPS.

**JEL Classification:** F53; H72; O19; O44; Q54; Q58; R11

**Key words:** 2015 agreement, climate change, mitigation, non-Party stakeholders, UNFCCC

## RÉSUMÉ

### Encourager les acteurs non-Parties à la CCNUCC à renforcer leur action climatique

L'objectif de contenir l'élévation de la température moyenne de la planète en dessous de 2 °C par rapport aux niveaux préindustriels exigera des actions d'atténuation ambitieuses de la part d'un large éventail d'acteurs. Ceci inclus notamment les Parties à la Convention-cadre des Nations Unies sur les changements climatiques (CCNUCC), c'est-à-dire les administrations nationales, ainsi que les acteurs non-Parties à la CCNUCC. Ce rapport, qui est axé sur trois catégories d'acteurs non-Parties – les administrations infranationales, le secteur privé et les institutions financières –, examine par quels moyens l'accord de 2015 pourrait contribuer à encourager les acteurs non-Parties à renforcer les actions d'atténuation ainsi que leur financement. Il recense cinq obstacles susceptibles d'empêcher les acteurs non-Parties de renforcer leurs actions et évalue la façon dont le processus en cours dans le cadre de la CCNUCC s'attaque à ces obstacles pour la période pré-2020. L'étude explore aussi les moyens envisageables pour établir ou consolider les liens entre la CCNUCC et les acteurs non-Parties dans le cadre de l'accord de 2015 pour la période post-2020, dans le but de lever les obstacles et d'accroître l'action climatique des acteurs non-Parties.

**Classification JEL :** F53 ; H72 ; O19 ; O44 ; Q54 ; Q58 ; R11

**Mots-clés :** accord de 2015, changement climatique, atténuation, acteurs non-Parties, CCNUCC

## TABLE OF CONTENTS

FOREWORD .....	2
ACKNOWLEDGEMENTS .....	2
ABSTRACT.....	3
RÉSUMÉ .....	3
EXECUTIVE SUMMARY .....	5
1. INTRODUCTION .....	8
2. BARRIERS TO MITIGATION ACTION BY NPS.....	9
2.1 National policy barriers and misalignments .....	9
2.2 Mandate barriers.....	10
2.3 Financial barriers.....	11
2.4 Information and knowledge barriers.....	12
2.5 Capacity and skills barriers.....	12
3. THE CURRENT UNFCCC PROCESS FOR ENHANCING PRE-2020 MITIGATION AND ITS IMPACT ON NPS .....	13
3.1 Information and knowledge barriers.....	13
3.2 Financial barriers .....	14
3.3 Capacity and skills barriers.....	15
3.4 National policy barriers and misalignment, and mandate barriers .....	15
3.5 Summary of barriers and possibilities to enhance pre-2020 ambition by NPS .....	15
4. HOW THE 2015 AGREEMENT CAN HELP TO ENHANCE MITIGATION ACTIONS BY NPS .....	16
4.1 Sub-national governments .....	17
4.2 The private sector .....	19
4.3 Financial institutions .....	20
4.4 Supra-national groupings of sub-national governments .....	21
4.5 Multi-governance initiatives.....	22
4.6 Specific text suggestions for the 2015 agreement .....	23
5. CONCLUSIONS .....	23
REFERENCES .....	26
GLOSSARY .....	32

## LIST OF TABLES

Table 1: Examples of policy misalignments .....	10
Table 2: Summary assessment of the current UNFCCC process in enhancing pre-2020 mitigation by NPS.....	16

## LIST OF FIGURES

Figure 1: Links between the UNFCCC, its institutions and actors involved in mitigation actions.....	17
Figure 2: Links between the UNFCCC itself and different levels of climate governance .....	18
Figure 3: Links between the UNFCCC, its institutions and different levels of financiers .....	21

## Executive Summary

Limiting the increase in global average temperature to below 2°C compared to pre-industrial levels will require ambitious mitigation action by a broad range of actors. This includes both Parties to the United Nations Framework Convention on Climate Change (UNFCCC), i.e. national governments, and non-Party stakeholders (NPS) such as sub-national governments, the private sector and financial institutions.

This paper examines how the 2015 agreement could help the NPS mentioned above overcome various barriers, encouraging increased mitigation actions as well as the financing for such actions. This paper also discusses how NPS action could be enhanced by the current framework for pre-2020 mitigation ambition under the UNFCCC.

While NPS mitigation action can be significant, and sometimes essential for the fulfilment of national mitigation targets, they can be prevented from further contributing to enhanced national and global mitigation ambition by many different barriers. These include: (1) national policy barriers and misalignments; (2) mandate barriers; (3) financial barriers (which apply to a lesser extent to financial institutions); (4) information and knowledge barriers; and (5) capacity and skills barriers. The significance of each barrier varies depending on the type of NPS, the local circumstances and the measures already in place to address these barriers.

The current UNFCCC process aimed at enhancing mitigation for the pre-2020 period is known as “workstream 2” of the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP). This work programme, along with other mechanisms under the UNFCCC, partially addresses some of these barriers. Given the current mandate of workstream 2, and the jurisdiction of the UNFCCC more broadly, these processes cannot feasibly remove all the barriers to substantially catalysing, replicating and/or scaling up NPS mitigation actions.

Nevertheless, activities under workstream 2 are directly tackling the information and knowledge barriers facing NPS, e.g. through the Technical Expert Meetings (TEMs), as well as the Non-state Actor Zone for Climate Action (NAZCA) portal - which showcases actions, commitments and progress made by NPS. Such information-sharing activities could usefully continue in various fora to 2020 and beyond.

UNFCCC-related institutions are also helping address some of the barriers to increased mitigation action by NPS. For example, financial barriers to NPS are partially being addressed within the Financial Mechanism (FM) of the UNFCCC, as NPS are eligible both to receive climate funding from the Global Environment Facility (GEF) and the Green Climate Fund (GCF) as well as to channel it once accredited. Capacity and skills barriers are also being addressed indirectly by the FM of the UNFCCC, through the GEF which provides funding for capacity building projects including at sub-national levels. Going forward, other existing mechanisms under the UNFCCC, such as the Climate Technology Centre and Network (CTCN) of the Technology Mechanism, could potentially engage further in activities to address the barriers in the short term.

Outside the UNFCCC framework, the availability of finance for mitigation actions is being increased via, for example, the emergence of Green Investment Banks (GIBs), both at the national and sub-national level. These GIBs are providing new sources of finance for NPS, including private businesses and local communities.

However, there are some barriers to NPS mitigation actions that the UNFCCC cannot directly address, such as national policy barriers and misalignments, and mandate barriers. The significance of each barrier varies, depending on the type of NPS, the local circumstances and the measures already in place to address these barriers. Setting national policy frameworks as well as mandates for climate-related policy making across levels of government is inherently out of the scope of an international

climate negotiation process. Nevertheless, decisions adopted under the UNFCCC process could encourage co-operation and co-ordination between national governments and NPS to tackle the challenges posed by these barriers.

Mitigation action by NPS can be driven both in a top-down or bottom-up manner. There are several examples of both. Top-down examples involve e.g. local and sub-national governments establishing climate plans or enacting mitigation measures required by national legislation. Bottom-up mitigation actions initiated autonomously by NPS are wide-ranging, such as regulations relating to household solar thermal energy use, city-wide bus rapid transport schemes, and voluntary greenhouse gas (GHG) targets from industry groupings. Such bottom-up actions can catalyse action at a larger scale.

At present, there are no explicit, formal links between UNFCCC provisions (e.g. via the text of the Convention) and most NPS including sub-national governments and the private sector. These NPS do not have mandates under the UNFCCC and they are not Parties directly engaged in negotiations. Interaction between these NPS and the UNFCCC is indirect, mostly via national governments (such as sub-national governments' climate action to facilitate national governments' commitments under the UNFCCC), the FM (such as the GEF and potentially the GCF), and the private sector's participation in the Clean Development Mechanism projects. In addition, NPS have been increasingly involved in discussions under the UNFCCC framework, such as TEMs under workstream 2 of the ADP, and are also directly involved in some institutions established under the UNFCCC, such as the CTCN.

For the pre-2020 period, a decision on workstream 2 under the ADP is planned to be adopted at the 21<sup>st</sup> Conference of the Parties (COP 21) (1/CP.20). This decision could explicitly encourage co-operation between national governments and NPS in the development of ambitious and achievable climate responses. It could also mention enhanced dissemination of knowledge and experiences from NPS.

There are many possible ways that the 2015 agreement could enhance mitigation actions by NPS in the post-2020 period. Firstly, the agreement could enhance or reiterate the need for a long-term goal for the international climate change framework. It would give national governments policy stability and, in turn, could indirectly help reduce the national policy barriers and financial barriers to autonomous actions by NPS. Similarly, the agreement could encourage national governments to improve domestic enabling environments to incentivise mitigation action and low-carbon investments (including by NPS), indirectly addressing national policy barriers.

Also, the agreement could include text that recognises the role of NPS in implementing and financing mitigation actions, and that encourages national governments to enhance co-ordination and co-operation with NPS. Doing it would indirectly reduce the information and knowledge gap between national government and NPS, as well as sending a political signal that action by NPS is important.

To further address the information and knowledge barriers, the agreement could request the UNFCCC to continue the sharing and dissemination of information and knowledge between national governments and NPS e.g. by launching a similar process to the current TEMs and encouraging the use of the NAZCA portal. The NAZCA portal can potentially act as a process for which NPS can sign up in parallel to the 2015 agreement. The 2015 agreement could also enhance transparency of action by NPS. It could encourage the use of a common accounting and reporting tool to enhance transparency of actions, and provide the possibility to assess the contribution of autonomous mitigation action by NPS. Such a tool could be developed outside the UNFCCC framework, and would need to not be onerous in order to be widely taken up.

In terms of finance, the agreement could also strengthen the links with multilateral financial institutions including the GEF and GCF by encouraging direct access to finance by NPS. Further, if the 2015 agreement provides for the possibility of carbon markets, this could financially incentivise actions by NPS, as was observed under the market mechanisms of the Kyoto Protocol.

Although the UNFCCC is a Party-driven framework, its potential to encourage action by NPS is significant. As discussed above, there are many ways to make explicit reference to NPS in the 2015 agreement. The 2015 agreement could help to address barriers and to further enhance mitigation actions by NPS, thereby leading to enhanced global ambition.



## 1. Introduction

Limiting the increase in global average temperature to below 2°C compared to pre-industrial levels will require ambitious mitigation action to be integrated into all aspects of societies and economies, through action by all societal actors, including Parties to the United Nations Framework Convention on Climate Change (UNFCCC), i.e. national governments, as well as non-Party stakeholders (NPS). At the 21st Conference of the Parties (COP 21) in December 2015, Parties to the UNFCCC are to adopt a new agreement which will set a framework to accelerate action to meet the objectives of the UNFCCC. NPS are mentioned in some of the proposals made in the Geneva negotiating text (FCCC/ADP/2015/1), and provisions related to NPS may be included in the new agreement or in a COP decision at COP 21 (UNFCCC, 2015a).

This paper explores mitigation actions by NPS, i.e. entities that are not Parties (national governments) (Box 1). Specifically, the focus is on mitigation actions undertaken by sub-national governments and the private sector, and the role of financial institutions as enablers of such actions. These NPS can contribute to global climate change mitigation in many ways. For example, local governments can affect greenhouse gas (GHG) emissions through local policy and local public investment in areas such as land use, transportation, buildings, natural resources management, and urban utilities (OECD, 2014a; OECD, 2010). In some cases, implementation at the local level may be essential to meet national policy objectives, such as for building codes, air pollution regulations, or forest monitoring activities. Also, local governments are closer to citizens and therefore they are well placed to influence consumer and producer behaviour in accordance with local circumstances (OECD, 2014a; Anton et al., 2014). Ambitious climate action at sub-national level can be driven by a number of local benefits such as improved local air quality and creation of business development and employment opportunities (CDP, 2015; OECD, 2014a).

The private sector can also have substantive influence on global GHG emission reductions by adopting low-carbon technologies and business practices in its operations. By committing to ambitious contributions and undertaking climate action, the private sector can drive innovation, reduce cost and strengthen its brand while helping raise global mitigation ambition and reduce climate risks (CDP, 2014; for example, Air Canada, 2015; Honda, 2015; Royal Philips, 2015). Financial institutions such as multilateral and national development banks and private banks can indirectly, but significantly, influence GHG emissions by funding projects that could either enhance or inhibit mitigation.

NPS can significantly contribute to national and global mitigation efforts. UNEP (2015) shows that 15 existing NPS initiatives, involving cities, companies and sectors, could deliver emission savings of 2.9 GtCO<sub>2</sub>.eq in 2020, additional to what will be delivered by policies and measures currently implemented. The estimated reduction is equivalent to the current GHG emissions of Japan, Germany and the UK combined (OECD statistics). On the other hand, there are many different barriers that prevent NPS from realising their full mitigation potential. Moreover, it is currently difficult to track whether actions by NPS are additional to national government pledges, or facilitate implementation of national government mitigation commitments.

This paper examines how the 2015 agreement could help NPS overcome these barriers and encourage both increased mitigation actions and financing for such actions. It discusses the current framework for pre-2020 mitigation ambition and a future framework for post-2020.

In the following section, this paper looks at the barriers to implementation of mitigation actions that sub-national governments and the private sector often encounter, as well as the role of financial institutions. Section 3 explores the current UNFCCC process that attempts to raise mitigation ambition for pre-2020 and assesses how it is addressing each of the barriers identified. Section 4 discusses how the new agreement could overcome those barriers and encourage NPS to further enhance mitigation actions both pre- and post-2020. Section 5 provides conclusions.

### **Box 1: Who are non-Party stakeholders?**

The term “non-Party stakeholders” (NPS) in the UNFCCC context is used to indicate entities that are not Parties (national governments). Non-Party stakeholders therefore include civil society, the private sector, financial institutions, cities and other sub-national authorities, local communities and indigenous peoples, as indicated in the draft COP decisions prepared by the co-chairs of the UNFCCC’s Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP) as part of the Paris Package (UNFCCC, 2015a).

In this paper, sub-national governments refer to all levels of government below the national government, i.e. regional and local governments. Local governments refer to local authorities in a city or municipality. Regional governments refer to governments at higher level than city and municipality, including states, provinces and prefectures. In terms of climate change mitigation, sub-national governments, the private sector and financial sector are major entities to implement or fund actions as is observed at the NAZCA platform (Box 2), where emission reduction commitments are categorised into those of cities, regions, companies and investors. Other types of NPS are also important in catalysing mitigation action. Civil society, for example, actively catalyses action by Parties and other NPS (e.g. World Wide Fund for Nature’s Climate Savers programme).

## **2. Barriers to mitigation action by NPS**

A large body of analysis (OECD, 2015a; NCE, 2014; GGBP, 2014; GIZ, 2014; LEDS, 2014; UNFCCC, 2014a; OECD, 2010) has highlighted five major barriers encountered by NPS in taking or funding mitigation actions; (1) national policy barriers and misalignments; (2) mandate barriers; (3) financial barriers; (4) information and knowledge barriers; and (5) capacity and skills barriers. The significance of each barrier varies, depending on the type of NPS, the local circumstances and the measures already in place to address these barriers.

### **2.1 National policy barriers and misalignments**

Misalignments between national policy frameworks and climate objectives can undermine mitigation action (OECD, 2015a). Obstacles to mitigation actions can be embedded in a range of areas such as fiscal, trade, and competition policies (Table 1). For example, fossil fuel subsidies at national level can indirectly lead to urban sprawl, undermining efforts to promote sustainable urban transport by local governments (Matsumoto and Daudey, 2014). Sub-national governments can also be restricted by national policies and regulations, which can reduce their capacity to act in a number of areas (OECD, 2010). For example, in Denmark, several local governments supported the introduction of congestion charges in order to reduce traffic and greenhouse gas emissions. However, due to the opposition by the national government, congestion charges have not been introduced in any cities in Denmark (Transport og Bygningsministeriet, 2013; Københavns Kommune, 2012).

National policy can also affect private sector investment. In Japan, for example, the full liberalisation of the electricity retail market from 2016 without mandatory GHG emissions reduction targets for retailers may trigger new construction of coal-fired power plants. There are several plans announced by new entrants such as oil refining companies and city gas companies, as well as electricity utilities, which seek to secure low-cost power generation sources to supply electricity to a new retail client base (e.g. Idemitsu, Kyushu Electric and Tokyo Gas, 2015; Akita Prefecture, 2015 for Kansai Electric and Marubeni’s plan). If these plans are implemented, the increase in coal-fired power generation can result in increased GHG emissions.

**Table 1: Examples of policy misalignments**

Fiscal policies	Insufficient carbon pricing and incentives; environmentally harmful subsidies; tax policies unintendedly favouring carbon-intensive behaviour
Climate policies	Lack of ambitious climate objectives; lack of stability of climate-related legislations
Investment policies	Regulatory barriers to international investment in low-carbon projects (e.g. local content requirements); lack of transparency, insufficient investor protection and insufficient intellectual property rights protection
Competition policies	Lack of open and competitive markets; market designs and regulatory rigidities favouring carbon-intensive infrastructure; lack of a level playing field
Trade policies	Trade barriers for low-carbon goods and services (e.g. import tariffs)

Source: Adapted from OECD (2015a)

## 2.2 Mandate barriers

A second type of barrier is related to the mandate for enforcing climate policy given to sub-national governments. Limited or overlapping mandates can cause obstacles to low-carbon development in their jurisdictions while the extent of this barrier can depend on the government structure of a country (e.g. federal or unitary) (OECD, 2015a; UNFCCC, 2014a; LEDS, 2014).

There are certain policy areas where cities may have clearer mandates and a stronger capacity to act, and others where this may be weaker. Most cities responding to a survey by the C40 Cities Climate Leadership Group (C40) (Arup and C40, 2014) indicated that they have strong powers of setting and enforcing policy in areas such as water, buildings, waste and transport, while many fewer indicated having power in other policy areas such as energy supply and internet connectivity technology. This implies that in the latter policy areas the lack of power may hinder certain mitigation measures sought by local governments.

In the energy supply area, local governments' energy mix or emission reduction targets may be constrained by their limited authority over legal instruments to implement such targets. For example, the Tokyo Metropolitan Government has set a target of increasing the share of renewable energy in the electricity consumption of the Tokyo area to 20% from 6% in 2012. An advisory committee of the Tokyo Metropolitan Government put forward several recommendations to achieve the target, such as further promoting solar PV and biomass generation within Tokyo and investing in renewable energy funds outside Tokyo (Tokyo Metropolitan Government, 2014). However, since the national laws do not give any authority to sub-national governments to oblige retail electricity operators such as Tokyo Electric Power Company to supply certain amounts of renewable energy in their jurisdictions, there are no means to ensure that the target will be met in practice.

The absence of co-ordination between levels of government may also lead to policy design that fails to allow sub-national governments to realise their full mitigation potential (OECD, 2015a). For example, in Bangkok, Thailand, the Bangkok Metropolitan Administration and five surrounding provinces that form the Bangkok Metropolitan Region develop their own spatial plans at local level. Though the national government also produces a spatial development plan for the entire Bangkok Metropolitan Region, they have no administrative or legal requirement to follow the national government's spatial plan (Ratanawaraha, 2010). The lack of co-ordination between the national and local governments, and co-operation among the local governments, may significantly compromise the metropolitan region's potential for green growth (OECD, 2015b). In Mexico, different levels of government share responsibilities in the transport sector (IMCO, 2012), and the institutional and administrative fragmentation within the sector can pose an obstacle to delivering desirable outcomes.

For instance, OECD (2013a) noted that in developing the bus rapid transit system in Puebla-Tlaxcala, the location of routes and stops was decided by the state government, with limited co-ordination with local governments, leading to citizens' needs not being fulfilled. These examples highlight the importance of co-ordination and co-operation between national governments and sub-national governments.

### **2.3 Financial barriers**

Shortage of funding is often cited as a main barrier for NPS' climate action (OECD, 2015a; NCE, 2014; GGBP, 2014; LEDS, 2014; GIZ, 2013). Even where sub-national governments have a legal mandate to undertake actions, they may not be capable of assuming the responsibility due to lack of resources (GIZ, 2013; UN-ADB, 2012). According to the latest statistics (OECD, 2015c), between 2009 and 2013 (i.e. after the global financial crisis), government investment declined as a share of GDP and as a share of total expenditures on average in OECD countries. With public investment at sub-national level accounting for about 60% of total government investment in OECD countries (OECD, 2015d), the decline in public investment implies a significant challenge for sub-national governments. OECD (2014b) also finds that the annual volume of sub-national public investment declined by 13% in 2012 relative to 2009 in real terms in the OECD area.

In addition, sub-national governments can face limited access to financial markets and mechanisms and international climate finance to fund low-carbon development, depending on the country and local conditions. Factors limiting their access to finance include: low credit ratings; limited capacity to mobilise private finance due to insufficient size of low-carbon infrastructure investment market and unattractive risk-return profiles; and sovereign limits set by national governments on how much or if a sub-national government can borrow from the private sector (OECD, 2015a; OECD, 2014b; Merk et al., 2012). Local governments are generally regarded as embedding higher default risk than national government (Merk et al., 2012). Only 4% of the 500 largest cities in developing countries are considered credit worthy by international standards (World Bank, 2013).

In Chile, for instance, municipalities are eligible to obtain a form of credit for capital investment through a government programme. However, they must demonstrate an ability to reimburse the credit within a specified time frame from their own revenue source, which limits the number of municipalities able to access this funding opportunity (OECD, 2013b). In China, local governments face the burden of rapidly growing expenditures without the power to raise tax revenues to meet expenditure needs, especially capital expenditures for urbanisation and industrial development. The gap is partly filled by off-budget funds from land concessions which create perverse incentives, resulting in adverse environmental consequences such as urban sprawl (Lu and Sun, 2012; Liu and Salzberg, 2012).

In the private sector, high cost of mitigation actions and lack of financial resources can be an obstacle to implementation of mitigation actions (for example, IPCC, 2014; Cliquot, forthcoming). Low-carbon investments by the private sector can also face financing challenges because of various risks embedded in such investments, such as policy and regulatory risks and commercial and technical risks (Corfee-Morlot et al., 2012). For example, in an offshore windfarm project in the United Kingdom, its majority stakeholder DONG Energy was faced with financing challenges at the time of the project approval in 2007, including the significant construction, operation and maintenance costs of the relatively immature technology, and the reluctance of banks to provide project finance amid the European debt crisis (Kaminker et al., 2013). DONG Energy was able to address the challenges by combining extensive financial structuring to de-risk the investment to attract institutional investors, and benefitting from favourable United Kingdom government policy incentives. This example shows that funding can be difficult to secure without stable regulatory policies and suitable financial vehicles that address the diverse risks.

## **2.4 Information and knowledge barriers**

A fourth type of barrier is a lack of information and knowledge, such as knowledge of techniques and technologies, local-level emission data and information on mitigation actions (UNFCCC, 2014a; GIZ, 2014; LEDS, 2014; GIZ, 2013). Insufficient information and data make it difficult for sub-national governments to design, implement and track progress with mitigation plans (GGBP, 2014; GIZ, 2013). Also, knowledge and information gaps between levels of governments prevent communication and co-ordination of mitigation action (GIZ, 2014).

For example, in Ghana, a lack of awareness can hinder effective climate change response at the local level. According to the Overseas Development Institute (ODI), while the National Climate Change Policy was publicly launched in 2014, its content and the responsibilities of local governments under the policy have not been disseminated to all local governments. Moreover, the Metropolitan, Municipal and District Assemblies do not appear to recognise the leading role of certain government institutions in implementing the national climate policy and these institutions are allocated a large share of financial resources (ODI, 2015).

The private sector and financial institutions also face this type of barrier. Insufficient, non-standardised information on GHG emissions and climate risks, or lack of data availability and knowledge in mitigation techniques and technologies, make these players unable to assess mitigation options adequately (IPCC, 2014; OECD, 2015a). GIZ (2015) conducted a study in India that identified a number of barriers encountered by the private sector in scaling up low-carbon investment. Among these were a limited understanding of climate risks and how to assess them and limited technical knowledge of low-carbon projects, such as in energy efficiency. For example, lack of reliable baseline energy data and limited technological (and financial) capabilities are major barriers to low-carbon investment, in particular at local and sub-national level. GIZ (2015) also identifies similar barriers in the transport sector in India. For example, a lack of passenger information systems and lack of technical knowledge impair investment opportunities for the private sector.

## **2.5 Capacity and skills barriers**

A lack of capacity and skills to plan and implement actions is another type of barrier. The policy-making process, from agenda-setting to implementation and evaluation phases, requires appropriate capacity and skills within the administrative institutions of sub-national governments (GGBP, 2014; UNFCCC, 2014a; GIZ, 2013).

For example, in Mexico, the federal government approved in 2012 the General Climate Change Law through which a climate action plan is developed at local level to implement the national policy. An initiative led by the ICLEI- Local Governments for Sustainability (ICLEI) sought to address the capacity and skills barriers by helping establish GHG emissions inventories at local level, identifying mitigation and adaptation measures for municipalities, as well as facilitating collaboration between levels of government (ICLEI, 2014a). In China, India, Indonesia and the Philippines, Japan's Institute for Global Environmental Studies (IGES) examined GHG emissions inventories, reporting and control practices at the sub-national level, to assess the potential of a carbon crediting mechanism to enhance mitigation policies at the sub-national level (IGES, 2012). The study concluded that several sub-national governments selected for the study had insufficient personnel and organisational capacity to implement the GHG management practices, and they did not have capacity to develop regional inventories without external assistance.

### **3. The current UNFCCC process for enhancing pre-2020 mitigation and its impact on NPS**

For the period up to 2020, i.e. the period until the new agreement comes into effect, around 100 countries have communicated emission reduction contributions under the UNFCCC (UNFCCC, 2014b; UNFCCC, 2013). A workplan on enhancing mitigation ambition was agreed at COP 17 in 2011 (1/CP. 17), known as “workstream 2”, and launched at COP 18 in 2012 under the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP) of the UNFCCC (2/CP.18). Furthermore, at COP 19 Parties decided to accelerate activities under the workplan, intensify the technical examination of opportunities with high mitigation potential, and facilitate sharing of experiences and best practices of cities and sub-national authorities (1/CP. 19). This process is called the “technical examination process (TEP)”.

Under the TEP, a series of “technical expert meetings” (TEMs) began in 2014. Both states and NPS participate in TEMs: the meetings provide opportunities for the engagement of experts from Parties and from NPS, such as the private sector and sub-national authorities, and to build on and utilise activities of other institutions such as the Technology Mechanism (TM) and the operating entities of the Financial Mechanism (FM) (1/CP. 20). COP 20 decided to continue holding technical expert meetings in the period 2015-2020 (1/CP.20). How to further advance the process is currently under discussion to include in a decision to be adopted at COP 21 in 2015 (UNFCCC, 2015b). Outside workstream 2, the Green Climate Fund (GCF), an operating entity of the FM of the UNFCCC, was established at COP 17 and “will play a key role in channelling new, additional, adequate and predictable financial resources to developing countries and will catalyse climate finance, both public and private, and at the international and national levels” (UNFCCC, 2011).

The current UNFCCC framework under the TEP and TEM is addressing some of the five barriers discussed in section 2 so as to enhance mitigation action by NPS. The current mandates of the TEP do not, however, allow them to remove all the barriers to substantially replicate and scale up actions by NPS.

#### **3.1 Information and knowledge barriers**

The TEMs allow national governments and NPS to exchange information and share experiences on a range of areas such as: energy efficiency in urban environments including lighting, district energy systems, buildings and urban transport, and renewable energy. Discussions under the TEMs are thus helping to address information and knowledge barriers. At the international level, an outcome of the TEP to date is that the international community has recognised the important role played by NPS in facilitating actions (UNFCCC, 2015d). As Parties decided to continue such meetings (1/CP. 20), this type of barrier should continue to be addressed, potentially in a more focussed manner as the organisation and participation in meetings builds on lessons learned. The information sharing function can be further strengthened by high-level engagement; the future form of such engagement, currently being led by COP presidencies, is under discussion (UNFCCC, 2015b).

The NAZCA portal (see Box 2) also provides information on NPS emission reduction contributions. Although different type, base year and scope among commitments make it difficult to compare them, such information sharing could potentially stimulate the ambition of NPS.

Workstream 2 has also initiated links with other institutions established under the UNFCCC. This includes the Technology Executive Committee (TEC) of the TM, which as part of its workplan organises thematic dialogues on mitigation technologies so as to promote and facilitate collaboration on the development and transfer of technologies between government, the private sector and other stakeholders. It also contributed to discussion at one of the TEMs in 2015 on distributed renewable energy generation.

### Box 2: NAZCA portal

The “NAZCA (Non-state Actor Zone for Climate Action)” portal was launched by the Peruvian presidency alongside the Lima-Paris Action Agenda at COP 20 in 2014. It is a web-based portal where cities (local governments), regions (regional governments), companies, and investors can register and update progress on their climate action commitments via external data partners such as CDP and carbonn® Climate Registry. The types of commitments vary, for example, emissions reduction of CO<sub>2</sub> or other GHGs, an increased share of renewable energy in final energy demand, energy efficiency improvements, and investment in renewable energy projects or in a low-carbon fund. In October 2015, the NAZCA displayed 4 024 commitments to action, of which 1 215 are from cities, 262 from regions, 617 from investors and 1 930 from companies. According to the NAZCA portal website, the aggregate emission reductions from the commitments are currently unavailable because much of the action is on a voluntary basis for which there is currently no internationally standardised monitoring, reporting and verification system. In the future, guidelines and tools developed outside the UNFCCC may allow for better comparability in between actions, as well as a means to track progress with the achievement of actions by NPS.

(Source: the NAZCA portal <http://climateaction.unfccc.int/>)

## 3.2 Financial barriers

The financial barriers are partially being addressed in two main ways. Firstly, the overall availability of finance for mitigation actions is being increased. For example, at the international level, developed countries committed to mobilising jointly USD 100 billion per year of climate finance by 2020 to address the needs of developing countries at COP 16 in 2010 (1/CP. 16).

At the national and sub-national level, around a dozen green investment banks (GIBs) have emerged both in developing and developed countries in recent years (OECD, forthcoming). GIBs at the national level are providing new sources of finance for NPS, including private businesses and local communities. For example, the UK Green Investment Bank has recently added community-scale renewable projects as an additional target sector for investment, and also offers an innovative corporate loan facility to municipalities, specifically tailored to address energy efficiency in public street lighting (UK GIB, 2014; UK GIB, n.d.). Sub-national GIBs have emerged in the United States at both the state and county levels. The state-based Connecticut Green Bank, NY Green Bank and Green Energy Market Securitization Programme in Hawaii are using limited public capital to mobilise private investment in domestic mitigation-relevant activities, such as renewable energy and energy efficiency (OECD, forthcoming). The recently established Montgomery County Green Bank (Maryland) is the first local jurisdiction to create a GIB in the United States and will be capitalised with USD 20 million to promote private investment in clean energy technologies (Montgomery County Council, 2015). This highlights that some national and sub-national governments are taking steps to help increase the amount of finance available for climate responses by NPS.

Secondly, the access to international climate finance by NPS is also specifically being tackled. NPS are eligible for funding under the Global Environment Facility (GEF), the Adaptation Fund (AF) and the Green Climate Fund (GCF). For example, in South Africa, the GEF Trust Fund is involved in a project to promote the use of electric vehicles and non-motorised transport (such as bicycles) where the city of Durban and the city of Johannesburg are among the executing partners (GEF, 2015). In the city of Ji’an in China, the GEF Trust Fund is taking part in a sustainable urban transport project financed by the city government and the Asian Development Bank (GEF, 2014a). Cities are one of the important areas in the institution’s overall strategy: the GEF’s latest strategy (GEF-6) covering the period 2014-2018 has two channels to support sustainable cities: the “integrated low-emission urban systems” programme under the Climate Change Mitigation Focal Area, with an allocation of USD 210 million over the period, and a new window under the Integrated Approach Pilots for sustainable cities projects, with an allocation of USD 55 million (GEF, 2014b). The AF under the Kyoto Protocol finances adaptation projects implemented in developing countries at sub-national levels as well as national level. For example, uMgungundlovu District Municipality in South Africa is an executing

entity in a project proposal to increase climate resilience and adaptive capacity in its communities (AF, 2014).

Furthermore, the GCF has explicitly indicated that sub-national entities can apply for accreditation (GCF, 2011) although there is no accredited sub-national financial institution to date (as of July 2015). As these examples illustrate, both governments and financiers are aware of the financial barriers to increased climate action by NPS, and are taking steps to at least partially address them.

### **3.3 Capacity and skills barriers**

Capacity and skills barriers to NPS are (by definition) very specific to different sets of NPS. It would therefore be difficult for them to be tackled directly by the international UNFCCC framework. However, these barriers are being addressed by financial institutions such as the GEF. For example, policy and regulatory frameworks and institutional capacity building is one component of the uMgungundlovu District adaptation project mentioned in 3.2. In Chiang Mai, Thailand, the GEF Trust Fund partially funded a project to improve the technical capacity of the Chiang Mai City Municipality for integrated land use and urban transport planning, and for a pilot demonstration of non-motorised transport (e.g. walking and bicycles) (GEF, 2011).

Also, there are some existing mechanisms under the UNFCCC that could potentially help to address capacity and skills barriers in the short term. In particular, the TM has a mandate to provide expertise and facilitate the implementation of actions for technology development and transfer to support action on mitigation as well as adaptation (1/CP.16). Its two components, the TEC and the Climate Technology Centre and Network (CTCN), have functions related to capacity building. For example, the CTCN part of the TM responds to technical assistance requests on climate technologies from developing countries. The geographical level for request can be community-based and sub-national, as well as national and multi-country, although the CTCN's list of Technical Assistance Requests suggests there are only a few assistance requests with a focus on a particular community or sub-national area to date (CTCN, 2015). Some of such assistance is provided by the CTCN Network members, which include the private sector (including public-private partnerships), the public sector, non-governmental organisations, as well as research and academic organisations (CTCN, 2015). Therefore, within the current mandate of workstream 2, the TM could potentially address capacity and skills barriers that NPS face.

### **3.4 National policy barriers and misalignment, and mandate barriers**

The international climate framework can and does influence the direction of national climate policy, as nations work towards short-term commitments or pledges that have been agreed internationally, as well as working towards longer-term goals. Nevertheless, details such as the type and stringency of specific national policies are fundamentally beyond the scope of an international climate negotiation process. Thus, the UNFCCC process does not have the mandate to directly address misalignment between domestic policies and climate change objectives.

The mandate barriers are also difficult to overcome. The policy-making mandate across levels of government in a sovereign nation is determined by national legislation in each country. This is beyond the scope of such an international process as the UNFCCC. However, the current process of the TEP could enhance co-ordination and co-operation between local, sub-national and national governments via dialogues at TEMs to alleviate the mandate barriers (see section 3.1).

### **3.5 Summary of barriers and possibilities to enhance pre-2020 ambition by NPS**

As outlined above, UNFCCC processes and institutions are partially addressing some of the barriers faced by NPS aiming to increase their mitigation actions (Table 2). Continuing and enhancing such work pre-2020 is possible for some of these barriers, as also outlined in Table 2.



**Table 2: Summary assessment of the current UNFCCC process in enhancing pre-2020 mitigation by NPS**

Barriers	Addressed under the UNFCCC?	Possible options for further enhancement to 2020
1. National policy barriers and misalignment	No	Unlikely
2. Mandate barriers	No	Unlikely
3. Financial barriers	Partially, via GEF, GCF	Enhance FM
4. Information and knowledge barriers	Partially, directly in workstream 2 via TEMs under TEP; indirectly via e.g. NAZCA portal	Continue TEMs, NAZCA
5. Capacity and skills barriers	Partially, via GEF, TM	Enhance co-ordination between TM and TEP

A draft decision on workstream 2 has been prepared, and the second version was made available prior to the ADP session in October 2015. The text has been strengthened regarding interactions with NPS from the previous draft decision prepared in July 2015 (UNFCCC, 2015b, UNFCCC, 2015c). Some paragraphs have been added that could help address the barriers encountered by NPS (particularly barriers related to information and knowledge, as well as to finance) and enhance their action. For example, there is a paragraph that explicitly recognises the efforts of NPS (paragraph 15). The second draft also encourages use of the NAZCA portal to disseminate information, and sets out a process to continue and strengthen high-level engagement in accelerating pre-2020 mitigation action.

This draft decision could be further strengthened. For example, paragraph 5 (a) of the draft decision currently refers to “facilitating the implementation of policies, practices and actions identified during the technical examination process” (UNFCCC, 2015b), as an option of strengthening the technical examination in the period 2016-2020. This could be strengthened to explicitly refer to co-operation between Parties and NPS in identifying, developing and funding ambitious and achievable climate responses. Further, the text does not necessarily have to limit facilitating implementation of policy options and actions to only those that have been identified during the technical examination process.

Thus, the draft decision text on workstream 2 could be modified to read:

- (Paragraph 5 (a)) Encouraging Parties, Convention bodies, international organizations, international cooperative initiatives and non-Party stakeholders to engage actively and effectively in this process and to cooperate in developing ambitious and achievable climate responses, facilitating the *identification, development, funding and* implementation of policies, practices and actions *including those* identified during this process, including in accordance with national sustainable development priorities;

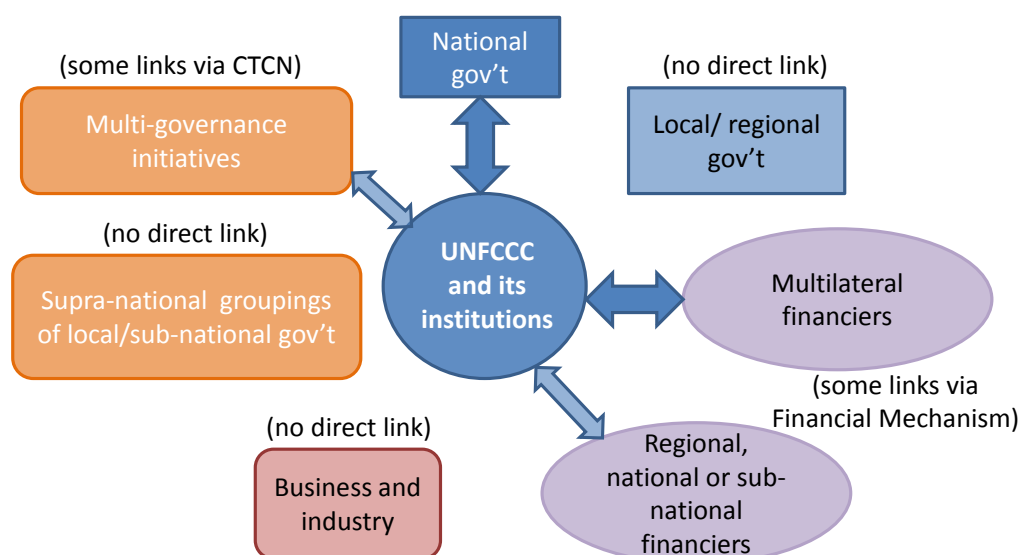
#### **4. How the 2015 agreement can help to enhance mitigation actions by NPS**

There are many different types of climate mitigation (and adaptation) initiatives being undertaken by NPS, and varying potential for enhancing such initiatives. This section discusses how the new agreement could help NPS overcome the barriers to increased climate action that they encounter. To examine what actions could be taken at the UNFCCC level, the section looks at the current links between the UNFCCC, national governments and NPS and proposes possible solutions that would help NPS overcome the existing barriers.

At present there are no explicit, formal links between UNFCCC provisions (i.e. the text of the UNFCCC) and several NPS relevant to climate change mitigation and adaptation responses (Figure 1

below). These NPS do not have mandates under the UNFCCC and they are not Parties directly engaged in negotiations. However, there are increasing informal interactions, including via events including or focused on NPS participation at UNFCCC negotiations and information-exchange platforms. These include recent initiatives such as the Lima-Paris Action Agenda and NAZCA portal, as well as the ADP 2-5 Forum on Cities, which are outside formal decisions of the UNFCCC. As NPS have become increasingly involved in mitigation actions, links between them and the UNFCCC is growing. These links could potentially be further enhanced and even formalised in the 2015 agreement.

**Figure 1: Links between the UNFCCC, its institutions and actors involved in mitigation actions**



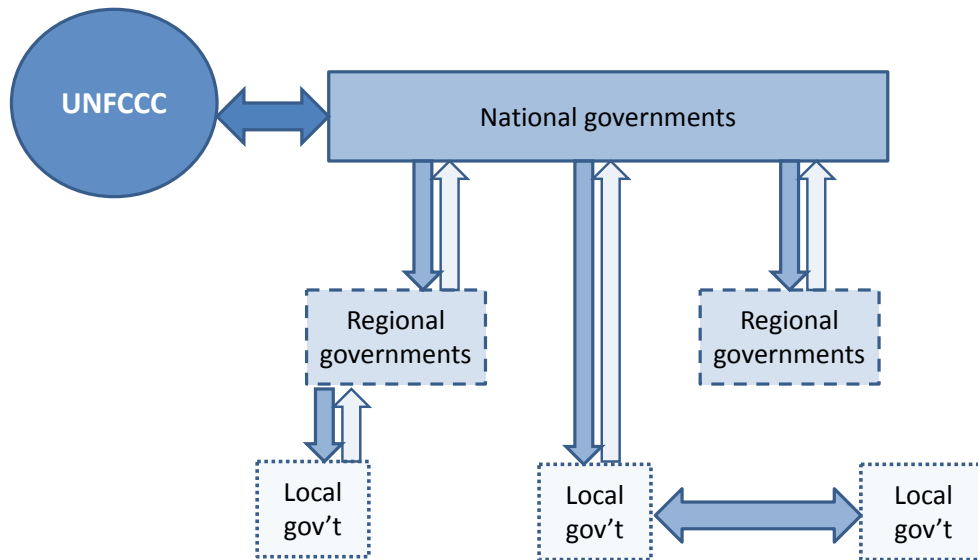
The 2015 agreement is to come into force from 2020. It will therefore be able to play only a limited role in enhancing pre-2020 mitigation action by NPS. However, it could help to enhance post-2020 climate responses (both mitigation and adaptation) by recognising the role of NPS in implementing climate policies and encouraging their engagement in climate policy development. The new agreement could also provide opportunities for highlighting lessons learned from successful NPS' climate action.

#### 4.1 Sub-national governments

Currently there is no explicit link between the UNFCCC itself and sub-national governments (Figure 2 below). Thus, any interaction between sub-national governments and the UNFCCC is indirect, e.g. via national governments. Links between sub-national governments and national governments are both top-down and bottom-up (Figure 2). Bottom-up links on climate action between sub-national governments and national governments can be more challenging than top-down ones for many reasons. For example, lack of communication and co-ordination between the national government and NPS, or lack of climate-related information at local level, can lead to information and awareness gaps (GIZ, 2014). Policy priorities between governments at national and sub-national levels may also be different – particularly if national and sub-national governments are run by different political parties (Erhart, 2015).

The national policy framework can hinder (as outlined in section 2.1) or help enhance sub-national climate responses by sub-national governments. The top-down link between national government and sub-national government can be a key factor in incentivising increased sub-national action on climate change by establishing an enabling framework for such action (OECD, 2010). Such a framework is observed in many countries.

**Figure 2: Links between the UNFCCC itself and different levels of climate governance**



For example, several national governments in both developed and developing countries have enacted legislation requiring sub-national governments to develop and implement climate plans or policy measures. Thus, in 2010, France established such legislation and facilitates by including representatives of the national government and national agencies (as well as the individual regions) in the development of such plans. As a result, by 2014, all regions had established such plans (Ministère de L'Écologie, 2014). In Japan, as required by the national government's Basic Act on Global Warming Countermeasures, all prefectures and major cities are required to develop a local action plan on climate change, in line with their other plans related to city planning, agricultural area and waste management (MOE, 2014). In China, seven cities and provinces developed pilot emission trading systems (ETS) mandated by the 12th Five-Year Plan of the central government (ICAP, 2015). These ETS schemes are intended to test various ETS designs before transitioning to a national system in 2017 (CDC and IETA, 2015; State Council, 2015; State Council, 2014). In India, the national government requires state governments to prepare state action plans on climate change (MEFCC, 2014), which will facilitate taking climate considerations into account at all levels of planning.

Some countries are working to address multiple barriers to sub-national climate action, as mentioned above. For example, the national Vietnam Green Growth strategy specifically provides a mandate for provincial governments to establish climate or green growth plans (UNDP, 2015) and 15 of 63 provinces have done so to date (GGGI, 2015). The strategy itself was established via a participatory process between the national and local governments (Trinh and Nhung, 2013), which thus helps to increase their knowledge and understanding of issues and possible solutions. Vietnam has also identified its finance needs to implement this strategy and earmarked some domestic funding for this purpose (VietNamNet, 2015; Mai, 2014a). In addition, it aims to improve the institutional awareness and capacity of domestic financial institutions to implement green growth (Mai, 2014b). Despite these efforts, communication and co-ordination barriers persist between national and sub-national governments, as well as with other stakeholders such as the private sector (Rivero Baughman, 2015).

The bottom-up relationship between sub-national governments and the national government can also help trigger enhanced climate action at a broader scale. This is particularly true where sub-national authorities are encouraged or allowed to go beyond national requirements or incentives to independently act to address climate change.

For example, catalysed by a bill in the state of California, fourteen states of the United States moved to introduce tighter CO<sub>2</sub> emission standards for cars, which led the federal government to introduce similar fuel economy requirements at a national level (Goulder and Stavins, 2010). In 2006, Spain

included the requirement of installing solar thermal systems in its national building code. This followed the success of such systems in Barcelona, which in 2000, was the first European city to require solar energy use to supply 60% of running hot water in all new buildings, renovated buildings, or buildings changing their use (ESTIF, 2015; ICLEI, 2014b). This requirement led to the city increasing the area of installed solar panels by more than a factor of 50 by 2010, as well as to more than 70 Spanish municipalities adopting similar regulations (ICLEI, 2014b). Similarly, the Colombian government instituted a programme to replicate the successful implementation of a city-wide bus rapid transport system in Bogotá (US DoT, 2007).

## 4.2 The private sector

The private sector also has no explicit link with the UNFCCC itself at present (Figure 1). However, as for sub-national governments, there are indirect links and national governments can help or hinder the extent of the private sector's mitigation actions. The private sector, including financial institutions, also needs economic rationale to take actions while facing a number of barriers. Low-carbon, climate-resilient infrastructure investments can entail additional risks to traditional investments in terms of policy and regulatory risks, commercial and technical risks and market risks (Kaminker et al., 2013; Corfee-Morlot et al., 2012), which can be barriers to mitigation investment. To reduce barriers to mitigation action and investment by the private sector, the new agreement could enhance explicit collaboration between the UNFCCC and the private sector to enhance the private sector's capacity to manage these risks. The agreement could encourage national governments to improve their enabling environments, as suggested in the draft agreement in the co-chairs' non-paper. The 2015 agreement or associated decision could also explicitly encourage dialogue to share lessons learned from successful private sector initiatives across national governments by establishing a process similar to the current TEP.

Private sector actors have increasingly been active in both mitigation and adaptation responses, both alone as well as in multi-governance initiatives (discussed in section 4.5). These may have been driven by national governments' climate responses to commitments undertaken under the UNFCCC, as well as by increasing awareness of the potential economic impacts of climate on the private sector's bottom line.

Private-sector focused activities in mitigation include actions taken to meet emissions caps under ETS (e.g. EU ETS) or industry-led initiatives (e.g. Keidanren's sectoral emission reduction targets in Japan) and projects developed under the Kyoto Protocol's Clean Development Mechanism (CDM). The unexpected sectoral split of CDM projects in terms of certified emission reduction (CER) credits issued and associated emission reductions (e.g. 52% of issued CERs come from reduction of industrial gases such as hydrofluorocarbons (HFCs)), as well as the uneven geographical split of such projects (e.g. 60% of issued CERs are from China), highlights that the private sector can identify and prioritise cost-effective mitigation opportunities (UNEP DTU, 2015). Although many countries have indicated that they will not be using international offsets post-2020, the continued use of markets, e.g. emissions trading schemes – particularly at the national or sub-national level could also help to encourage private sector participation in mitigation activities. Explicit recognition of the continued use of markets in the 2015 agreement, as per one of the options included in the draft decision text, would therefore help to provide an explicit financial incentive for GHG reductions, and thereby reduce some of the financial barriers that the private sector encounters.

However, some private-sector action is autonomous, i.e. not explicitly linked to (or driven by) specific national GHG targets. For example, Arcelor Mittal's target of reducing CO<sub>2</sub> emissions intensity of steel operations by 8% from 2007 to 2020 was set in 2008 (Arcelor Mittal, 2015; UN, n.d.). The target therefore predates the request at COP 16 in Cancun for countries to submit emission pledges to 2020.

Nevertheless, long-term policy signals are acknowledged to be a key driver of private-sector investment policies (OECD, 2015a; Corfee-Morlot et al., 2012). The 2015 agreement could help to set

the stage for such a framework. This could address the issues raised by six European oil companies in their open letter to the UNFCCC and the COP 21 French Presidency in June 2015 that called for “clear, stable, long-term, ambitious policy framework” and globally linked carbon pricing systems in governments across the world (BG et al., 2015).

Formal recognition by the UNFCCC e.g. via the text of the agreement and by supporting an enhanced information-sharing platform such as the NAZCA, could also be an important element in the 2015 agreement for enhancing economically-attractive mitigation options by the private sector. Several companies and business associations are calling for the UNFCCC to recognise their role as a part of the new agreement. For example, the International Chamber of Commerce stated that not only does it encourage the UNFCCC to “foster substantive engagement of the business community as an integral part of the Paris 2015 UNFCCC agreement”, it looks to the UNFCCC outcomes and governments to encourage carbon pricing mechanisms via market-based policies, taxes etc. (ICC, 2014). The 2015 agreement could highlight the private sector’s call for engagement and meaningful climate policies, to encourage national governments to support ambitious action by industry and to create a level playing field for companies competing globally.

### **4.3 Financial institutions**

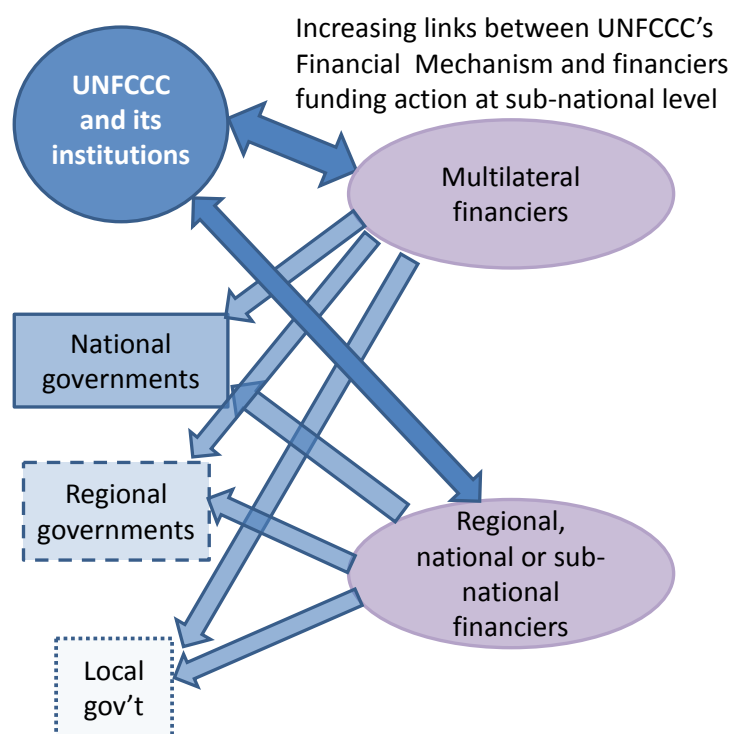
Links between the UNFCCC and multilateral financiers exist to some extent (Figure 3). As discussed in section 3.2, while finance has often been cited as a barrier to enhanced climate action by NPS, the barrier is being partially addressed under the UNFCCC thanks to the links between the UNFCCC and the multilateral, and regional, national and sub-national financial institutions via Financial Mechanism (Figure 3 below). Outside the UNFCCC, international financial institutions are also helping address financial needs for enhanced climate action by NPS. For example, mitigation finance for private recipients by seven multilateral development banks<sup>1</sup> amounted to USD 9.2 billion in 2014, up from USD 8.0 billion in 2013 (MDB joint reporting, 2013 and 2014; private-public breakdown unavailable before 2013). Mitigation finance by the International Financial Corporation, which focuses on the private sector in developing countries, increased from USD 1.7 billion in 2011 to USD 2.5 billion in 2014. The increase in investment in the private sector’s mitigation action suggests that the financial barriers are being tackled, at least to some extent.

The new agreement could further strengthen these links with these financial institutions to raise the level of finance and improve the access to finance by NPS. For example, the 2015 agreement could mention enhanced direct access to finance by NPS. Furthermore, the UNFCCC could enhance the link with multilateral financiers to make more information on financing for NPS available. For example, the COP could encourage multilateral financial institutions to report on level of funding given to NPS. Currently the Multilateral Development Bank (MDB) joint reporting provides a breakdown of public recipients and private recipients. Further disclosure, such as a breakdown of local, sub-national and national governments in the “public recipients” could be encouraged.

---

<sup>1</sup> The Asian Development Bank, the African Development Bank, the European Bank for Reconstruction and Development, the European Investment Bank, the Inter-American Development Bank, and the International Finance Corporation and the World Bank from the World Bank Group

**Figure 3: Links between the UNFCCC, its institutions and different levels of financiers**



#### 4.4 Supra-national groupings of sub-national governments

There are several supra-national groupings of sub-national governments, e.g. ICLEI, C40, R20 and UCLG.<sup>2</sup> While nearly 20 of these groups are admitted to the UNFCCC meetings as observers of the Local Governments and Municipal Authorities constituency (UNFCCC, 2015e), there is no explicit link between these groups and the UNFCCC. These groups are working to address the barriers encountered by sub-national governments in many ways, including by encouraging and disseminating successful initiatives. The 2015 agreement could recognise the potential of such groupings to help enhance mitigation actions by specifically mentioning the role of such groupings in information dissemination. In addition, such groupings could continue to be invited to participate in future relevant activities, similar to ICLEI participation in the TEMs on urban environment.

In addition to work on dissemination, certain supra-national groupings are also working to fill the data gap regarding sub-national data on GHG inventories and identification of mitigation and adaptation measures. For example, ICLEI, C40 and the World Resources Institute have jointly launched an accounting and reporting standard for local governments (ICLEI, 2014c). Another example among many others is the C40, which provides a forum for cities to share technical expertise on best practices, conducts surveys on mitigation action by cities, and recognises best practices (C40, 2015).

Sub-national governments also commit to climate action, strengthening their presence at the international level and signalling the importance of their collective action. For example, through the Covenant of Mayors, over 6 000 cities in Europe voluntarily commit to implementing a sustainable energy action plan to cutting CO<sub>2</sub> emission by at least 20 % by 2020 from the 1990 level (Covenant of Mayors, 2015). At the World Summit Climate and Territories in July 2015, nearly 50 supra-national groupings of sub-national governments and civil society organisations signed a declaration (WSCT, 2015). The declaration supports a local and sub-national approach to climate action, calling for

<sup>2</sup> ICLEI-Local Governments for Sustainability (ICLEI), C40 Cities Climate Leadership Group (C40), R20 Regions of Climate Action (R20) and the United Cities and Local Governments (UCLG)

acknowledgement of the need for such an approach at COP 21. It also emphasises the importance of financing, calling on national governments and financial institutions to scale-up resources.

These activities are addressing information and knowledge barriers and capacity and skills barriers, as well as raising the recognition of local-level mitigation action in the international community. The 2015 agreement could encourage NPS' efforts to address the barriers by formally acknowledging the contributions of these groups and disseminating lessons learnt from their experiences. It could also encourage the use of a standardised accounting and reporting tool, though any potentially onerous reporting burden should be avoided so as not to discourage such actions (OECD, 2015e).

#### **4.5 Multi-governance initiatives**

There are multi-governance initiatives for climate mitigation that involve international organisations, national governments and different types of NPS. There are some indirect links between these initiatives and the UNFCCC e.g. via the CTCN, which includes members from the private sector (including public-private partnerships), the public sector, non-governmental organisations, as well as research and academic institutions (see section 3.3). Enhancing links between the CTCN and such multi-governance initiatives can therefore help expand opportunities of capacity building and private financing for mitigation action at all levels. For example, the CTI Private Financing Advisory Network (CTI-PFAN), a multilateral public-private partnership under the Climate Technology Initiative (CTI) of the International Energy Agency (IEA), provides technical assistance through the CTCN (CTI-PFAN, 2015). Mobilising its membership, including consultants and financiers, the CTI-PFAN provides investment and financial advisory services to project developers of clean energy projects in developing countries, and facilitates the matching of private financing with such projects.

Outside the UNFCCC, one example of a multi-governance initiative is the Climate and Clean Air Coalition to Reduce Short Lived Climate Pollutants (CCAC), to reduce emissions of methane, black carbon and HFCs (CCAC, 2014a). This is a partnership among over 40 countries (both developed and developing) and over 60 international and non-governmental organisations. A number of sub-national governments and companies participate in activities under each of the 11 initiatives of the Coalition, funded in part by the Coalition's trust fund (CCAC, 2014b). Some countries, including Mexico, incorporate emission reduction targets for short-lived climate pollutants in their intended nationally-determined contributions (INDCs). Thus, some countries are making links between action under the UNFCCC and under the CCAC.

Another example of a multi-governance initiative is the Coast to Coast E-Mobility Connection which is a public-private partnership involving multiple levels of actors including the government of the Netherlands, the state government of California, the private sector and universities (C2C, 2015). This initiative aims to promote knowledge and information exchange on electric mobility among participants as well as business development of the electric mobility markets in Europe and the West Coast of the US. While there is no direct link with the UNFCCC, the co-operation under the initiative can contribute to enhanced development of electric mobility such as electric vehicles, electric motorcycles and charging infrastructure, thereby leading to GHG emissions reduction in the transport sector.

These examples suggest that despite their voluntary nature, multi-governmental initiatives could lead to mitigation action and the financing for such actions via co-ordination between levels of governments and the private sector, knowledge-sharing and capacity-building. However, whether the emission reductions from these actions would be additional to national government pledges is difficult to verify due to the lack of transparency. To enhance mitigation ambition at the multi-governance level, the 2015 agreement could strengthen a link between the UNFCCC and multi-governance initiatives, as well as encouraging transparency by supporting the development of a standardised accounting and reporting tool as discussed in section 4.4.

## 4.6 Specific text suggestions for the 2015 agreement

The ADP co-chairs have developed a non-paper that contains the basis for negotiation of the draft Paris Package (UNFCCC 2015a). This non-paper has two main parts.<sup>3</sup> The first is the draft 2015 agreement, which includes durable provisions. More detailed provisions for the 2015 agreement are included in the second part, a draft decision text.

There is at present no mention of “non-Party stakeholders” in the draft 2015 agreement text, but they are included in the reference to “all actors”<sup>4</sup> in the “general” section of the draft decision text (under section III). This text recognises the efforts of NPS to address climate change, and invites them to scale up their efforts and support further actions by Parties. It does not, however, invite Parties to engage with NPS and further support their actions. The draft text also encourages NPS to demonstrate their efforts through the NAZCA portal.

NPS already have a significant role in developing sub-national low-emission or green growth strategies in several countries (see section 4.1), as well as in financing associated actions. Specifically mentioning (in the 2015 agreement and/or decision text) NPS roles in planning, implementing, catalysing, strengthening and/or financing climate action would help to raise the profile of such actors internationally, and could thus help to enhance such action.

## 5. Conclusions

Non-Party stakeholders (NPS) such as sub-national governments, the private sector and financial institutions can and have been increasingly initiating greenhouse gas (GHG) mitigation actions. Some of these actions have been directly mandated or encouraged by national policy frameworks, which in turn may have been influenced by international agreements under the auspices of the United Nations Framework Convention on Climate Change (UNFCCC). However, other mitigation actions by NPS have been autonomous to national governments’ pledges. Increasing the level of NPS’ mitigation can help to increase the overall level of mitigation ambition of individual countries.

At present, there are no explicit, formal links between UNFCCC provisions, e.g. via the text of the UNFCCC, and most NPS. However, NPS are becoming increasingly involved in certain discussions under the UNFCCC framework (such as via Technical Expert Meetings). There are also some NPS directly involved in specific institutions established by the UNFCCC, or actions initiated under these institutions. For example, the private sector and investors are involved in technical assistance for developing countries via the Climate Technology Centre and Network and also participate in Clean Development Mechanism projects. Sub-national governments are eligible to apply for accreditation to receive funding from the Green Climate Fund (GCF), Adaptation Fund (AF), and Global Environment Facility (GEF).

Yet, there are many different barriers that prevent NPS from taking mitigation actions or funding such actions. These barriers are: (1) national policy barriers and misalignments; (2) mandate barriers, i.e. limited or overlapping mandates over climate-related policy making; (3) financial barriers; (4) information and knowledge barriers; and (5) capacity and skills barriers. The significance of each barrier varies, depending on the type of NPS, the local circumstances and the measures already in place to address these barriers. Tackling these barriers – both within and outside the framework of the UNFCCC – could potentially help countries to increase their level of mitigation ambition both pre- and post-2020 periods. This paper has explored different possible means that the international community could use to strengthen/encourage mitigation actions by NPS.

---

<sup>3</sup> In addition to the draft 2015 agreement and draft decision on workstream 1, this non-paper includes a draft decision on workstream 2 which is also presented separately in ADP.2015.9.InformalNote.

<sup>4</sup> Paragraph 19 of the draft decision on workstream 1 indicates “all actors” including civil society, the private sector, financial institutions, cities and other subnational authorities, local communities and indigenous peoples.



National policy barriers are caused by misalignments between national policy frameworks and climate objectives, which can undermine mitigation action by NPS. Mandate barriers mean NPS have limited or overlapping mandates over climate-related policy making, which can hinder effective climate action by NPS. Setting national policy frameworks and determining policy mandates across different levels of government are fundamentally beyond the scope of the UNFCCC. Therefore it is not feasible for the UNFCCC to directly address these two types of barriers. The other types of barriers are being partially addressed or could be potentially addressed by the current process and institutions under the UNFCCC in a more direct manner.

In terms of increasing mitigation action in the pre-2020 period, “workstream 2” was launched under the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP). Activities under this workstream are partially addressing information and knowledge barriers to NPS, so could usefully continue. Since the mandate of the ADP will expire in 2015 (1/CP. 17), such a continuation would need to take place in another forum.

A draft decision on workstream 2 has been prepared to be adopted at the 21<sup>st</sup> Conference of the Parties (COP 21). The draft decision recognises the efforts of NPS to scale up their climate actions and provide further opportunities for climate actions by Parties. This recognition could send a political signal that enhancing pre-2020 action by NPS is important, and that the international community could help to encourage further action on the ground. The text could be further strengthened to emphasise co-operation in the development of ambitious and achievable climate responses, as well as disseminating knowledge from the experiences of NPS.

Other activities under the UNFCCC framework can continue to help enhance the ambition of NPS for the pre-2020 and post-2020 periods. These include the ability of both the GEF, as well as the GCF, to directly fund actions by NPS and to channel funding via NPS.

For the post-2020 period, the 2015 agreement offers an opportunity to create explicit, direct links between the international climate process and NPS undertaking climate action. Such links could help to raise the profile of the importance of NPS action, and thus indirectly address some of the barriers to increase mitigation action by NPS. The current draft text for the decision on the 2015 agreement welcomes the efforts of NPS and invites them to scale up their efforts and support further actions by Parties. The explicit reference to NPS could encourage enhanced action both at the national as well as individual stakeholder level.

The 2015 agreement could further help to enhance co-ordination between national governments and NPS, and provide opportunities for highlighting lessons learned from successful actions by NPS. Co-ordination between national governments and NPS is important because it can alleviate challenges posed by the national policy, misalignment and mandate barriers. Building on the on-going efforts under the UNFCCC that partially address the information and knowledge barriers and to a lesser extent the financial barriers and capacity and skills barriers, the 2015 agreement could further enhance mitigation actions by NPS. Possible ways that the 2015 agreement could do this would be to:

- Enhance or reiterate the need for a long-term goal for the international climate change framework, which gives national governments policy stability and in turn, could indirectly help reduce some of the national policy barriers and financial barriers to NPS;
- Include text that recognises the role of NPS in implementing and financing mitigation actions, and a provision that encourages national governments to engage with NPS with a view to enhancing and supporting NPS in implementing and enhancing their commitments;
- Encourage national governments to improve their enabling environments, so as to incentivise low-carbon investments and enhance NPS’ capacity to manage the risks to such investments;

- Continue to enhance sharing and dissemination of information and knowledge, e.g. by launching a similar process to the current Technical Examination Process and supporting an enhanced NAZCA portal, in order to help to catalyse further actions. The NAZCA portal can act as a process for which NPS can sign up to specific mitigation actions or commitments (in parallel to the 2015 agreement which is Party oriented);
- Encourage the use of a common accounting and reporting tool to increase transparency to assess the mitigation actions by NPS. Such a tool would need to avoid onerous reporting guidelines in order to encourage broad uptake, and could be developed outside the UNFCCC process;
- Provide the possibility for use of carbon markets, which would financially incentivise actions by NPS;
- Request multilateral development banks to enhance information disclosure on the level of climate finance provided to NPS. For example, a breakdown within public recipients of the climate finance provided would be helpful to address information and knowledge barriers.

Although the UNFCCC is a Party-driven framework, its potential to encourage NPS action is significant. As discussed above, there are many ways to make explicit reference to NPS in the 2015 agreement or associated decision(s). As such, the 2015 agreement or decision(s) could help to address the barriers and establish a foundation to further enhance mitigation actions by NPS, thereby leading to enhanced global ambition.

## References

- AF (Adaptation Fund) (2014), “Project proposal to the adaptation fund” in project Building Resilience in Greater uMngeni Catchment, [www.adaptation-fund.org/wp-content/uploads/2015/01/SA%20NIE%20uMngeni%20Resilience%20Project\\_main%20text+annexes\\_1%20September%202014\\_final.pdf](http://www.adaptation-fund.org/wp-content/uploads/2015/01/SA%20NIE%20uMngeni%20Resilience%20Project_main%20text+annexes_1%20September%202014_final.pdf).
- Air Canada (2015), “Citizen of the world: Corporate Sustainability Report 2014”, [www.aircanada.com/en/about/documents/csr\\_2014\\_report\\_en.pdf](http://www.aircanada.com/en/about/documents/csr_2014_report_en.pdf).
- Akita Prefecture (2015), “Akitawan sekitankaryokuhatsudensho kensetsukoso ni kansuru chiji comment” [Governor’s comment on the construction plan of a coal-fired power plant in Akita Bay], 12 March 2015, [www.pref.akita.lg.jp/www/contents/1424913671046/files/20150312.pdf](http://www.pref.akita.lg.jp/www/contents/1424913671046/files/20150312.pdf).
- Anton et al. (2014), “Close to home: Subnational strategies for climate compatible development”, [http://cdkn.org/wp-content/uploads/2014/04/CDKN\\_ICLEI-Subnational-CCD-Strategies.pdf](http://cdkn.org/wp-content/uploads/2014/04/CDKN_ICLEI-Subnational-CCD-Strategies.pdf).
- Arcelor Mittal (2015), “Steel: The sustainability challenges, 2014 Sustainability Report”, [http://corporate.arcelormittal.com/~/\\_media/Files/A/ArcelorMittal/sdr-2015/sdr-report-pdf-files/sustainability-report-final.pdf](http://corporate.arcelormittal.com/~/_media/Files/A/ArcelorMittal/sdr-2015/sdr-report-pdf-files/sustainability-report-final.pdf).
- Arup and C40 CITIES (2014), “Climate Action in Megacities: C40 Cities Baseline and Opportunities”, Volume 2.0, February 2014.
- BG, et al. (2015), “Letter to Ms Christiana Figueres, Executive Secretary of the UNFCCC, and Mr Laurent Fabius, President of COP 21: Paying for Carbon”, [http://library.thegroup.net/bggroup/client\\_upload/file/Paying\\_for\\_Carbon.pdf](http://library.thegroup.net/bggroup/client_upload/file/Paying_for_Carbon.pdf).
- C2C (Coast to Coast E-Mobility Connection) (2015), C2C website, <http://coast2coastev.org/> (accessed 26 August 2015).
- C40 (C40 Cities) (2015), C40 website, [www.c40.org/about](http://www.c40.org/about) (accessed 4 August 2015).
- C40 (2011), “Barcelona’s Solar Heat Water Ordinance”, Case study, 3 November 2011, [www.c40.org/case\\_studies/barcelonas-solar-hot-water-ordinance](http://www.c40.org/case_studies/barcelonas-solar-hot-water-ordinance).
- CCAC (2014a), “The Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants”, WG/APR2014/2, [www.unep.org/ccac/Portals/50162/docs/ccac/WG-APR2014-2-%20CCAC\\_Executive\\_Summary.pdf](http://www.unep.org/ccac/Portals/50162/docs/ccac/WG-APR2014-2-%20CCAC_Executive_Summary.pdf).
- CCAC (2014b), “Climate and Clean Air Coalition Annual Report, September 2013 – August 2014”, [http://ccacoalition.org/docs/pdf/CCAC\\_Annual\\_Report\\_2013-2014.pdf](http://ccacoalition.org/docs/pdf/CCAC_Annual_Report_2013-2014.pdf).
- CDC and IETA (2015), “China: An Emissions Trading Case Study”, CDC Climate Research and IETA, March 2015, [www.ieta.org/assets/CaseStudy2015/china-emissions-trading-case%20study\\_cdc\\_climat\\_ieta%20march\\_2015.pdf](http://www.ieta.org/assets/CaseStudy2015/china-emissions-trading-case%20study_cdc_climat_ieta%20march_2015.pdf).
- CDP (2015), “Unlocking ambition: Top corporate and sub-national climate commitments September 2015 update”, [www.cdp.net/CDPResults/Unlocking-ambition.PDF](http://www.cdp.net/CDPResults/Unlocking-ambition.PDF).
- CDP (2014), “Unlocking ambition and driving innovation: Corporate and sub-national leadership on setting long-term climate targets”, [www.cdp.net/Documents/policy/CDP-targets-briefing-2014.pdf](http://www.cdp.net/Documents/policy/CDP-targets-briefing-2014.pdf).
- Cliquot, N. (forthcoming), “Boosting skills for greener jobs”, OECD Publishing, Paris.
- Corfee-Morlot, J. (2015), “From Global to Local Climate Action and Back”, OECD, Paris, [http://lcs-rnet.org/pdf/lcs\\_rnet\\_7th\\_presentations/day1/P2-1\\_2015.06.17%20LCS%20RNet%20june%202015%20jan%20on%20cities%20and%20mlg.pdf](http://lcs-rnet.org/pdf/lcs_rnet_7th_presentations/day1/P2-1_2015.06.17%20LCS%20RNet%20june%202015%20jan%20on%20cities%20and%20mlg.pdf).
- Corfee-Morlot, J., et al. (2012), “Towards a Green Investment Policy Framework: The Case of Low-Carbon, Climate-Resilient Infrastructure”, *OECD Environment Working Papers*, No. 48, OECD Publishing, Paris, <http://dx.doi.org/10.1787/5k8zth7s6s6d-en>.
- Covenant of Mayors (2015), website, [www.covenantofmayors.eu/index\\_en.html](http://www.covenantofmayors.eu/index_en.html) (accessed 26 August 2015).
- CTCN (Climate Technology Centre & Network) (2015), website, <http://ctc-n.org> (accessed 1 October 2015).

- CTI-PFAN (CTI Private Financing Advisory Network) (2015), “Introduction to the Climate Technology Initiative’s Private Financing Advisory Network- CTI PFAN-”, August 2015, [http://cti-pfan.net/sites/default/files/CTIPFAN\\_IntroPPT\\_V03\\_20150819.pdf](http://cti-pfan.net/sites/default/files/CTIPFAN_IntroPPT_V03_20150819.pdf).
- Erhart, D. (2015), Personal communication with Dorean Erhart, Principal Advisor, Natural Assets, NRM & Climate Change, Local Government Association of Queensland, (June 17 2015).
- ESTIF (European Solar Thermal Industry Federation) (2015), “Best Practice Regulations for Solar Thermal”, [www.estif.org/policies/solar\\_ordinances/](http://www.estif.org/policies/solar_ordinances/www.estif.org/policies/solar_ordinances/).
- GCF (Green Climate Fund) (2011), “Governing Instrument for the Green Climate Fund, Annex to 3/CP.17”, [http://gcfund.net/fileadmin/00\\_customer/documents/pdf/GCF-governing\\_instrument-120521-block-LY.pdf](http://gcfund.net/fileadmin/00_customer/documents/pdf/GCF-governing_instrument-120521-block-LY.pdf).
- GEF (Global Environment Facility) (2015), “Energy Efficient Low-Carbon Transport Project”, Detail of GEF Project #5737, [www.thegef.org/gef/project\\_detail?projID=5737](http://www.thegef.org/gef/project_detail?projID=5737) (accessed 21 August 2015).
- GEF (2014a), “ASTUD: Jiangxi Ji’an Sustainable Urban Transport Project”, Detail of GEF Project #5582, [www.thegef.org/gef/project\\_detail?projID=5582](http://www.thegef.org/gef/project_detail?projID=5582) (accessed 21 August 2015).
- GEF (2014b), “GEF-6 Programming Directions”, extract from GEF Assembly Document GEF/A.5/07Rev.01, May 22, 2014, [www.thegef.org/gef/sites/thegef.org/files/webpage\\_attached/GEF6\\_programming\\_directions\\_final\\_0.pdf](http://www.thegef.org/gef/sites/thegef.org/files/webpage_attached/GEF6_programming_directions_final_0.pdf)
- GEF (2011), “Chiang Mai Sustainable Urban Transport Project:, request for CEO Endorsement/Approval, # 4210, [www.thegef.org/gef/sites/thegef.org/files/gef\\_prj\\_docs/GEFProjectDocuments/Climate%20Change/Thailand%20-%20\(4210\)%20-%20Sustainable%20Urban%20Transport%20in%20Chiang%20Mai/06-01-2011%20ID4210%20CEO%20Endorsment%20req%20Rvised.pdf](http://www.thegef.org/gef/sites/thegef.org/files/gef_prj_docs/GEFProjectDocuments/Climate%20Change/Thailand%20-%20(4210)%20-%20Sustainable%20Urban%20Transport%20in%20Chiang%20Mai/06-01-2011%20ID4210%20CEO%20Endorsment%20req%20Rvised.pdf) (accessed 21 August 2015).
- GGBP (2014), Green Growth in Practice: Lessons from Country Experience, GGBP, Green Growth Best Practice, [www.ggbp.org/report/green-growth-practice-lessons-country-experiences](http://www.ggbp.org/report/green-growth-practice-lessons-country-experiences).
- GGGI (Global Green Growth Institute) (2015), “Final Technical Workshop on the Investment Guidelines for Green Growth in Vietnam”, workshop March 30, 2015, Ho Chi Minh City, [http://gggi.org/aiIec\\_event/final-technical-workshop-on-the-investment-guidelines-for-green-growth-in-vietnam/?instance\\_id](http://gggi.org/aiIec_event/final-technical-workshop-on-the-investment-guidelines-for-green-growth-in-vietnam/?instance_id).
- GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit) (2015),”The Role of the Private Sector to Scale Up Climate Finance in India”, Germany, [www.giz.de/en/downloads/giz2015-en-nama-india-private-financial-institutions-climate-finance-final-report.pdf](http://www.giz.de/en/downloads/giz2015-en-nama-india-private-financial-institutions-climate-finance-final-report.pdf).
- GIZ (2014), “Vertically Integrated Nationally Appropriate Mitigation Actions (V-NAMAs): Policy and Implementation Recommendations”, [http://mitigationpartnership.net/sites/default/files/u1679/v-nama\\_policy\\_and\\_implementation\\_recommendations\\_2014.pdf](http://mitigationpartnership.net/sites/default/files/u1679/v-nama_policy_and_implementation_recommendations_2014.pdf).
- GIZ (2013), “Sub-national involvement in NAMA development: Current and emerging practice towards vertical integration”, Germany, <http://mitigationpartnership.net/giz-2013-sub-national-involvement-nama-development>.
- Goulder, L. and R. Stavins (2010), “Interactions between States and Federal Climate Change Policies”, Discussion paper, Harvard Kennedy School, <http://belfercenter.ksg.harvard.edu/files/StavinsGoulderFinal-3.pdf>.
- Honda (2015), “Honda Sustainability Report 2015”, <http://world.honda.com/sustainability/report/pdf/2015/Honda-SR-2015-en-all.pdf>.
- ICAP (International Carbon Action Partnership) (2015), “Emission Trading Worldwide: International Carbon Action Partnership (ICAP) Status Report 2015”, [http://icapcarbonaction.com/images/StatusReport2015/ICAP\\_Report\\_2015\\_02\\_10\\_online\\_version.pdf](http://icapcarbonaction.com/images/StatusReport2015/ICAP_Report_2015_02_10_online_version.pdf).
- ICC (International Chamber of Commerce) (2014), “A Business Perspective on International Climate Change Policy, [www.iccwbo.org/Advocacy-Codes-and-Rules/Document-centre/2014/A-business-perspective-on-international-climate-change-policy-\(2014\)/](http://www.iccwbo.org/Advocacy-Codes-and-Rules/Document-centre/2014/A-business-perspective-on-international-climate-change-policy-(2014)/).
- ICLEI (ICLEI- Local Governments for Sustainability) (2014a), “Municipal Climate Action Planning and Implementation for Mexican Cities”, ICLEI case study No. 172, [www.iclei.org/fileadmin/PUBLICATIONS/Case\\_Studies/ICLEI\\_cs\\_172\\_PACMUN\\_2014.pdf](http://www.iclei.org/fileadmin/PUBLICATIONS/Case_Studies/ICLEI_cs_172_PACMUN_2014.pdf).

- ICLEI (2014b), “Barcelona Spain: Using Solar Energy- Supporting Community Energy Self Sufficiency”, [www.iclei.org/fileadmin/PUBLICATIONS/Case\\_Studies/ICLEI\\_cs\\_173\\_Barcelona\\_UrbanLEDS\\_2014.pdf](http://www.iclei.org/fileadmin/PUBLICATIONS/Case_Studies/ICLEI_cs_173_Barcelona_UrbanLEDS_2014.pdf).
- ICLEI (2014c), “Lunch of First Global Standard to Measure Greenhouse Gas Emissions from Cities”, Lima, Peru December 8, 2014, [www.iclei.org/details/article/launch-of-first-global-standard-to-measure-greenhouse-gas-emissions-from-cities.html](http://www.iclei.org/details/article/launch-of-first-global-standard-to-measure-greenhouse-gas-emissions-from-cities.html).
- Idemitsu Kosan (2015), “Announcement Regarding Agreement of Joint Development of a Coal-fired Power plant”, press release on 27 March 2015, [http://v4.eir-parts.net/v4Contents/View.aspx?template=ir\\_material&sid=37913&code=5019](http://v4.eir-parts.net/v4Contents/View.aspx?template=ir_material&sid=37913&code=5019).
- IGES (Institute for Global Environmental Studies) (2012), “Sub-national Carbon Governance in Asian Developing Countries: Cases of China, India, Indonesia and the Philippines”, Institute for Global Environmental Strategies, discussion paper-GC-2011-03, [http://pub.iges.or.jp/modules/envirolib/upload/3540/attach/dp\\_subnational\\_carbon\\_governance\\_f.pdf](http://pub.iges.or.jp/modules/envirolib/upload/3540/attach/dp_subnational_carbon_governance_f.pdf).
- IMCO (2012), “El municipio: una institución diseñada para el fracaso. Propuestas para la gestión profesional de las ciudades”, Instituto Mexicano para la Competitividad A.C., [http://imco.org.mx/competitividad/el\\_municipio\\_una\\_institucion\\_disenada\\_para\\_el\\_fracaso\\_indice\\_de\\_competitivi/](http://imco.org.mx/competitividad/el_municipio_una_institucion_disenada_para_el_fracaso_indice_de_competitivi/).
- IPCC (2014), “Chapter 10: Industry”, Climate Change 2014: Mitigation to Climate Change, Working Group III Contribution to the fifth assessment report of the intergovernmental panel on climate change, IPCC WGIII ar5 chapter 10.
- Kaminker, C., et al. (2013), “Institutional Investors and Green Infrastructure Investments: Selected Case Studies”, *OECD Working Papers on Finance, Insurance and Private Pensions*, No. 35, OECD Publishing, Paris, <http://dx.doi.org/10.1787/5k3xr8k6jb0n-en>.
- Københavns Kommune (Copenhagen Municipality) (2012), “21. Forespørgsel om betalingsringen og de negative konsekvenser”, [Inquire on the Payment Ring and the negative consequences] ,(2012-44565), [www.kk.dk/edoc-agenda/14267/1f98874a-954f-474f-a671-b913a4efc405/6811c669-7452-416c-b3c5-77b5584e4b45](http://www.kk.dk/edoc-agenda/14267/1f98874a-954f-474f-a671-b913a4efc405/6811c669-7452-416c-b3c5-77b5584e4b45).
- LEDS (Low Emissions Development Strategies) (2014), “Integrating National and Sub-National Climate Action: Resource Guide”, Working Draft, Ecofys, [www.ecofys.com/files/files/leds-2014-integrating-sub-national-climate-action.pdf](http://www.ecofys.com/files/files/leds-2014-integrating-sub-national-climate-action.pdf).
- Liu, Z. and A. Salzberg (2012), “Chapter 4: Developing Low-Carbon Cities in China: Local Governance, Municipal Finance, and Land-Use Planning – The Key Underlying Drivers” in *Sustainable Low-Carbon City Development in China 2012*, World Bank, Washington DC, <http://elibrary.worldbank.org/doi/pdf/10.1596/978-0-8213-8987-4>.
- Lu, Y. and T. Sun (2012), “Local Government Financing Platforms in China: A Fortune or Misfortune?”, IMF Working Paper, No. 13/242, [www.imf.org/external/pubs/cat/longres.aspx?sk=41131.0](http://www.imf.org/external/pubs/cat/longres.aspx?sk=41131.0).
- Mai, P. (2014a), “Vietnam Green Growth Strategy & Financing Implementation”, Ministry of Planning and Investment Vietnam, [http://asialeds.org/sites/default/files/Dr\\_Pham\\_Hoang\\_Mai\\_Vietnam\\_Green\\_Growth\\_Financing\\_Implementation\\_12March2014.pdf](http://asialeds.org/sites/default/files/Dr_Pham_Hoang_Mai_Vietnam_Green_Growth_Financing_Implementation_12March2014.pdf).
- Mai, P. (2014b), “Vietnam Green Growth Strategy: Towards a Green, Developed and Prosperous Viet Nam”, Ministry of Planning and Investment Vietnam, [www.unorcid.org/upload/Vietnam\\_Green\\_Growth\\_Strategy\\_Pharm\\_Hoang\\_Mai\\_DSENRE\\_04\\_06\\_2014\\_Jakarta\\_Towards\\_an\\_ASEAN\\_Green\\_Economy\\_Transition.pdf](http://www.unorcid.org/upload/Vietnam_Green_Growth_Strategy_Pharm_Hoang_Mai_DSENRE_04_06_2014_Jakarta_Towards_an_ASEAN_Green_Economy_Transition.pdf).
- Matsumoto, T. and L. Daudey (2014), “Urban Green Growth in Dynamic Asia: A Conceptual Framework”, *OECD Regional Development Working Papers*, No. 2014/12, OECD Publishing, Paris, <http://dx.doi.org/10.1787/5js7svlw8m0x-en>.
- Merk, O., et al. (2012), “Financing Green Urban Infrastructure”, *OECD Regional Development Working Papers*, No. 2012/10, OECD Publishing, Paris, <http://dx.doi.org/10.1787/5k92p0c6j6r0-en>.
- Ministère de L’Écologie, Du Développement Durable et de L’Énergie (2014), Schémas régionaux climat, air, énergie (SRCAE), [www.developpement-durable.gouv.fr/Schemas-regionaux-climat-air,32879.html](http://www.developpement-durable.gouv.fr/Schemas-regionaux-climat-air,32879.html) (accessed 1 August 2015)

- MEFCC (Ministry of Environment, Forests and Climate Change India) (2014), “India’s Progress in Combating Climate Change”, Briefing paper for UNFCCC COP 21 Lima, Peru, Government of India, [http://envfor.nic.in/sites/default/files/press-releases/Indian\\_Country\\_Paper\\_Low\\_Res.pdf](http://envfor.nic.in/sites/default/files/press-releases/Indian_Country_Paper_Low_Res.pdf).
- MOE (Ministry of the Environment, Japan) (2014), “Chihokokyodantai ni okeru chikyuondanka taisaku no keikakutekina suishin no tameno tebiki” [Guidelines for local governments to implement climate change measures], [www.env.go.jp/earth/ondanka/tebiki\\_1402/pdf/full.pdf](http://www.env.go.jp/earth/ondanka/tebiki_1402/pdf/full.pdf).
- Montgomery County Council (2015), “Montgomery County Council Passes Councilmember Berliner’s Green Bank Bill Montgomery is first local jurisdiction to create green bank to expand its green economy”, Press Release, June 30, [http://www6.montgomerycountymd.gov/Apps/Council/PressRelease/PR\\_detailsnew.asp?PrID=15038](http://www6.montgomerycountymd.gov/Apps/Council/PressRelease/PR_detailsnew.asp?PrID=15038).
- NACZA (Non-State Actor Zone for Climate Action) (2015), UNFCCC, <http://climateaction.unfccc.int/about.aspx>.
- NCE (New Climate Economy) (2014), “Chapter 2: Cities” in the New Climate Economy Report 2015, <http://2014.newclimateeconomy.report/wp-content/uploads/2014/08/NCE-cities-web.pdf>.
- ODI (Overseas Development Institute) (2015), “Climate finance in Ghana”, May 2015, [www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/9684.pdf](http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/9684.pdf).
- OECD (forthcoming), “Green investment banks and their role in scaling-up private investments in green infrastructure”, OECD Publishing, Paris.
- OECD (2015a), *Aligning Policies for a Low-carbon Economy*, OECD/IEA/NEA/ITF, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264233294-en>.
- OECD (2015b), *Green Growth in Bangkok, Thailand*, OECD Green Growth Studies, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264237087-en>.
- OECD (2015c), *Government at a Glance 2015*, OECD Publishing, Paris, [http://dx.doi.org/10.1787/gov\\_glance-2015-en](http://dx.doi.org/10.1787/gov_glance-2015-en).
- OECD (2015d), “Subnational Governments in OECD Countries: Key Data 2015 Edition”, OECD Publishing, Paris, [www.oecd.org/regional/regional-policy/Subnational-governments-in-OECD-Countries-Key-Data-2015.pdf](http://www.oecd.org/regional/regional-policy/Subnational-governments-in-OECD-Countries-Key-Data-2015.pdf).
- OECD (2015e), “The role of non-state actors in enhancing mitigation ambition pre- and post-2020”, summary slides presented at the Global Forum on the Environment, OECD, 8 September 2015, Paris, [www.oecd.org/environment/cc/Summary-Breakout-A-NSAs-CCXG-Sep2015.pdf](http://www.oecd.org/environment/cc/Summary-Breakout-A-NSAs-CCXG-Sep2015.pdf).
- OECD (2014a), “Cities and Climate Change: Policy Perspectives. National governments and enabling local action”, OECD Publishing, Paris, [www.oecd.org/env/cc/Cities-and-climate-change-2014-Policy-Perspectives-Final-web.pdf](http://www.oecd.org/env/cc/Cities-and-climate-change-2014-Policy-Perspectives-Final-web.pdf).
- OECD (2014b), *OECD Regional Outlook 2014: Regions and Cities: Where Policies and People Meet*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264201415-en>.
- OECD (2013a), *OECD Territorial Reviews: Puebla-Tlaxcala, Mexico 2013*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264203464-en>.
- OECD (2013b), *OECD Urban Policy Reviews, Chile 2013*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264191808-en>.
- OECD (2010), *Cities and Climate Change*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264091375-en>.
- Ratanawaraha, A. 2010, “Regulatory and Governance Issues in Controlling Urban Development in the Bangkok Metropolitan Region”, paper presented at the International Workshop on Sustainable City Region, 24-25 February, Tainan, Chinese Taipei, [www.primo-pco.com/scrws2010/pdf/10apiwat.pdf](http://www.primo-pco.com/scrws2010/pdf/10apiwat.pdf).
- Rivero Baughman, S. (2015), “Subnational Climate Action: Contributions to reach the pre-2020 ambition”, side-event UNFCCC SB42, presented by Susanna Rivero Baughman, Foreign Affairs and Cooperation Advisor, Government of Catalonia, Spain (11 June 2015).
- Royal Philips (2015), “Annual Report 2014”, [www.philips.com/annualreport2014](http://www.philips.com/annualreport2014).

- State Council, People's Republic of China (2015), "China-US Joint Presidential Statement on Climate Change", Press release 26<sup>th</sup> of September 2015, [www.gov.cn/xinwen/2015-09/26/content\\_2939222.htm](http://www.gov.cn/xinwen/2015-09/26/content_2939222.htm).
- State Council, People's Republic of China (2014), Press release 25<sup>th</sup> of November 2014, [www.gov.cn/2014-11/25/content\\_2783092.htm](http://www.gov.cn/2014-11/25/content_2783092.htm).
- Tokyo Metropolitan Government (2014), "Tokyo Saisei Kanou Energy Kakudai Kentokai Hokokusho" [Tokyo Metropolitan Government Advisory Committee Report on Renewable Energy Expansion], November 2014, [www.kankyo.metro.tokyo.jp/energy/renewable\\_energy/attachement/houkoku.pdf](http://www.kankyo.metro.tokyo.jp/energy/renewable_energy/attachement/houkoku.pdf).
- Transport og Bygningsministeriet (Ministry of Transport and Building, Denmark) (2013), "Mobilitet og fremkommelighed i hovedstaden" [Mobility and accessibility in the capital], Trængselskommissionens [Commission of Congestion], ISBN 978-87-91013-92-8, [www.trm.dk/da/publikationer/2013/traengselskommissionens-betaenkning-og-sammenfatning](http://www.trm.dk/da/publikationer/2013/traengselskommissionens-betaenkning-og-sammenfatning).
- Trinh and Nhung (2013), "Progress on the Viet Nam Green Growth Strategy", Presentation for the G20 Development Working Group, July 2013, Moscow, [www.oecd.org/media/oecdorg/directorates/developmentco-operation/directoratedcd-dac/environmentanddevelopment/Session%20II%20-%201%20-%20Vietnam%20%20-%20by%20Ms%20Trinh%20and%20Ms%20Nhung.ppt](http://www.oecd.org/media/oecdorg/directorates/developmentco-operation/directoratedcd-dac/environmentanddevelopment/Session%20II%20-%201%20-%20Vietnam%20%20-%20by%20Ms%20Trinh%20and%20Ms%20Nhung.ppt).
- UK GIB (United Kingdom Green Investment Bank) (2014), "Low energy street lighting: making the switch; A market report by the UK Green Investment Bank," UK Green Investment Bank, February, [www.greeninvestmentbank.com/media/5243/gib-market-report-low-energy-streetlighting-feb-2014-final.pdf](http://www.greeninvestmentbank.com/media/5243/gib-market-report-low-energy-streetlighting-feb-2014-final.pdf).
- UK GIB (n.d), "Supporting Community-scale Renewable Projects", UK Green Investment Bank Website, [www.greeninvestmentbank.com/investment-sectors/community-scale-renewables](http://www.greeninvestmentbank.com/investment-sectors/community-scale-renewables) (accessed 14 August 2015).
- UN (2014), "Industry: Oil and Gas Methane Partnership Action Statement and Plan", Climate Summit 2014, [www.un.org/climatechange/summit/wp-content/uploads/sites/2/2014/07/INDUSTRY-Oil-and-Gas-Methane-Partnership-Action-Statement-and-Plan.pdf](http://www.un.org/climatechange/summit/wp-content/uploads/sites/2/2014/07/INDUSTRY-Oil-and-Gas-Methane-Partnership-Action-Statement-and-Plan.pdf).
- UN-ADB (United Nations - Asian Development Bank) (2012), "Green Growth, Resources and Resilience: Environmental Sustainability in Asia and the Pacific, ST/ESCAP/2600, RPT124260, ISBN 978-92-1-120635-7, Bangkok, [www.adb.org/publications/green-growth-resources-and-resilience](http://www.adb.org/publications/green-growth-resources-and-resilience).
- UNDP (2015), "New partnership to accelerate green growth in Viet Nam", Press release 21 January 2015 Ha Noi, [www.vn.undp.org/content/vietnam/en/home/presscenter/articles/2015/01/21/new-partnership-to-accelerate-green-growth-in-viet-nam-.html](http://www.vn.undp.org/content/vietnam/en/home/presscenter/articles/2015/01/21/new-partnership-to-accelerate-green-growth-in-viet-nam-.html).
- UNEP (2015), "Climate commitments of sub-national actors and business: A quantitative assessment of their emission reduction impact", Nairobi, [http://apps.unep.org/publications/pmtdocuments/-Climate\\_Commitments\\_of\\_Subnational\\_Actors\\_and\\_Business-2015CCSA\\_2015.pdf.pdf](http://apps.unep.org/publications/pmtdocuments/-Climate_Commitments_of_Subnational_Actors_and_Business-2015CCSA_2015.pdf.pdf).
- UNEP DTU (2015), "CDM Pipeline spreadsheet", CDM pipeline website, <http://cdmpipeline.org/> (accessed 28 August 2015).
- UNFCCC (2015a), "Non-paper. Note by the Co-Chairs", the Ad Hoc Working Group on the Durban Platform for Enhanced Action", ADP.2015.8.InformalNote, 5 October 2015, <http://unfccc.int/resource/docs/2015/adp2/eng/8infnot.pdf>.
- UNFCCC (2015b), "Draft decision on workstream 2 of the Ad Hoc Working Group on the Durban Platform for Enhanced Action", ADP.2015.9. InformalNote, 5 October 2015, <http://unfccc.int/resource/docs/2015/adp2/eng/9infnot.pdf>.
- UNFCCC (2015c), "Elements for a draft decision on Workstream 2 of the ADP", ADP.2015.5. InformalNote, 24 Jul 2015, <http://unfccc.int/resource/docs/2015/adp2/eng/5infnot.pdf>.
- UNFCCC (2015d), "Dedicated meeting on ways and means to advance the technical examination process in 2015", ad hoc working group on the Durban Platform for enhanced action, Eight part of the second session (ADP 2.8) Geneva, Switzerland, 8-13 February 2015, [http://unfccc.int/files/bodies/awg/application/pdf/tep\\_summary.pdf](http://unfccc.int/files/bodies/awg/application/pdf/tep_summary.pdf).
- UNFCCC (2015e), "Admitted NGO", UNFCCC website, <http://maindb.unfccc.int/public/ngo.pl?mode=wim&search=A> (accessed 7 October 2015)

- UNFCCC (2014a), “Updated compilation of information on the mitigation benefits of actions, initiatives and options to enhance mitigation ambition, Technical paper, FCCC/TP/2014/13/Add.2, <http://unfccc.int/resource/docs/2014/tp/13a02.pdf>.
- UNFCCC (2014b), “Compilation of economy-wide emission reduction targets to be implemented by Parties included in Annex I to the Convention”, Note by the secretariat, FCCC/SBSTA/2014/INF.6, Geneva, [http://unfccc.int/documentation/documents/advanced\\_search/items/6911.php?priref=600007854](http://unfccc.int/documentation/documents/advanced_search/items/6911.php?priref=600007854).
- UNFCCC (2013), “Compilation of information on nationally appropriate mitigation actions to be implemented by developing country Parties”, Subsidiary Body for Implementation, Thirty-eight session, Bonn, 3-14 June 2013, 58 parties and African Group FCCC/SBI/2013/INF.12/Rev.3, <http://unfccc.int/resource/docs/2013/sbi/eng/inf12r02.pdf>.
- UNFCCC (2011), “Annex: Governing instrument for the Green Climate Fund”, FCCC/CP/2011/9/Add.1, <http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf#page=58>.
- U.S. Department of Transportation (2007), “Report on South American Bus Rapid Transit Field Visits: Tracking the Evolution of the TransMilenio Model”, [www.nbrti.org/docs/pdf/South%20American%20BRT%20Report\\_FINAL\\_December%202007.pdf](http://www.nbrti.org/docs/pdf/South%20American%20BRT%20Report_FINAL_December%202007.pdf).
- VietNamNet (2015), “Vietnam needs \$30 billion for green growth strategy to 2020”, <http://english.vietnamnet.vn/fms/environment/120739/vietnam-needs--30-billion-for-green-growth-strategy-to-2020.html> (accessed 30 July 2015).
- World Bank (2013), “Planning and Financing Low-Carbon, Livable Cities”, [www.worldbank.org/en/news/feature/2013/09/25/planning-financing-low-carbon-cities](http://www.worldbank.org/en/news/feature/2013/09/25/planning-financing-low-carbon-cities) (accessed 28 August 2015).
- WSCT (World Summit Climate & Territories) (2015), “Placing territorial action at the heart of the response to climate challenge”, <http://en.rhonealpes.fr/1197-world-climate-summit-2015-en.htm>.



## Glossary

ADP	Ad hoc Working Group on the Durban Platform for Enhanced Action
AF	Adaptation Fund
CCAC	Climate and Clean Air Coalition
CCXG	Climate Change Expert Group
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
COP	Conference of the Parties
CTCN	Climate Technology Centre and Network
C40	C40 Cities Climate Leadership Group
ETS	Emission Trading System
FM	Financial Mechanism
GCF	Green Climate Fund
GEF	Global Environment Facility
GHG	Greenhouse Gas
GIB	Green Investment Bank
GIZ	Die Deutsche Gesellschaft für Internationale Zusammenarbeit
HFCs	Hydrofluorocarbons
ICLEI	ICLEI- Local Governments for Sustainability
IEA	International Energy Agency
IFC	International Finance Corporation
IGES	Institute for Global Environmental Strategies
INDC	Intended Nationally-Determined Contributions
MDB	Multilateral Development Bank
NAZCA	Non-State Actor Zone for Climate Action
NPS	Non-Party Stakeholders
ODI	Overseas Development Institute
OECD	Organisation for Economic Co-operation and Development
R20	R20 Regions of Climate Action
TEC	Technology Executive Committee
TEMs	Technical Expert Meetings
TEP	Technical Examination Process
TM	Technology Mechanism
UCLG	United Cities and Local Governments
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change

[www.oecd.org/environment/cc/ccxg.htm](http://www.oecd.org/environment/cc/ccxg.htm)

[www.iea.org](http://www.iea.org)



With the financial assistance  
of the European Union