



Advancing climate-resilient
low emission development
around the world

INTEGRATING NATIONAL AND SUB-NATIONAL CLIMATE ACTION

RESOURCE GUIDE

Low Emissions Development Strategies (LEDS) Global Partnership
Working Group on Sub-national Integration

Working Draft, December 2014

OVERVIEW

With increasing emphasis placed on the role which cities and sub-national governments must play in delivering climate-resilient low emissions development, the need for effective integration of efforts between national and sub-national government is now more important than ever.

During the recent UN Climate Summit in New York, cities, regions and their sub-national partners featured prominently, with a range of new international initiatives announced for accelerating global efforts to mobilise city and sub-national action on climate change. Huge opportunities exist for addressing climate change mitigation and adaptation through city and sub-national action and many good examples already demonstrate how this can be achieved in practice. However, given the pace of population growth, increasing urbanisation and the now urgent need to address climate change on a global scale, such examples will need to be replicated rapidly and scaled-up internationally at an unprecedented rate. To meet this global challenge, cities and sub-national governments will need strong support and encouragement from their national government counterparts.

A range of barriers prevent these opportunities from being fully realised. To address these barriers and unlock the opportunities requires acknowledgement of the distinct dynamics which operate at national and sub-national levels, and how the interactions between them can help or hinder mitigation action. Rather than simply implementing stand-alone local actions or down-scaling national strategies, a range of effective solutions now exist to accelerate integrated national and subnational climate action.

We highlight here some of the key opportunities, barriers and solutions, and encourage national governments to consider how - through implementing more integrated approaches - they could better engage and support their cities and sub-national government counterparts to unlock and accelerate mitigation actions, and strengthen both national and international commitments. Although much of the focus in this guide is on climate mitigation action, many of these opportunities, barriers and solutions are common for both climate resilient and low emissions development.

The following resource guide introduces the importance of effective integration between national and sub-national government when designing and implementing climate resilient, low emissions development strategies. Based on the latest practitioner and research insights, it is illustrated with case examples from around the world and outlines the key opportunities, barriers and solutions for improving integrated climate action. An initial list of useful resources is also included for the reader to explore further.

This guide is a working draft developed by the Sub-National Integration working group of the Low Emissions Development Strategies Global Partnership. As new tools and resources are identified they will be added in subsequent versions.

The Low Emissions Development Strategies Global Partnership (LEDS-GP)

The Low Emissions Development Strategies Global Partnership (LEDS-GP) was founded in 2011 to enhance coordination, information exchange, and cooperation among countries and international programmes working to advance low emission climate resilient growth. The partnership brings together leaders and practitioners from more than 120 countries and international institutions through innovative peer learning and collaboration forums and networks.

www.ledsgp.org

The LEDS-GP Working Group on Subnational Integration

The LEDS-GP Working Group on Subnational Integration was launched in 2013 in response to LEDS-GP member consensus on the need and value of improved integration of climate action plans and policies between national and sub-national levels. The group supports and brings together key partners to facilitate priority activities that aim to make the case and identify tools for vertical collaboration between national and subnational actors and cross-learning between sub-national actors.

www.ledsgp.org/planning/NationalSubnationalLEDS

INTRODUCTION

Cities and sub-national governments are uniquely placed to address the challenges faced in delivering climate resilient low-emissions development. They play a key delivery role in implementing national government policy, but also control policy levers and exert local influence which is less readily available to national governments.

With a fast growing global population, increasingly living in urban areas, cities are key leverage points for mitigation action. Current estimates suggest that urban areas account for between 67 – 76% of energy use and 71 – 76% of energy related carbon dioxide emissions and up to half (37-49%) of global greenhouse-gas emissions (IPCC, 2014a). A wide range of urban-scale technologies and practices are now available to reduce emissions (e.g. Erickson, et al. 2013; UN-Habitat, 2013) and the largest mitigation opportunities are likely to be in rapidly urbanising areas where urban form and infrastructure are not yet locked-in (IPCC, 2014a).

Cities and sub-national governments are key actors in national mitigation action

National governments often depend on cities and sub-national governments to deliver mitigation action through directly implementing policies (GIZ, 2013; Anton, B. et al., 2014). Sub-national governments can strengthen and reinforce national policies to help reach higher ambitions (World Bank, 2013) for example, through addressing market failures not dealt with by national policy or increasing policy stringency in subnational delivery (IPCC, 2014b); sub-national governments are often best placed to identify local needs and benefits and to exploit synergies across investment priorities (Allain-Dupré, 2011) through mobilising local resources and coordinating between individuals, institutions and sectors that are crucial to mitigation action (Anton, B. et al., 2014). Sub-national governments have greater opportunities for policy innovation in developing tailored solutions and identifying policy complementarities (GGBP, 2014), for example through local piloting and experimentation (IPCC, 2014b).

Cities and sub-national governments have influence that can be leveraged to enable mitigation action

Sub-national governments can influence spending and investment: On average, around 75% of all government capital expenditure on environmental protection is made by sub-national governments giving them considerable scope to influence mitigation through investments in transport, building, water and waste (Merk et al., 2012); Public spending and procurement controlled by sub-national governments can be aligned with environmental goals and foster markets for green goods and services through influencing criteria for investments, subsidies, loans, tax breaks, procurement and public-private partnerships (OECD, 2013); Taxes and fees can be used by sub-national governments to influence individuals' behaviour regarding transport, land-use, housing, waste, water and energy decisions. Property taxes, for example, can be redesigned to encourage more resource efficient development (OECD, 2013).

Sub-national governments can influence policy, planning and regulation: for example through sub-national government control of policy and regulatory levers that exert substantial effects on emissions, including: land use planning, building codes, waste management, traffic infrastructure, management and public transport (IPCC, 2014b; Blok et al., 2012; UNEP, 2012). Sub-national governments' discretion over decisions regarding spatial development patterns and transportation infrastructure can dramatically affect the greenhouse-gas footprints of urban residents (Erickson et al., 2013) and; sub-national governments play an important role by incorporating mitigation into urban planning (IPCC, 2014b) through for example, influencing decisions over infrastructure renewal and expansion (Corfee-Morlot et al., 2012) or introducing ambitious building codes (UNEP, 2012).

Sub-national governments can influence awareness, behaviour and collaboration: For example, through consumer education programmes, eco-standards, eco-labelling and best-practice demonstration sites sub-national governments can raise public awareness, change consumption habits and increase market penetration for green goods and services (OECD, 2013). In addition, cities and sub-national governments are often effective at bringing stakeholders together and building relationships and trust through collaborative effort at the local level (UN Habitat, 2012).

BARRIERS AND SOLUTIONS

A range of barriers prevent sub-national climate resilient low emissions development opportunities from being fully realised. These include:

Financial barriers

- Insufficient public budgets due to unstable or weak revenues (Allain-Dupré, 2011), chronic and long-term underinvestment (Anton, B. et al., 2014) or threats to sub-national government budgets or income from mitigation action (GIZ, 2013);
- Lack of access to affordable finance (international finance in particular) and high investment costs (Anton, B. et al., 2014; GGBP, 2014; GIZ, 2013; UNEP, 2013; Clapp et al., 2010) often due to real or perceived market risk (Gouldson et al., 2012);
- Difficulty mobilising private funding without the backing of national government (Corfee-Morlot et al., 2012) particularly for medium to-small sub-national governments (Anton, B. et al., 2014).

Political and institutional barriers

Recent surveys suggest that around two thirds of governments across all regions lack effective mechanisms for coordinating environmental sustainability actions between national and sub-national government (UN-Habitat, 2013). This is often due to a range of political and institutional barriers including:

- Sub-national governments lacking a formal mandate to deal with climate protection and energy issues (ICLEI, 2014a);
- Lack of political incentives for sub-national governments due to misalignment between national and sub-national priorities, negative impacts for certain stakeholders or barriers caused by vested interests or institutional bias preventing support (GIZ, 2013);
- Institutional weaknesses such as lack of effective coordinating mechanisms or institutional congestion causing duplication and fragmentation of resources (GIZ, 2013), weak governance structures (UNEP, 2013) institutional capacity constraints (IPCC, 2014b), or lack of institutional memory between government transitions (UNFCCC, 2014);

- Institutional differences in culture, priorities or political ideology between national and sub-national governments (GIZ, 2013) and national policy sometimes undermining or impairing sub-national government action (GGBP, 2014; OECD, 2012).

Information and knowledge barriers

- Knowledge and information gaps between national and sub-national governments prevent effective communication and coordination of mitigation action (GGBP, 2014; Anton, B. et al., 2014);
- Lack of sub-national level data and information to inform mitigation action, either because it is not collected or not organised or shared appropriately (GIZ, 2013). In particular, the lack of emissions data at a local level is a common barrier as is the lack of consistency and comparability in sub-national emissions accounting methods (IPCC, 2014a).

Capacity and skills barriers

- Around two thirds of cities lack financial and institutional capacity to implement environmental sustainability programmes (UN-Habitat, 2013). This is a major barrier for mitigation action, particularly given the scale and pace of urbanisation in many developing countries (Anton, B. et al., 2014);
- A major institutional capacity challenge is the lack of skilled staff and technical expertise to incorporate mitigation into sub-national planning and implementation (Stiftung Mercator, 2014; Clapp et al., 2010; Allain-Dupré, 2011) particularly in developing countries (IPCC, 2014b).

However, a range of effective solutions exist that national governments can employ to remove the barriers faced by sub-national governments in implementing mitigation action. Over the following pages, we present an overview of solutions highlighted by researchers and practitioners as good practice approaches to addressing these barriers. We also outline further useful resources relevant for each of these solution areas.

FINANCE SOLUTIONS

National governments can unlock financial barriers and create the conditions to ensure sub-national governments have sufficient public and private funding by:

- *Direct subsidy or funding for sub-national mitigation action:* Germany's National Climate Initiative Fund subsidises 50 – 65% of technical project costs in over 1,700 cities (GIZ, 2013). India's national program on urban development and renewal (JnNURM) provides co-financing for cities to improve efficiency in urban infrastructure and service delivery (GGBP, 2014). Poland's National Fund for Environmental Protection and Water Management, in operation since 1989, was established to support local governments' pollution prevention activities, deployment of local renewable energy sources and technologies, sustainable transport and environmental awareness activities through grants, loans and investments. The fund is supported by revenues derived from fees and penalties from environmental exploitation and exceeding pollution limits (ICLEI, 2014b)
- *Establishing dedicated funding entities:* Rwanda's FONEWRA Environment and Climate Change Fund channels domestic and international finance to sub-national government (GGBP, 2014);
- the UK's Green Investment Bank provides low, fixed rate loans to sub-national government for implementing renewable energy and energy efficiency measures such as the conversion of 70,000 streetlights to low energy in the City of Glasgow (GIB, 2014);
- *Working through existing finance entities:* Peru's state owned development bank COFIDE has mobilised international and private sector finance to support innovative low carbon transportation initiatives at the municipal level (see Box 1); Thailand's Energy Efficiency Revolving Fund extended credit lines to thirteen local public and commercial banks to supply low-interest loans for energy efficiency (GIZ, 2013).
- *Creating conditions which leverage/enhance private sector funding* - In 2012, Colombia approved a law on Public-Private Partnerships (PPP) to attract private investment for public interest development projects. The PPP law allows for proposals initiated by either the private or public sector (for privately-initiated proposals the public sector can finance up to 20% of total project investments). Colombia's Transit Oriented Development (TOD) Nationally Appropriate Mitigation Action (NAMA) takes advantage of the PPP law to create a project pipeline to replicate the TOD model widely at national level (CCAP, 2013).

BOX 1

Case example: Financing Rapid Transportation Fuel Switch in Peru

The infrastructure gap in Peru is estimated at more than US\$ 48 billion and in order to close this, an estimated \$US 5 billion/year of investments is required over the next 10 years. It is estimated that 75% of this investment will need to come from the private sector (Paredes, 2013).

Since 1940, the population of metropolitan Lima has grown from 645,000 to over 8.5 million. One result of this rapid urbanization is the overabundance of taxis running on dirty fuels. There are currently an estimated 250,000 taxis in Lima, with a ratio of 27 taxis per 1,000 people (compared to 4 per 1,000 in Madrid and Barcelona, 7 in Bogota, 8 in Santiago, 12 in Buenos Aires). Despite national legislation, the majority of taxis and buses typically have used diesel fuel with over 3,000 ppm sulphur, creating a major burden on air quality in Lima.

COFIDE is a state owned 2nd tier national development bank established in 1971 that has played a key role in mobilizing international and private sector finance to support innovative low emission transportation initiatives at the municipal level. Working through local banks, COFIDE has leveraged international and private sector resources to enable a massive energy matrix transition in the transportation sector, switching from high-sulphur diesel to nationally sourced Compressed Natural Gas (CNG).

These investments include:

- \$ 42.7MM support to Lima's municipal bank and other local banks to renew bus fleets with CNG engines;
- Lima's new public-private BRT system, el Metropolitano with \$200M;
- Scrapping of old busses in the city of Lima with \$6MM, and;
- Invested \$435MM over 5 years with local banks to renovate public transportation vehicles (taxis) to CNG engines.
- Established innovative "pay at the pump" car loan mechanism.

These initiatives created innovative finance structures through local banks and have resulted in:

- 100,000 vehicles switched to CNG, with estimated emissions reductions of 3.4 MtCO₂e, and an additional 8.5 MtCO₂e over the next 10 years.
- Restructured public transport system with CNG buses, with estimated emissions reductions of 23.5 MtCO₂e over the next 10 years.
- Improved the air quality in Lima by a 30% reduction in particulate matter and SO₂ levels.

SOURCE: LEDS-GP (2014A)

POLITICAL AND INSTITUTIONAL SOLUTIONS

National governments can remove political and institutional barriers by:

- *Providing clear mandates and ownership to sub-national governments:* France's Regional Climate-Air-Energy Plans (SRCAE) provide a process for national and sub-national governments to work together with clear ownership assigned to sub-national governments for particular elements, e.g. emission inventory and scenario methodologies (GGBP, 2014). The UK's City deals, made between national and city governments are being used to develop and deliver low carbon development (GIZ, 2013). In Japan, the Act on Promotion of Global Warming Countermeasures, requires prefectures and large municipalities to formulate and implement a Local Government Action Plan in accordance with the natural and social conditions of their local areas, to be integrated with related policies, including regional and city plans. This law coexists with the *Omnibus Local Autonomy Law*, which makes clear the division of responsibilities between national and local government (GIZ, 2014a)
- *Improve integration and coordination:* Vietnam's National Green Growth Strategy requires sub-national governments to formulate specific plans with at least two targeted indicators and integrate them into their local five-year and annual socio-economic development plans (see Box 2); Morocco's Jiha Tinou program aims to increase renewable energy and energy efficiency through coordinated action between national government and sub-national governments to mainstream energy into territorial and urban planning. It also facilitates collaboration between sub-national governments and international partners and helps establish targets and roadmaps for local energy planning (GGBP, 2014). The USA's National Climate Task Force chaired by the White House and supported by an executive order of the President brings together Federal, state, local and tribal leaders, providing funding and technical assistance to sub-national governments (USG, 2013).

BOX 2

Sub-national Integration of the Viet Nam Green Growth Strategy

The Viet Nam Green Growth Strategy (VGGS) has set national targets and indicators to be achieved by 2020 which include: reducing greenhouse gas emissions per unit of Gross Domestic product (GHG:GDP) by 8-10% (vs. 2010); reducing energy intensity per unit of Gross Domestic Product (BTU:GDP) by 1.0-1.5%/year; 42-45% of GDP delivered by green technology; meeting 35-45% of transportation demand by public transportation in large and medium cities.

To deliver this strategy, the National Green Growth Action Plan (NGGAP) approved in March 2014 identifies specific activities and tasks to achieve these objectives. It also importantly provides a clear mandate and ownership to each of the 63 Provinces in the country to design their own respective Provincial Green Growth Action Plans. These Provincial plans include not only the activities of the NGGAP relevant to their territorial areas, but the Provincial People's Committees and centrally managed cities are also responsible for formulating

local projects, action plans and directing the onsite implementation of the VGGS. In addition, the Provinces will integrate the specific tasks into their local five year, as well as their annual Socio-Economic Development Plan.

By creating both a clear sub-national mandate to pursue measurable green growth and utilizing the existing processes established in the State Budget Law, Viet Nam is coordinating actions and communications between national and sub-national institutions. This allows national ministries, provincial equivalents and particular local authorities to be responsible for mobilizing and managing financial resources from the state budget (both central and local sources), state and private enterprises, communities, as well as assistance from international organizations.

SOURCE: LEDS-GP (2014B)

INFORMATION AND KNOWLEDGE SOLUTIONS

National governments can address information and knowledge barriers by:

- *Improving sub-national governments' access to data and information required, or by supporting them to develop the skills and capacity to generate it themselves* (see Box 4). For example, in the UK, data provided by the national Committee on Climate Change has enabled more effective green economy planning at city level (see Box 3). The UK Homes Energy Efficiency Database gathers multiple data sets on housing conditions from different sources and combines them into an accessible national level database for sub-national governments to access strategic data to guide their energy efficiency planning, while also providing an overview for national government strategy (GIZ, 2013). In South Africa, as part of the development of a Monitoring and Evaluation system for their vertically integrated NAMA "Energy Efficiency in Public Buildings Programme", smart meters were installed to record electricity consumption and load profiles and submit the recorded data to a central database for further analysis. At the request of municipal stakeholders it was decided that to support behavioural change and enhance local ownership, the data must always be provided to the actual building owner, e.g. province or municipality (GIZ, 2014b).
- *Creating information management systems to support nation-wide Measurement, Reporting and Verification (MRV) of sub-national action* For example, in Colombia, the Ministry of Transport operates an Information, Evaluation and Monitoring of Urban Transport System (SISSETU) which is used in cities that develop Bus Rapid Transit (BRT) programs co-financed by national government. In Japan, the Local Government Climate Registry, launched by the Ministry of the Environment in 2012 and operated by ICLEI Japan, currently includes information covering 35 prefectures and 98 municipalities, representing 87% of the country's population and approximately 80% of its reported GHG emissions.

BOX 3

National data supporting sub-national Green Economy analysis in the UK

In 2008 the United Kingdom became the first country in the world to introduce a legally-binding framework to tackle climate change which included a long-term emission reduction target, 5-year carbon budgets to keep it on track and an independent Committee on Climate Change (CCC) to advise and oversee progress. As a result of its analytical work, the CCC generated rich sources of data about the mitigation potential of a wide range of technologies which it consequently made available to sub-national governments. In 2010, utilizing detailed data provided by the CCC, a team from a coalition of British universities undertook analysis of the costs and carbon effectiveness of a wide range of low carbon options that could be applied in a city region of the UK (Leeds). They then proceeded to explore the scope for implementation, associated investment needs, financial returns and carbon savings, and the implications for the economy and employment. The resulting analysis was used to generate league tables of the most cost and

mitigation effective options available at the city scale and this evidence base is being used to help the region secure and focus large-scale investments to reduce energy bills and carbon footprint, to stimulate its economy and strengthen its communities. The national CCC data played a crucial role by providing information which would have otherwise been prohibitively costly to produce at the sub-national level.

"The [analysis] has had a tangible effect on low carbon policy across the Leeds City Region. It has created a credible focal point around which Leeds can build momentum across the private and public sector. Critically, it has also given us robust data, allowing us to implement ambitious but deliverable targets for reducing carbon emissions." Tom Riordan, Chief Executive Leeds City Council.

SOURCE: GIZ (2013)

CAPACITY AND SKILLS SOLUTIONS

National governments can address capacity and skills barriers by:

- *Providing additional technical support:* In Brazil the national development bank and eight financial groups established the Estruturadora Brasileira de Projetos (EBP) to provide capacity support to sub-national governments to undertake the complex technical and financial processes necessary for effective urban renewal, infrastructure projects and public private partnerships (ISC, 2013);
- *Enabling sub-national governments to develop the necessary skills capacity they require (Box 4):* In Bangladesh, a national training centre was developed to support sub-national government staff to develop capacity and implement sub-national waste management programmes which create new revenue streams and savings to sub-national governments (GIZ, 2013). In Japan, the national government developed a manual for local governments to use in formulating their Local Government Action Plan, required by law for prefectures and large municipalities. This guidance includes the scope of the plan, quantification of local GHG emissions, mitigation measures, targets, and monitoring and evaluation processes (GIZ, 2014a).

BOX 4

Capacity support for sub-national government

The national government of Germany provides capacity support to local authorities through its National Climate Initiative (NKI) which aims to mobilize emissions reduction potential at the city level and to develop innovative new pilot projects for further reductions. As part of the implementation support for the initiative, local authorities are provided with up to 40 per cent subsidy for employing municipal climate managers responsible for the conceptualisation, coordination and implementation of mitigation activities, project management, consultation of policy makers, data collection and analysis, supervision of decision-making processes and the organisation of citizens' dialogues. Since 2008 the initiative has supported more than 3,000 projects in over 1,700 cities, leading to emission reductions of around 1.4 Mt.

The Mexican Municipal Climate Action Plan programme (Plan de Acción Climática Municipal - PACMUN) established by the National Institute of Ecology and Climate Change (INECC), and ICLEI Mexico, provides technical support and capacity building activities for local governments through video-conferences, workshops and other networking activities. PACMUN supports the compilation of community-scale GHG inventories and assists in the identification and prioritization of emissions mitigation measures. It also includes the establishment of multi-level partnerships, developed a

guidance on preparing Municipal Climate Action Plans and has been strengthening ties between national stakeholders and local governments through strategic action since 2011.

Skills development can also be facilitated through enabling dialogue, exchange and learning between national and sub-national government and between cities and sub-national governments themselves. In Germany for example, the *Bund-Länder* exchange on climate change enables on-going dialogue and exchange between federal and state governments. In Japan, (*Coalition of Local Governments for Environment Initiative*), Sweden (*Eco-municipalities*) and elsewhere, knowledge exchange and learning platforms are successfully enabling cities and sub-national governments to work together to reduce their emissions, motivate each other, exchange experiences and share skills and knowledge. Many other regional and multilateral initiatives and platforms also exist to facilitate learning transfer and to strengthen sub-national capacity. For example, through the efforts of organisations like: ICLEI, C40, United Cities and Local Government (UCLG), the Climate Group, R20 – Regions for Climate Action and others.

SOURCE: GIZ (2013) AND ICLEI (2013).

FURTHER RESOURCES

A wide range of tools, resources and support services are now available to assist sub-national governments in pursuing climate resilient low emissions development actions. More recently an increasing number of resources have also begun to emerge with specific relevance for improving integration of national and sub-national climate action. In the following list, we provide some initial examples of such resources. The list is not exhaustive and we plan to extend it further in subsequent updates so please let us know of any resources not listed here which you think would be useful to include.

What National governments can do to accelerate sub-national action on climate (LEDS-GP, 2014)

Short briefing synthesising recent research and good practice outlining key areas where national governments can help accelerate climate action by supporting sub-national actors. http://unfccc.int/files/bodies/awg/application/pdf/ledsgp_sni_paper_bonn_2014.pdf

Integrating subnational action in Green Growth (GGBP, 2014)

Chapter 8 from the global assessment of the Green Growth Best Practice (GGBP) initiative identifies key activities for achieving national green growth objectives more effectively through enhanced and integrated sub-national action. Outlines key areas for action and illustrates with case examples. <http://www.ggbp.org/report/best-practice-report/integrating-subnational-action>

Sub-national involvement in Nationally Appropriate Mitigation Actions (NAMA) (GIZ, 2013).

Analysis of current and emerging practice towards vertical integration. Includes summary of barriers and good practice for involving sub-national government in climate action. Also includes checklist of potential options to address identified barriers to sub-national involvement in NAMA design and implementation. <http://www.mitigationpartnership.net/giz-2013-sub-national-involvement-nama-development>

V-NAMA policy recommendations, case studies and tools (GIZ, 2014).

Set of resources to inform the design and implementation of vertically integrated Nationally Appropriate Mitigation Actions (V-NAMAs) including: Policy and implementation recommendations; Country case studies; Useful tools produced by GIZ, ICLEI and others. <http://mitigationpartnership.net/giz-2014-policy-recommendations-case-studies-and-tools-integration-sub-national-actors-national-miti%20/>

Vertically integrated Nationally Appropriate Mitigation Actions (V-NAMA) Webinars (GIZ, 2014)

Series of webinar presentations and discussions sharing learning among stakeholders working on Vertically integrated Nationally Appropriate Mitigation Actions (V-NAMAs) addressing the sub-national dimension. Identifies common barriers, challenges and incentives for involving sub-national and city governments in national mitigation actions. Audio recordings and presentations from six webinars covering around of topics including: Finance; Waste management; and Measurement Reporting and Verification (MRV); along with insights from country experiences and international overviews of practice, emerging issues and activities. <https://gc21.giz.de/ibt/var/app/wp342P/1966/>

Promoting local climate mitigation (Adelphi, 2013)

Range of case examples of national government support for local authority mitigation activities in Europe, UK and the US. Includes examples of institutional structures, policies, legislation, financial instruments, information, and approaches to consultation exchange and learning. <http://www.adelphi.de/en/publications/dok/43509.php?pid=1761>

Subnational strategies for climate compatible development (CDKN, 2014)

Drawing on the international project portfolio of the Climate and Development Knowledge Network (CDKN), this working paper explores the challenges and opportunities and outlines successful strategies and measures to enable climate compatible development at the sub-national level. http://cdkn.org/wp-content/uploads/2014/04/CDKN_ICLEI-Subnational-CCD-Strategies1.pdf

Integrating national and sub-national approaches to REDD+ in Vietnam (Forest Trends, 2013)

Practice paper applying the latest technical understanding on how to integrate national and sub-national approaches to REDD+ provides advice on applying a nested REDD+ approach. Focussed on Vietnam but transferable to other contexts.
http://www.forest-trends.org/documents/files/doc_3227.pdf

Consolidating national and sub-national REDD+ accounting in Ghana (Forest Trends, 2010)

Assessment of options for integrating sub-national activities on Reducing Emissions from Deforestation and Forest Degradation (REDD+) into the design of the national REDD+ architecture in Ghana in a way that is consistent with the emerging international REDD+ policy.
<http://theredddesk.org/resources/consolidating-national-redd-accounting-and-subnational-activities-ghana>

Global Protocol on Community-scale GHG Emissions (GPC)

The GPC provides a robust framework for accounting and reporting city-wide greenhouse gas emissions and enable city inventories to be aggregated at sub-national, national and international levels.
www.ghgprotocol.org/city-accounting

Addressing urban issues in national climate change policies. (UN Habitat, 2013)

Policy note drawing on a wide range of country experiences providing recommendations for addressing sub-national urban issues in national climate policy and delivery.
<http://unhabitat.biz/addressing-urban-issues-in-national-climate-change-policies-cities-and-climate-change-initiative-policy-note-3/>

Policy integration and governance in Dutch climate policy. (Wageningen, 2008)

Provides a multi-level analysis of climate mitigation and adaptation policy in the Netherlands. Outlines practical implications of climate policy integration for policy implementation and suggests means to enhance climate policy integration and to improve policy coherence.
<http://edepot.wur.nl/22059>

Using city deals to drive low carbon growth (Green Alliance, 2012)

Review of how the UK “city deal” approach to devolution of economic development has been effectively leveraged for pursuing low carbon growth in English cities.
http://www.green-alliance.org.uk/page_42.php

Guidebook for multi-stakeholder decision-making to support green development (UNDP, 2012)

A Guidebook for Establishing a multi-stakeholder decision-making process to support green, low-emission and climate-resilient development strategies. Includes references to the role of sub-national governments. http://www.undp.org/content/dam/undp/library/Environment%20and%20Energy/Climate%20Strategies/Multi-stakeholder%20Decision-Making_Sept%202012.pdf

Inspirational finance schemes (EU Covenant of Mayors)

Short paper presenting range of examples of approaches to finance supported across levels of government ranging from leveraging local authority and local partner's resources, public private partnerships, national and regional funds. EU focussed but potential for replication elsewhere.
http://www.covenantofmayors.eu/IMG/pdf/CoM_Thematic_Leaflet_on_Financing.pdf

LEDS Global Partnership Remote Expert Assistance Service

Some direct assistance is also available from the sub-national working group through the LEDS global partnership's remote expert assistance service. For further information see:

<http://ledsgp.org/assistance>

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