



Resource guide for NDC finance

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About this guide

This *Resource guide for NDC finance* presents a curated selection of resources on a range of topics around finance for Nationally Determined Contributions (NDCs) and low emission development strategies (LEDS). It is designed to help NDC and LEDS practitioners find high quality resources that meet their specific needs, avoiding time consuming web searching. It will be useful to individuals working on, or interested in, NDC and LEDS finance in both developed and developing countries.

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The **Low Emission Development Strategies Global Partnership (LEDS GP)** was founded in 2011 to enhance coordination, information exchange, and cooperation among countries and international programs working to advance low emission, climate resilient growth. LEDS GP currently brings together LEDS leaders and practitioners from more than 160 countries and international institutions through innovative peer to peer learning and collaboration via forums and networks. For the full list of participants and more information on partnership activities, see www.ledsgp.org

How to use this guide

The resources are organized using a framework comprising six main sections, most of which have a number of subsections. Up to five resources are presented in each section or subsection, along with separate case studies where available.

Each section contains a brief introductory paragraph, plus one or two **featured resources** that are relevant to several of its subsections and provide a good introduction to the topic area. Some sections also feature a **general resources** subsection, where resources covering a number of subsection topics are presented.

Where possible, both introductory and more comprehensive resources are included for each topic. For each resource, a short description outlines its purpose, what it covers, and who it is aimed at. Especially relevant chapters are indicated. Publication details and document size are also given, along with a hyperlink to the resource.

Most subsections also contain country-specific reports or case study documents that complement the more general nature of most of the key resources. Where country case studies feature prominently within main resources, these are highlighted in the resource description.

Linked themes between sections and subsections, and resources that are relevant to a number of subsections, are highlighted and hyperlinked. In a few cases where specific resources are relevant to multiple subsections, the resource details are included in full in each subsection where relevant.

The sidebar menu on every page can be used to move between sections of the guide.

Introductory resources

The following two resources provide good introductions to many aspects of LEDS and NDC finance, and are relevant to many sections of this guide.

***Catalyzing climate finance: A guidebook on policy and financing options to support green, low-emission and climate-resilient development* (UNDP, 2011, 160 pp)**

This is a useful general resource covering many aspects of financing LEDS, and is relevant across several sections of this guide. The principal audience for this publication is public development practitioners at national and subnational levels, as well as domestic and international experts involved in assisting governments in catalyzing finance for climate investment and sustainable development. The guide outlines a four-step methodology to assist developing countries in selecting and deploying an optimal mix of public policies and financing instruments to catalyze climate finance in line with national development priorities:

- Step 1: Identify priority mitigation and adaptation technologies
- Step 2: Define and assess key barriers to technology diffusion
- Step 3: Determine appropriate policy mix to catalyze climate capital
- Step 4: Select financing options to create an enabling policy environment

***Planning for NDC implementation: Quick start guide and reference manual* (Finance: pp. 68–77) (CDKN/Ricardo Energy & Environment, 2016, 92 pp)**

This reference manual and its accompanying quick start guide were produced to support developing countries in implementing their NDCs. It is aimed at national and subnational policymakers, development partners, and practitioners. The reference manual sets out specific activities that countries can undertake in five key areas of NDC implementation, of which one is finance. The Finance chapter outlines 10 key activities as a comprehensive basis for an approach to mobilize finance for NDC implementation, and includes several relevant case studies. The activities covered are well aligned with the different sections of this resource guide. The *Quick start guide and reference manual* is also available as an online tool, enabling users to link finance to mitigation; adaptation; governance; and measuring, reporting, and verification.

1 Understanding the situation

[1.1 Understanding current flows](#)

[1.2 Assessing financing needs](#)

[1.3 Assessing capacity](#)

[1.4 Identifying and overcoming barriers](#)

In order to plan and implement a comprehensive and appropriate approach to mobilizing finance for LEDS and NDCs, a good starting point is to understand the current situation. This will help identify and prioritize the required activities and ensure they are based on a robust and up to date evidence base. Relevant activities to develop such an understanding include looking at current flows of finance, assessing the amount of finance needed to implement the NDC or LEDS, working out what capacities are needed and to what degree they already exist, and identifying barriers hindering investment that need to be overcome. This section presents a selection of resources to help with these activities.

Featured resource

***Planning for NDC implementation: Quick start guide and reference manual* (Finance: pp. 68–77) (CDKN/Ricardo Energy & Environment, 2016, 92 pp)**

CDKN's NDC implementation reference manual was produced to support developing countries in implementing their NDCs. In the Finance chapter, activities 1 (Review current climate finance landscape), 3 (Compile an overall costing for the NDC), and 4 (Identify funding gaps and needs) are relevant here. For further information on this manual see [Introductory resources](#).

1.1 Understanding current flows

An important part of the evidence base for developing a robust approach to financing LEDS and NDCs is an assessment of current flows of finance into mitigation and adaptation activities. Accurate monitoring of climate finance flows will allow recipient countries to make more informed decisions about planning, prioritization, and allocation of resources for climate change, and to measure and evaluate progress. There is a growing body of work developing methods for countries to track the flows of (mainly public) climate finance within their financial systems and to document the lessons learned. The resources here provide an introduction to these approaches and guidance on how to get started.

Key resources

***National monitoring approaches for climate change public finance* (GIZ, 2016, 21 pp)**

This paper describes the opportunities and costs associated with developing monitoring approaches for national climate change public finance. It explores the rationale for monitoring climate finance, describes a leading example of climate change budget tracking, presents lessons learned, and summarizes five tools that can support climate change financial monitoring, identifying possible advantages and disadvantages of their use.

***Monitoring climate finance in developing countries: Challenges and next steps* (WRI, 2014, 24 pp)**

This paper explores how international finance, including official development assistance, for climate change is currently monitored in several developing countries. It also seeks to understand some of the challenges and capacity gaps in monitoring climate finance. Drawing on the experiences of developing countries that participated in the study, the paper presents insights about what countries can do to improve the monitoring of climate finance at the national level.

A methodological guidebook: Climate public expenditure and institutional review (CPEIR) (UNDP, 2015, 72 pp)

This guidebook seeks to equip relevant stakeholders (governments, donors, CPEIR practitioners) with information on methodologies and tools to conduct a CPEIR, the objectives of which include tracking of climate finance and quantification of climate related expenditures in the budgetary system. The publication was developed based on experiences and lessons learned from existing CPEIRs. It provides readers with background on context, purpose, process, and tools in implementing a CPEIR, together with an overview of the key challenges typically faced during CPEIR implementation. Section 6.3 of the guidebook provides guidance on tracking public climate expenditure.

Country examples

Landscape of public climate finance in Indonesia (CPI, 2014, 54 pp)

The Landscape of public climate finance in Indonesia study was conducted by the Indonesian Ministry of Finance's Fiscal Policy Agency and Climate Policy Initiative (CPI) in 2013–14. This paper gives an overview of public climate flows in Indonesia and an insight into the significant methodological challenges in tracking and collecting this information.

Landscape of REDD+ aligned finance in Côte d'Ivoire (CPI, 2017, 48 pp)

This study by CPI and Impactum was carried out in collaboration with, and to support, the Ministry of the Environment and Sustainable Development's Permanent REDD+ Executive Secretariat in its work to develop Côte d'Ivoire's National REDD+ Strategy and Investment Plan. The study identifies the nature and volume of domestic and international public finance that was contributing to limiting deforestation and encouraging sustainable land use in the country in 2015. It contains a detailed overview of the methodology followed. A webinar is also available in French and English.

Climate public expenditure and institutional reviews—various countries (UNDP, 2011–15)

This website presents CPEIR reports from over 10 Asian countries that have conducted CPEIRs, including Bangladesh, Indonesia, Nepal, and Thailand.

1.2 Assessing financing needs

A key challenge countries face is identifying the finance needed to implement the actions identified in their NDC and LEDS plans. Once the portfolio of priority measures has been determined, the cost of implementing the measures must be evaluated. Some data required for such an assessment will likely already be available from other LEDS development activities; for example, simple cost data may be available from marginal abatement cost analyses. While such an approach provides a good starting point, it is important to expand the analysis to account for not only the technology related costs, but also costs associated with setting up the programs and policies, monitoring, enforcement, data collection, studies, research, training, and other capacity building and awareness programs – costs that will be incurred in order to implement the chosen measures. (Adapted from *How-to guide: Low-emission development strategies and nationally appropriate mitigation actions: Eastern Europe and CIS*, UNDP, 2010.)

Key resources

Enhancing implementation of technology needs assessments: Guidance for preparing a technology action plan (UNEP DTU Partnership, 2016, 52 pp)

This is a general guidance document to support developing countries in the preparation of a technology action plan. Section 4.2 (3 pp) provides high level guidance on how to estimate the costs and funding needs of specific technology related mitigation actions, and makes a distinction between the funding required to prepare an action and the funding needed to implement it.

Methodology guidebook for the assessment of investment and financial flows to address climate change (UNDP, 2009, 260 pp)

UNDP commissioned this guidebook to support developing countries in undertaking bottom-up, national, and sectoral analyses of the costs of mitigation and adaptation. It provides step by step guidance on assessing the changes in investments in physical assets and in programmatic measures needed to mitigate greenhouse gas emissions and adapt to climate change in key sectors. Investments range in type and scale from household investments in appliances, and corporate and government investments in infrastructure, to government investments in education and outreach. The approach is designed to be implemented at national level, and is flexible so that it can be adapted to country specific needs and conditions. The guidebook provides a good basis for evaluating financing needs in the context of LEDS. Developed by UNDP with a group of international experts and regional centers of excellence, this guidebook is one of a series of three guidance documents; the other two are *Preparing a workplan for the investment & financial flows assessment*, and *Reporting guidelines for the assessment of investment and financial flows to address climate change*.

The methodology guidebook is also available as single chapters (including French, Spanish, and Russian versions), along with the workplan guidance and reporting guidelines, on the UNDP's Climate Community website under Financial Analysis > Methodology.

Country examples

Results summaries, and final investment and financial flow assessments – various countries (UNDP, 2011)

Summary briefs and final investment and financial flow assessments for 15 countries that participated in UNDP's Investment and Financial Flows program are available on this page. The briefs present contextual information and key results; the assessment documents present detailed results for the sectors studied in each country, including discussion of policy implications and uncertainties, and methodological challenges and limitations. Some of the documents are in Spanish, French, or Russian.

National Economic, Environment and Development Study (NEEDS) for Climate Change Project (UNFCCC, 2010–11)

The main objectives of the NEEDS project were to support participating countries in selecting priority mitigation and adaptation measures, assessing the financing required to implement those measures, and identifying appropriate financial and regulatory instruments to support these measures. Eleven countries participated in the project, each producing a country report presenting their identified priority actions and the financing required to implement them. These reports are useful as examples of how other countries have approached this challenge, if not necessarily best practice in all cases.

1.3 Assessing capacity

In order to finance their LEDS and NDCs, countries will need a range of capacities to enable them to plan, coordinate, access funding, implement, monitor, and report. These capacities will exist to different degrees in different countries, and in many cases will need to be strengthened. An important preparatory task is to assess the level of existing capacity. These resources can help countries think about how to approach that assessment and what sort of capacities they will need.

Key resources

Readiness for climate finance: A framework for understanding what it means to be ready to use climate finance (UNDP, 2012, 32 pp)

The paper presents a framework for understanding what it means to be 'ready' to use climate finance in a transformative way at the national level. It identifies four main capacities that countries need: capacity to plan for finance; capacity to access finance; capacity to deliver finance; and capacity to monitor, report, and verify finance. The paper provides a useful framework for countries to consider their own national capacity regarding LEDS finance. The intended audience is policymakers at both international and national levels in developing countries.

A methodological guidebook: Climate public expenditure and institutional review (CPEIR) (UNDP, 2015, 72 pp)

This guidebook seeks to equip relevant stakeholders (governments, donors, CPEIR practitioners) with information on a step by step process, methodologies, and tools to conduct a CPEIR. CPEIRs include institutional analysis (see section 6.2 of the guidebook), which looks at relevant institutions and their existing capacity. For further information on this publication see [1.1](#).

Multi-stakeholder decision-making: A guidebook for establishing a multi-stakeholder decision-making process to support green, low-emission and climate-resilient development strategies (UNDP, 2012, 76 pp)

See part II, phase 2 on financial scans. A financial scan examines the current financial status of a government, its budget, sources of revenues, and spending responsibilities, and evaluates their applicability to LEDS preparation. The structure and policies for financing projects and the outlook for accessing and leveraging funds for future investment projects are also assessed. The example of a local government financial scan in annex 5 could be readily adapted for the more complex scenario of a regional or national government.

1.4 Identifying and overcoming barriers

Mobilizing finance for LEDS and NDCs will require a range of barriers to be overcome, barriers that are currently preventing private sector engagement and investment. Identification of these barriers—especially those that relate principally to finance and investment—is therefore an important early step in developing a comprehensive LEDS or NDC finance plan. Many general LEDS planning resources discuss ways to overcome barriers. The resources listed here focus specifically on how to identify and overcome technical and financial barriers.

Key resources

Addressing the barriers to climate investment ((CDKN/Frankfurt School – UNEP Collaborating Centre), 2013, 8 pp)

This guide summarizes the barriers to financing mitigation and adaptation activities, as well as discussing factors to consider when selecting and implementing financial instruments. Pages 2–3 provide a general introduction to investment barriers, and pp. 4–5 contain a table detailing different kinds of potential investment barrier. The key financial instruments and modalities considered in the guide are discussed in relation to the Green Climate Fund, but the lessons are applicable to other channels for climate finance.

Demystifying private climate finance (UNEPFI, KPMG, SDC, AusAid, 2014, 62 pp)

Part B of this report highlights the fact that the effective design and implementation of public interventions needs to be guided by a more nuanced understanding of current barriers to the flows of private finance in developing countries. These barriers, in turn, depend on the type of private finance required, as well as the location of the activity. The report considers three case studies (grid scale renewables; energy efficiency; climate resilient infrastructure) and for each one identifies the major barriers that currently prevent private capital from flowing into these project types, and what interventions can overcome them. For further information on this report see [5.2](#).

Derisking renewable energy investment: A framework to support policymakers in selecting public instruments to promote renewable energy investment in developing countries (UNDP, 2013, 151 pp)

The DREI framework systematically identifies the barriers and associated risks that can hold back private sector investment in renewable energy. Section 2.1 of this report covers the identification and classification of barriers to investment in renewable energy projects in developing countries. It helps identify barriers according to different stakeholder groups and provides a methodology for quantifying the impact of these barriers on financing costs of the project.

Overcoming barriers to the transfer and diffusion of climate technologies, TNA Guidebook series (UNEP DTU Partnership, 2015, 94 pp)

This guidebook is intended as a starting point for developing country governments, planners, and stakeholders who are carrying out technology needs assessments (TNAs) and technology action plans. The aim is to provide practical and operational guidance on how to assess the barriers to adoption of priority technologies, and how to address and overcome these barriers through different types of measures. This resource is designed principally to support the development of TNAs, but much of the content is likely to be relevant to a wider audience, and it covers both financial and non-financial barriers and their solutions.

Country examples

Barrier analysis is a common element of the majority of studies focusing on deployment of climate technologies in specific countries, as in this example.

Waste to energy in Indonesia: Assessing opportunities and barriers using insights from the UK and beyond (Carbon Trust/IESR, 2014, 103 pp)

This report investigates the potential of waste-to-energy technologies as a solution to Indonesia's growing waste and energy challenges, and offers recommendations that address barriers to deployment. Three overarching challenges are identified that focus on the economic viability of facilities, the need for local government capacity building and government coordination, and the social dimensions of waste-to-energy. These challenges encapsulate a set of 14 discrete barriers to waste-to-energy deployment, each of which are described and related to Indonesia's unique context in section 7 of the report. To address the overarching challenges, a set of seven solutions are presented that leverage international examples of best practice.

2 Planning and coordinating

[2.1 Institutions and governance](#)

[2.2 National finance strategies](#)

[2.3 Investment plans](#)

[2.4 National climate funds](#)

[2.5 Green investment banks](#)

Mobilizing finance for LEDS and NDCs is a multifaceted challenge requiring action from a range of public and private stakeholders. Good planning and coordination, led by national governments, is necessary to ensure that actions across the range of necessary areas are effective and complement each other, and do not waste effort, or create additional risks and barriers due to lack of coordination. Countries will need the right set of institutions and governance processes, and will need to develop and implement strategies that suit their national circumstances. The resources in this section can help countries to consider possible institutional arrangements, strategies, and investment plans, and the role of specific institutions such as national climate funds and green investment banks.

Featured resource

Planning for NDC implementation: Quick start guide and reference manual (Finance: pp. 68–77) (CDKN/Ricardo Energy & Environment, 2016, 92 pp)

CDKN's NDC implementation reference manual was produced to support developing countries in implementing their NDCs. In the Finance chapter, activities 1 (Review current climate finance landscape), 2 (Establish institutional arrangements for the oversight and coordination of climate finance activities), 5 (Assess public and private financing options), and 6 (Develop a country climate investment plan) are relevant here. For further information on this manual see [Introductory resources](#).

2.1 Institutions and governance

Countries seeking to develop comprehensive approaches to LEDS and NDC finance will need to put in place the right institutional arrangements. Many countries have begun this process and different approaches are emerging. The resources here and in the following subsections provide insight into the different models emerging and lessons learned so far.

Key resources

After Paris: What is next for Intended Nationally Determined Contributions (INDCs)? (NewClimate Institute, 2016, 6 pp)

This brief paper outlines at a high level what the Paris Agreement means for INDCs, and what needs to happen at the country level now and in the longer term to implement the Agreement. The paper focuses explicitly on the mitigation part of national contributions and discusses specific steps, including several with a specific finance or institutional aspect. It is useful as a simple guide to what needs to happen next, setting the broader context for the development of approaches to financing LEDS and NDCs.

A guide to national governance of climate finance (DFID/IIED, 2015, 85 pp)

This topic guide is intended for advisors within the UK Department for International Development (DFID) working in country, but it also provides a useful general overview of climate finance sources and actions to access them. In particular, section 1.2 of the guide (9 pp) looks at the roles of different national actors in climate finance (agencies, national development banks, national climate change funds, etc.), and section 1.3 briefly covers planning and budgeting systems.

Public spending on climate change in Africa: Experiences from Ethiopia, Ghana, Tanzania and Uganda (Part C, Chapter 11: pp. 108–112) (ODI, 2016, 147 pp)

Chapter 11 of this report, ‘Lessons for institutional strengthening’, is on lessons learned from the four study countries that point the way toward institutional pathways for effective climate change finance delivery in Africa. Six cross-cutting lessons were identified from the institutional analysis made in each of the country studies: (1) reforming the institutional framework in response to climate change; (2) establishing clarity over institutional mandates; (3) strengthening the programming of climate change actions; (4) ensuring adequate allocation of human resources; (5) delineating environmental and climate change programs; and (6) recognizing the central role of finance ministries in climate change finance delivery.

Getting it together: Institutional arrangements for coordination and stakeholder engagement in climate finance (ODI/CPR, 2014, 28 pp)

This paper analyzes the arrangements that have emerged in Colombia, India, Indonesia, the UK, and Zambia to draw lessons on the conditions that facilitate or impede coordination across institutions and actors. Section 2 of the paper distils key insights from the literature and theory on institutional coordination for understanding the institutional arrangements that have emerged in the five case study countries. Section 3 analyzes these arrangements and their modalities, seeking to highlight lessons and good practices. Section 4 of the paper concludes with core functions of coordinating institutions, and recommendations for both national and international actors seeking to strengthen domestic arrangements for climate finance.

A methodological guidebook: Climate public expenditure and institutional review (CPEIR) (UNDP, 2015, 72 pp)

This guidebook seeks to equip relevant stakeholders (governments, donors, CPEIR practitioners) with information on a step by step process, methodologies, and tools to conduct a CPEIR. Section 6.2 describes the institutional analysis included in the CPEIR approach, which considers which institutions should be involved, their capacity, and opportunities to strengthen that capacity. Questions to be addressed, data requirements, and potential challenges are outlined. For further information on this guidebook see 1.1.

Country examples

Getting it together: Institutional arrangements for coordination and stakeholder engagement in climate finance (ODI/CPR, 2014, 28 pp)

See the examples of Colombia, India, Indonesia, the UK, and Zambia in this report (see above in this section’s Key resources).

2.2 National finance strategies

Achieving the necessary scale and pace of sustainable investment requires a strong and credible political commitment to build investor confidence in the long term sustainability of policy frameworks, underpinned by a dynamic and coordinated policy and financing strategy. A national finance strategy aims to help countries define their overall climate resilient development objectives and set out potential means to finance them. The focus is on how international and national public finance can be deployed alongside policy initiatives to maximize the ‘crowding-in’ of private capital to deliver climate resilient development aims.

(Adapted from *Considerations for a climate finance strategy in Chile*, E3G, 2016.)

Key resources

Financing pathways for low emissions and climate resilient development: Working paper on national financing pathways (E3G, 2013, 16 pp)

'National financing pathways' are put forward here as a concept that articulates the interdependencies between public, private, and international sources of finance as a means of delivering scaled investment to support implementation of low emission and climate resilient development. Based on discussions with representatives in Chile, Colombia, and Peru, this working paper identifies emerging issues that may influence a national financing pathway, and considers different frameworks and tools to develop such pathways.

Strategic national approaches to climate finance: Report on scoping work in Peru, Chile and Colombia on national climate finance pathways and strategies (E3G, 2014, 44 pp)

This paper describes the emerging strategic approach of national financing pathways and strategies for climate finance. In essence, this refers to the outcome of a process whereby a country determines, defines, and mobilizes the financial and other resources necessary for its transition to a low emission and climate resilient development path. The concept is explained in greater detail in chapter 4 of the paper, which also sets out E3G's perspectives on emerging diagnostic tools that may be applied, and core principles that may be relevant for developing countries to consider when developing a national financing pathway.

Country examples

Considerations for a climate finance strategy in Chile (E3G, 2016, 125 pp)

The Government of Chile has committed to putting in place a national finance strategy for climate change by 2018, and is just at the beginning of considering how to develop it. This report sets out a framework with which Chile could start to develop its own national finance strategy. It offers recommendations for how this approach could be taken forward—including identifying where further research and dialogue with key stakeholders are needed. The analysis is based on scoping work undertaken in Chile during 2012–14. This has been supplemented during 2015–16 by further in-depth analysis and stakeholder consultation to understand the challenges and opportunities for Chile as it moves forward to build a climate resilient economy.

2.3 Investment plans

A climate change investment plan is a document that identifies priority investment areas for a country and outlines why these priorities would be good investments from a climate point of view. In addition to providing information about specific investment needs, an investment plan often provides contextual information about the country, its policy framework, and current activities. It may also discuss sources of finance and institutional arrangements.

Around 70 countries so far have developed investment plans for the Climate Investment Funds, the US\$9 billion family of four climate funds managed by the World Bank and other multilateral development banks. These investment plans are required for countries to access the funds, and provide a degree of predictability over the funding streams available to countries. They follow a specific format prescribed by Climate Investment Funds.

Beyond Climate Investment Funds, countries can also prepare general climate investment plans to support their efforts to raise climate change investments. An example is provided for Malawi, and for the investment prospectuses developed by several African countries for the Sustainable Energy for All (SE4ALL) initiative.

Key resources

Clean Technology Fund: Guidelines for investment plans (CIF/CTF, 2008, 10 pp)

The Clean Technology Fund investment plan is a business plan, developed under the leadership of the government, to assist a country with Clean Technology Fund co-financing in implementing its national development strategies or programs that include low carbon objectives. The investment plan is agreed between, and owned by, the government and the multilateral development banks. It should be a clearly articulated, multiyear proposal that describes the proposed uses of Clean Technology Fund resources, identifying components of the country's existing strategies and plans that could be co-financed by the Fund. This brief guidance document outlines how to prepare a Clean Technology Fund investment plan, including an annotated outline that should be followed.

Country examples

Climate Investment Funds Country Investment Plans (approx. 70 countries)

For countries to access Climate Investment Funds, they must develop an investment plan that targets investments which are in line with, and reinforce, national development priorities. The investment plan is developed through constructive consultations between the country government, multilateral development banks, and key stakeholders, including civil society, indigenous peoples, and the private sector. This resource presents examples of the investment plans approved for implementation.

Stakeholder engagement in preparing investment plans for the Climate Investment Funds: Case studies from Asia (ADB/CIF, 2013, 80 pp)

This study, part of a wider review of Climate Investment Funds experiences in the Asian Development Bank, uses a case study approach to examine how stakeholder engagement was carried out in the preparation of investment plans in Cambodia, Indonesia, Nepal, and the Philippines, with reference to the guidance on stakeholder participation provided by the Asian Development Bank and Climate Investment Funds.

National Climate Change Investment Plan (Malawi Government, 2013, 152 pp)

The primary objective of the National Climate Change Investment Plan is to increase climate change investments in Malawi. It covers the country profile, climate change governance and policy framework, and current portfolio of activities and financing. The Plan identifies priority investment areas, outlines the total investment requirement, and discusses institutional arrangements, potential financing sources, and monitoring and evaluation.

Investment prospectuses (Angola, Gambia, Kenya, Tanzania) (SE4ALL, various dates)

An SE4ALL Investment Prospectus presents a set of implementable programs and projects, including their investment requirements. This website makes available several countries' Investment Prospectuses.

2.4 National climate funds

A potentially important mechanism for countries to manage climate finance is a national climate fund. These are nationally driven and nationally owned funds that help countries to collect climate finance from a variety of sources, coordinate them, blend them together, and account for them. In this way, countries are in the driving seat and can make informed choices about how to direct resources toward activities that deliver results. National climate funds provide a country driven system that can support climate change goal setting and strategic programming, oversee climate change project approval, measure project implementation and performance, offer policy assurance and financial control of climate change funds, and assist with partnership management on the ground. (Adapted from *Blending climate finance through national climate funds: A guidebook for the design and establishment of national funds to achieve climate change priorities*, UNDP, 2011.)

Key resources

Blending climate finance through national climate funds: A guidebook for the design and establishment of national funds to achieve climate change priorities (UNDP, 2011, 56 pp)

The purpose of this guidebook is to assist countries in designing a national climate fund. It leverages UNDP's experience with funds at the global, regional, national, and subnational levels, and shares lessons learned about designing and administering national climate funds. It also aims to provide a simple, robust, and transparent method for meaningful stakeholder engagement throughout the design process. The principal audiences for this publication are decision makers at national and subnational levels, as well as domestic and international experts involved in assisting governments in establishing institutions and frameworks to support the management and delivery of climate finance.

Evaluating the resource mobilisation strategies and sustainability of national climate change funds (Dalberg/CDKN, 2015, 42 pp)

CDKN commissioned this report from Dalberg to assess the sustainability of national climate funds and explore possible approaches to resource mobilization, in response to the mixed experience of national climate funds so far. Part 1 of the report introduces its purpose and structure, and its research methodology. Part 2 presents an overview of how national climate funds fit into the overall climate finance landscape. Part 3 describes the primary barriers to resource mobilization and the successes of some funds, and parts 4 and 5 outline a resource mobilization approach for national climate funds. The target audiences include existing national climate funds, decision makers exploring whether to establish a fund, and climate policymakers more generally.

National climate funds: Learning from the experience of Asia-Pacific countries (UNDP, 2012, 32 pp)

This discussion paper synthesizes and analyzes the experiences of Asia-Pacific countries in establishing and managing national climate funds, and can provide a starting point for in-country discussions about setting up such a fund. The paper suggests feasibility criteria for setting up funds, explores different design features (including presenting a useful typology of different types of fund), looks at some important management features, and makes summary recommendations. Annex 1 of the paper summarizes the advantages and disadvantages of managing climate finance through the national budget system compared with establishing a national climate fund.

Country examples

FONERWA: Rwanda's Green Fund

Rwanda's national climate fund (FONERWA) is seen as one of the most successful national climate funds so far. This website presents information about the fund and numerous other documents.

Project final report—Creation of the national fund for climate and environment (FONERWA): Support to the fund management team (CIDT, 2016, 98 pp)

This final report from the DFID funded project to set up Rwanda's climate fund describes the background and evolution of the fund, the results and achievements of the project, and lessons learned.

2.5 Green investment banks

A green investment bank is a public entity established specifically to facilitate private investment in domestic low carbon, climate resilient infrastructure. Using innovative transaction structures, risk reduction and transaction enabling techniques, and local and market expertise, green investment banks are channeling private investment, including from institutional investors, into low carbon projects. Green investment banks are facilitating investment in such areas as commercial and residential energy efficiency retrofits, rooftop solar photovoltaic systems, and municipal level, energy efficient street lighting. The creation of a green investment

bank can send a signal to the marketplace and to other countries that a country or region is seeking to become a leader in scaling up private low carbon investments. (Adapted from *Green investment banks—Policy perspectives*, OECD, 2015.)

Key resources

***Green investment banks—Policy perspectives* (OECD, 2015, 20 pp)**

This policy brief describes the relatively new phenomenon of publicly capitalized green investment banks, and examines why they are being created and how they are mobilizing private investment.

***Green investment banks: Scaling up private investment in low-carbon, climate-resilient infrastructure* (OECD, 2016, 117 pp)**

This report provides the first comprehensive study of publicly capitalized green investment banks, analyzing the rationales, mandates, and financing activities of this relatively new category of public financial institution. Based on the experience of over a dozen green investment banks and similar entities, the report provides a nonprescriptive stocktaking of the diverse ways in which these public institutions are catalyzing private investment in low carbon, climate resilient infrastructure and other green sectors, with a spotlight on energy efficiency projects. The report also provides practical information to policymakers on how green investment banks are being set up, capitalized, and staffed.

***Green & resilience banks: How the green investment bank model can play a role in scaling up climate finance in emerging markets* (NRDC/Coalition for Green Capital/Climate Finance Advisors, 2016, 47 pp)**

This paper, produced by the Coalition for Green Capital, the Natural Resources Defense Council and Climate Finance Advisors, shows how green investment banks are succeeding in countries such as Australia, Japan, Malaysia, the UK, and the USA. Green investment banks are specialized public financing authorities set up to persuade private investors to increase and accelerate their investment in renewable energy and energy efficiency. The paper also explores the potential of the green investment bank model in emerging and developing economies.

Country example

***Greening India's financial market: Opportunities for a green bank in India* (NRDC/CEEW/IREDA, 2016, 19 pp)**

This report explores the opportunity for a green bank in India, considers its potential contribution to a number of India's mitigation objectives, and provides other examples of green banking measures from international contexts.

3 Creating an enabling environment

An enabling environment to attract investment is one that has appropriate policy conditions—including laws, targets, and regulations—and the institutional capacity to implement policy. It also has appropriate industry conditions, including engineering expertise and the presence of enabling infrastructure, and a stable financial sector with the capacity to support low carbon energy. (Adapted from *Mobilizing climate investment: The role of international climate finance in creating readiness for scaled-up low-carbon energy*, WRI, 2013.)

“The broad investment environment is [also] a key determinant of investors’ willingness to invest in developing countries. Factors such as the stability and transparency of the rule of law in a general sense, standards of corporate governance, import tariffs, restrictions on the repatriation of investment returns and the enforceability of contracts are every bit as important as a country’s climate change policy in shaping investors’ appetite to invest.”

Source: *Non-carbon market financing mechanisms for climate change mitigation and adaptation in developing countries: Statement by the Institutional Investors Group on Climate Change (IIGCC)*, 2009

This section presents a selection of resources on the topic of enabling environments (also referred to as the ‘investment environment’ or ‘investment grade policy’). The first three are introductory resources that explore the importance of addressing the broader investment environment (alongside specific instruments designed to support investment, the focus of [section 5](#) of this guide). Three more comprehensive resources are then listed, which look in more detail at what countries can do to put in place an ‘investment grade’ enabling environment. A specific resource is included on fossil fuel subsidy reform, as for many countries subsidy reform will be a key part of developing a coherent investment environment for NDC and LEDS finance.

Key resources

***Catalyzing climate finance: A guidebook on policy and financing options to support green, low-emission and climate-resilient development* (UNDP, 2011, 160 pp)**

Section 2.1 of this useful general resource covering many aspects of financing LEDS outlines some ‘Key policies to create an enabling environment for climate investing’, and provides a concise introduction to the importance of this aspect of attracting investment. For further information on this guidebook see [Introductory resources](#).

***Mobilizing climate investment: The role of international climate finance in creating readiness for scaled-up low-carbon energy* (Chapter 2: pp. 15–19) (WRI, 2013, 68 pp)**

This report provides guidelines to help countries develop an effective enabling environment for climate investment. Based on in-depth analysis of existing ‘readiness’ activities in six developing countries, it lays out an effective framework for stimulating investment in renewable energy and energy efficiency. The report outlines how government leadership and commitment to policy and institutional reform is essential to inspiring investor confidence. In chapter 2, ‘Creating the conditions for investment’, the report gives detailed guidance on priority policy, institutional, industry, and financial sector conditions that can attract scaled up investment.

***Unlocking finance for clean energy: The need for ‘investment grade’ policy* (Chatham House, 2009, 8 pp)**

This briefing paper looks at what policy needs to deliver to provide the conditions for scaled up investment in renewable energy, drawing on work with leading mainstream financiers. It covers some of the fundamental issues at the heart of investment decisions, and the importance of policy design and clear evidence that governments are serious about their policy goals and achieving them. This paper contributed to a major body of work taken on by the Capital Markets Climate Initiative in the UK (see following resource).

Principles for investment grade policy and projects (CMCI, 2012, 52 pp)

This document sets out five operational principles for creation of an ‘investment grade’ policy environment, as developed by the Capital Markets Climate Initiative. These principles are aimed at policymakers from developed and developing countries, to help address the issue of how to use public policy and public sector capital to leverage private sector capital into investment in climate change. The purpose is to help policymakers assess and plan national policy that will lead to long term capital investment in climate change solutions. Chapter 3 of the document sets out the five principles that cover dialogue, policy framework, price signals, economic drivers, and government programs. Annex 2 provides detailed case studies on experiences of developed and developing countries in managing their investment environment. Annex 3 provides more detail on key aspects of the investment grade principles.

Towards a green investment policy framework: The case of low-carbon, climate-resilient infrastructure (OECD, 2012, 60 pp)

This report aims to advise governments on how to create and improve domestic enabling conditions to shift and scale up private sector investments in green infrastructure, as part of their agenda to finance their transition to a low carbon, climate resilient economy. The target audiences are national policymakers and their advisors in developed and developing countries, who are looking to increase private sector participation to finance a transition to low carbon and climate resilient development. Section 3 outlines five key elements of a policy framework to mobilize private sector investment: (1) goal setting and aligning policy goals across and within levels of government; (2) reforming policies to enable investment and strengthen market incentives; (3) establishing specific financial policies that provide transitional support for new green technologies; (4) harnessing and scaling up resources; and (5) establishing practices that promote green business and consumer behavior, such as information and education policies.

Aligning policies for a low carbon economy (OECD/IEA/ITF/NEA, 2015, 242 pp)

This very detailed and comprehensive report presents a broad diagnosis of the coherence between overall policy and regulatory frameworks, and climate goals. It identifies a number of opportunities for realigning policies to enable an efficient and cost effective shift to a low carbon economy, across four policy domains (investment, taxation, innovation and skills, and trade) and three specific areas that are important for the low carbon transition (electricity, urban mobility, and rural land use). Chapter 2 of the report (especially pp. 54–58) discusses the importance of the enabling environment and of aligning investment policies with climate goals. Chapter 3 discusses taxation policies and subsidies and how they can undermine climate action. Also available in French and German.

Fossil fuel subsidy reform: From rhetoric to reality (ODI/New Climate Economy, 2015, 88 pp)

In order to support governments and other stakeholders that are seeking to understand the potential for fossil fuel subsidy reform, or are planning to undertake or provide financial assistance for wider programs of energy subsidy reform, this report outlines the current scope and scale of subsidies for fossil fuels; the economic, social, and environmental costs of fossil fuel subsidies; emerging evidence of the global benefits of reforming fossil fuel subsidies; potential barriers to subsidy reform; drivers and opportunities for reform; key principles for national level reform; and current opportunities to accelerate reforms on fossil fuel subsidies through international support. The report also contains 15 case studies of fossil fuel reform across developed and developing countries.

Fossil fuel subsidy reform in sub-Saharan Africa: From rhetoric to reality (ODI/New Climate Economy, 2015, 42 pp)

This working paper, complementing the report above, presents a regional report on sub-Saharan Africa, with more specific guidance on reform of fossil fuel subsidies that could apply to countries in that region.

Country examples

Kenya's National Climate Change Action Plan – Finance – Section E: Investment climate for climate investment (Government of Kenya, 2012, 31 pp)

The purpose of this section of Kenya's National Climate Change Action Plan is to assess the broader enabling framework and environment for private sector low carbon investment in Kenya, so as to provide recommendations for improvement. It addresses the policy and regulatory environment for renewable energy and energy efficiency, and the existence of government incentives and barriers in that environment. It analyzes the issue of how to access finance and the relevant barriers, and looks at perceived and actual institutional strengths and weaknesses of businesses and financial institutions. Finally, it makes a series of recommendations for improvement, including on potential implementing agencies.

Mobilizing climate investment: The role of international climate finance in creating readiness for scaled-up low-carbon energy (Chapter 3: pp. 21–43) (WRI, 2013, 68 pp)

Chapter 3 of this report (listed above) contains six case studies: energy efficiency in India and Thailand; wind power in South Africa and Mexico; solar water heaters in Tunisia; and geothermal power in Indonesia.

Introductory resources

1 Understanding the situation

2 Planning and coordinating

3 Creating an enabling environment

4 Using public finance

5 Designing financial instruments

6 Developing good projects

4 Using public finance

[4.1 Managing national finance](#)

[4.2 International climate finance](#)

[4.3 Climate finance readiness](#)

[4.4 The Green Climate Fund](#)

[4.5 Direct access](#)

The finance needed to achieve LEDS and NDC goals in both mitigation and adaptation will need to come from both public and private sources. It is widely accepted now that the private sector will provide the vast majority of this investment, but public finance has a key role to play in stimulating and leveraging private investment. The specific instruments that are needed to address private finance's risk and return requirements are covered in [section 5](#), while this section presents resources on where public finance might come from and how it can be accessed and managed, including the roles of both national budgets and international public climate finance.

Featured resources

***Planning for NDC implementation: Quick start guide and reference manual* (Finance: pp. 68–77) (CDKN/Ricardo Energy & Environment, 2016, 92 pp)**

CDKN's NDC implementation reference manual was produced to support developing countries in implementing their NDCs. In the Finance chapter, activities 5 (Assess public and private financing options) and 7 (Secure direct access to international climate funds for national and subnational institutions) are relevant here. For further information on this manual see [Introductory resources](#).

***Making sense of climate finance: Linking public finance and national climate change policy in the Asia-Pacific region* (UNDP, 2013, 32 pp)**

This paper provides central policy decision makers and donors with accessible guidance on how governments can make use of their national budget systems to prioritize a response to climate change. It also explores how governments can make complementary use of domestic and international sources of public finance to resource a climate change response. Targeted principally at central policy decision makers, the paper may also be of interest to researchers and those working with donors who are involved in financing public interventions on climate change in developing countries. Chapters 3 and 4 provide an introduction to national budgeting processes and how international climate finance can support and complement these.

4.1 Managing national finance

The full cost of all desired policy interventions will always be greater than the total resources available to government: whether in the field of climate change or health, in a developing or developed country. While this does not lessen the importance of mobilizing additional resources for climate change (for example from the private sector) it does highlight the need to make choices over how government can best achieve its objectives given the resources available. Amongst other things this means effective and efficient management of national public finance. National budget processes provide a framework through which priorities can be balanced and trade-offs understood. There is a growing body of work exploring the integration of climate objectives into national budgets, including the Climate Public Expenditure and Institutional Reviews. (Adapted from *Making sense of climate finance: Linking public finance and national climate change policy in the Asia-Pacific region*, UNDP, 2013.)

Key resources

Budgeting for climate change: How governments have used national budgets to articulate a response to climate change. Lessons learned from over twenty climate public expenditure and institutional reviews (UNDP, 2015, 56 pp)

UNDP first developed the CPEIR methodology in 2011. Since then, over 20 countries around the world have completed or are implementing CPEIRs. This report synthesizes the lessons learned from this growing body of knowledge, organized against three pillars of the CPEIR process: evaluation of national policies; analysis of the institutions involved; and financial review of climate relevant expenditures. Annex 6 contains a general comparative analysis of the different methodological frameworks used to assess public management of climate finance: CPEIR (UNDP), CPEIR (World Bank), Climate Finance Readiness Assessment (GlZ), and the Pacific Climate Change Finance Assessment Framework.

A methodological guidebook: Climate public expenditure and institutional review (CPEIR) (UNDP, 2015, 72 pp)

This guidebook to the CPEIR approach seeks to equip relevant stakeholders (governments, donors, CPEIR practitioners) with information on a step by step process, methodologies, and tools to conduct a CPEIR. For further information on this guidebook see [1.1](#).

Public spending on climate change in Africa: Experiences from Ethiopia, Ghana, Tanzania and Uganda (ODI, 2016, 147 pp)

The primary objective of this study is to understand the extent to which public expenditure responds to national climate change policy and the institutional demands required to implement it. The first part introduces the concept of climate change finance and outlines the effectiveness framework used in each of the country studies. The second part provides in-depth country accounts for Ethiopia, Ghana, Tanzania, and Uganda on the level and nature of public spending relevant to climate change, set in the context of each country's macroeconomic and public finance management systems. The final section concludes by drawing lessons for climate change policy development, institutional strengthening, local delivery of climate change finance, and the monitoring of public finance, based on the insights gained from the country studies. This is a very detailed study, and perhaps the lessons presented in part C will be most useful.

Country examples

Sixteen Asian country reports on climate public expenditure and institutional reviews (CPEIRs) and climate fiscal frameworks (Governance of Climate Change Finance/UNDP, various years)

A CPEIR is a systematic qualitative and quantitative analysis of a country's public expenditures and how they relate to climate change. It can be a useful tool for national planning and budgeting, especially for identifying and tracking budget allocations that respond to climate change challenges. Since 2011, CPEIRs have been conducted in many countries in the Asia-Pacific region. This website presents the CPEIR reports along with the climate fiscal framework (also known as climate change financing framework) reports for those countries that have completed them. A climate fiscal framework is a whole-of-government approach that engages all relevant stakeholders toward the mobilization and management of climate change finance, typically developed following the undertaking of a CPEIR.

Public spending on climate change in Africa: Experiences from Ethiopia, Ghana, Tanzania and Uganda (Part B, chapters 5–8: pp. 37–84) (ODI, 2016, 147 pp)

The primary objective of this study is to understand the extent to which public expenditure responds to national climate change policy and the institutional demands required to implement it. For further information see [4.1](#).

4.2 International climate finance

The global climate finance architecture is complex and evolving. Funds flow through multilateral channels—both within and outside of UNFCCC financing mechanisms—and increasingly through bilateral as well as through regional and national climate change channels and funds. A major new fund, the Green Climate Fund, has joined this landscape, and a growing range of financial instruments are being used to deliver finance. Limited coordination among these many funds and channels makes this landscape difficult to navigate, but as volumes of finance grow, and as developing countries need increasing amounts of financial support to implement their NDCs, there is a real need for all involved to understand the climate finance landscape. The resources in this section provide overviews and introductory information about the landscape of climate finance and about specific aspects and funds. (Adapted from *The global climate finance architecture*, ODI/Heinrich Böll Stiftung, 2016.)

Key resources

***The global climate finance architecture: Climate Finance Fundamentals 2* (ODI/Heinrich Böll Stiftung, 2016, 5 pp)**

This brief from the Climate Finance Fundamentals series (see below) provides an introduction to climate finance and explains the different channels through which climate finance flows. It briefly describes the main multilateral and bilateral channels and funds, and summarizes the current climate finance architecture in a useful diagram.

***Climate Finance Fundamentals briefing series* (ODI/Heinrich Böll Stiftung, 2016, 4–8 pp)**

This series of short introductory briefings on various aspects of international climate finance is designed for readers new to this critical area. The briefs outline the principles of public climate finance and the emerging global climate finance architecture, and address the instruments, needs, and actual funding amounts in the action areas of adaptation, mitigation, and forest protection (REDD+). Several briefs look at the climate funding situation for specific regions of the world. Also available in Spanish and French.

***The future of the funds: Exploring the architecture of multilateral climate finance* (WRI, 2017, 94 pp)**

This report from the World Resources Institute looks in detail at the global climate finance architecture and makes recommendations for improving the effectiveness of global climate finance. Part 1 introduces the global context and provides a snapshot of the finance landscape. Part 2 then explores in more detail seven of the main multilateral climate funds and compares their performance across a number of dimensions. Further useful information about the funds can be found in the appendix.

***Climate Finance Landscape* (CPI, 2015/16)**

Climate Policy Initiative produces the most comprehensive inventories of climate change investment available and is committed to improving understanding of climate finance flows at the global, national, and local levels. This site presents the key findings from their latest Global Landscape of Climate Finance reports, showing where the money is being spent and how much comes from public versus private sources.

***Global climate finance: An updated view on 2013 and 2014 flows* (CPI, 2016, 13 pp)**

Climate Policy Initiative's Global Landscape of Climate Finance publications track global flows of climate finance. For further information on this update see [5.2](#).

***Climate Funds Update* (ODI/Heinrich Böll Stiftung, 2017)**

This is an independent website providing information on the growing number of international climate finance initiatives designed to help developing countries address the challenges of climate change. The site details: where and by whom climate change funds are being developed; the scale of proposed and actual financing; and what the funds support in terms of focus, regions, and particular projects.

Country example***Landscape of REDD+ aligned finance in Côte d'Ivoire (CPI, 2017, 48 pp)***

This study identifies the nature and volume of domestic and international public finance that contributed to limiting deforestation and encouraging sustainable land use in Côte d'Ivoire in 2015, and also identifies opportunities to increase finance available for implementation of the National REDD+ Strategy. For further information on the study see [1.1](#).

4.3 Climate finance readiness

Climate finance readiness reflects a country's capacity to plan for, access, and deliver climate finance, as well as to monitor and report on expenditures. It is widely recognized that direct access to, for example, the Green Climate Fund will require a level of capacity by governments and other actors involved to prepare national mechanisms to access, allocate, disburse, and report on climate finance. These mechanisms must be compatible not only with the Fund's requirements, but also with the country's planning, budgeting, programming, and monitoring procedures and systems. In other words, developing countries will need to get ready for Green Climate Fund and other climate financing. This section presents some resources to help countries think about how to assess and improve their level of climate finance readiness. (Adapted from GCF Readiness Programme, UN Environment/UNDP/WRI.)

Key resources***Readiness for climate finance: A framework for understanding what it means to be ready to use climate finance (UNDP, 2012, 32 pp)***

This paper presents a framework for understanding what it means to be 'ready' to use climate finance in a transformative way at the national level. The intended audience is policymakers at both international and national levels in developing countries. The paper provides a framework to assess and improve policymakers' capacity to put in place nationally appropriate systems to manage climate finance. It is not intended as a guidebook per se, rather as an introduction to both the national challenges arising from increasing flows of climate finance, and some examples of the routes available for overcoming these challenges. For further information on this framework see [1.3](#).

Ready for climate finance: GIZ's approach to making climate finance work (GIZ, 2013, 8 pp)

This brief outlines GIZ's approach to provision of support in the field of climate finance. It describes the services GIZ offers under each of five modules, and explains why each module is important. The modules are: strategic planning and developing policies; strengthening institutions and good financial governance; accessing international climate finance; effective and transparent spending and implementation; and promoting private sector engagement.

Green Climate Fund > Empowering countries > About Readiness Support (GCF, 2017)

This webpage describes the Green Climate Fund's Readiness Programme and available funding. For more on the Green Climate Fund see [4.4](#).

Country example***Enhancing India's readiness to access and deliver international climate finance (Ricardo-AEA, 2014, 110 pp)***

This report identifies opportunities for India to strengthen its ability to effectively access and deliver increasingly large volumes of international climate finance. It examines the climate finance landscape, India's experience in accessing climate finance, national policies to address climate change, and the effectiveness of India's institutional management of climate change. The report uses a climate finance readiness framework that analyzes these main topics to assess the strengths, barriers, and gaps in India's ability to access international climate finance.

4.4 The Green Climate Fund

The Green Climate Fund is the newest actor and the largest multilateral fund in the climate finance architecture. It became fully operational in 2015. Its initial resource mobilization led to over US\$10 billion being pledged, and it is expected to be the principal channel through which climate finance flows from developed to developing countries. As such it is currently of great interest to developing countries as a source of finance for their mitigation and adaptation projects (and this is why it features its own section in this guide, unlike other funds). The resources and links here provide introductory information on how the Green Climate Fund works.

Key resources

***The Green Climate Fund: Climate Finance Fundamentals 11* (ODI/Heinrich Böll, 2016, 8 pp)**

This briefing provides a snapshot of the operationalization and functions of the Green Climate Fund at that point. It provides a useful overview of the Fund's history and a high level overview of some key aspects of how the Fund works, including its results frameworks, financial instruments used, country ownership, access modalities, accreditation framework, and readiness support. A list of all projects approved at the time of publication is included.

***Green Climate Fund proposal toolkit 2017: Toolkit to develop a project proposal for the GCF* (Acclimatise/CDKN, 2017, 112 pp)**

This toolkit aims to help private sector entities understand the key considerations and to fulfill the Fund's requirements when developing proposals for the Green Climate Fund. It was developed for Bangladesh, but nearly all of the content is also relevant to other countries. The guide covers the essential details of the Green Climate Fund, its project cycle, proposal template, and key project development requirements, and provides guidance on how to get started.

***GCF 101 – A comprehensive guide on how to access the Green Climate Fund* (GCF, 2017)**

The GCF produced this guide to act as a simple, comprehensive road map for anybody who would like to access the financial resources of the Fund. The guide addresses the different funding opportunities the Fund provides. It is structured in four sections: Empowering Countries (which covers the Readiness Support the GCF provides to help countries prepare to access the Fund); Getting Accredited (which describes how the GCF channels its funding via Accredited Entities, and how to become one); Funding Projects (the process of preparing projects and submitting them for evaluation by the Fund); and Implementing Projects (which covers the legal and monitoring arrangements necessary for project implementation). Each section provides a simple overview, a step by step guide on how to apply, and a set of frequently asked questions. Links to more detailed documents and templates are provided throughout the guide. For further information on direct access see [4.5](#).

Country example

***What we do > Projects and programmes* (GCF, 2017)**

These pages provide summary information about the focus, impact, funding, and key partners of approved Green Climate Fund projects, as well as providing links to documents such as the original funding proposals.

4.5 Direct access

Developing countries need significant amounts of finance to help them adapt to the changing climate and follow a path of low carbon development. The international community has set up multilateral funds to help support climate change mitigation and adaptation in these nations. Two of the largest climate funds, the Adaptation Fund and the Green Climate Fund, have committed to allowing institutions from developing countries 'direct access' to finance. Direct access in this context means that national or subnational entities become accredited to receive finance directly from the fund without going through an international

intermediary (such as the World Bank or a regional development bank). The goal of such direct access is, among other things, to reduce transaction costs and enhance national ownership over available financing. (Adapted from *'Direct access' to climate finance: Lessons learned by national institutions*, WRI, 2015.)

Key resources

***'Direct access' to climate finance: Lessons learned by national institutions* (WRI, 2015, 32 pp)**

Developing countries need large amounts of finance to support ambitious climate actions. This paper highlights lessons for developing country institutions seeking access to funding from the multilateral climate funds. It explores the experiences to date of national institutions that have been accredited by either the Adaptation Fund or the Green Climate Fund. The paper focuses on approaches these institutions have taken to plan for, access, and use finance received through direct access, and early lessons learned in the process. Its primary target audience is other institutions that plan to seek direct access to finance from these two or other relevant funds.

***Simplified guidebook for direct access accreditation to the Green Climate Fund* (UNEP/UNDP/WRI, 2016, 7 pp)**

Funds from the Green Climate Fund will flow directly to Accredited Entities for project/program implementation. Accredited Entities may be subnational, national, regional, or international entities that are public, private, or nongovernmental. This guidebook is a simplified version of the *Comprehensive guidebook* (see following resource). It provides an overview of the key elements of the accreditation process and best practice for completing the process.

***Comprehensive guidebook for direct access accreditation to the Green Climate Fund* (UNEP/UNDP/WRI, 2016, 27 pp)**

This full version of the *Simplified guidebook* (see previous resource) covers in more detail the key aspects of direct access accreditation, including accreditation requirements, accreditation stakeholders, the accreditation process, and lessons learned.

***How we work > Getting accredited* (GCF, 2017)**

This webpage describes the accreditation process for the Green Climate Fund (necessary for direct access). It provides links to key guidance documents and the GCF Accreditation Self-Assessment Tool, which helps organizations understand whether they might be suitable for accreditation. For further information on the Green Climate Fund see [4.4](#).

Country example

The WRI report *'Direct access' to climate finance: Lessons learned by national institutions* (see [Key resources](#) above) includes interviews with 15 entities with direct access, and presents different aspects of their experiences.

5 Designing financial instruments

[5.1 General resources](#)

[5.2 Sources of private finance](#)

[5.3 Risk mitigation](#)

[5.4 Guarantees](#)

[5.5 Feed-in tariffs and auctions](#)

[5.6 Taxes and tax incentives](#)

[5.7 Carbon pricing](#)

Green projects often appear to present higher risks to investors due to the higher capital costs often associated with green—and perhaps unproven and unfamiliar—technologies; the financing risks from immature financial markets and institutions; the perceived risk associated with finance in a particular country and sector; and policy risks. These latter risks are not specific to green growth investments, but where they do apply they add to the already higher risk profile of green projects. Their impact will vary depending on sector and country context. The real or perceived risks associated with green projects may lead to their rejection by private investors. Providing access to capital through public direct investment will not fix this problem on its own; targeted financial instruments are required to restructure risks or increase returns in order to attract private capital. This section presents resources on a range of instruments that may be used to stimulate investment in LEDS and NDCs. (Adapted from Green Growth Best Practices website.)

5.1 General resources

A large number of resources have been produced in recent years on the topic of financial instruments that can be used to stimulate investment in low carbon markets. Many of these cover several different instrument types, including those focused more on reducing risks, and more on increasing returns. This section presents a selection of these more general resources about instruments, including both introductory resources and more comprehensive resources and frameworks. A number of case studies showing how countries have implemented different instruments are provided, either within the main resources or as standalone case study documents.

Key resources

Financial incentives to enable clean energy deployment: Policy overview and good practices (Clean Energy Solutions Centre/NREL, 2016, 17 pp)

This policy brief serves as a useful primer on the use of incentives for clean energy and energy efficiency. It introduces the main types of incentive (including tax measures, rebates and performance based incentives, and loans and credit enhancements), and outlines key design elements for incentives, as well as showcasing some lessons from different country experiences. The references list further useful resources for more detailed, country specific information on financial incentive design.

Moving the fulcrum: A primer on public climate financing instruments used to leverage private capital (WRI, 2012, 36 pp)

This paper from WRI serves as a useful introduction to the use of financial instruments to promote climate action from the private sector. It demonstrates how the public sector can employ different types of public financing instruments—whether loans, equity, or derisking instruments—alongside policy and technical support to scale up private sector investment in low carbon markets. Appendix 1 (also available as a standalone document) contains a useful glossary explaining a range of instruments.

Derisking renewable energy investment: A framework to support policymakers in selecting public instruments to promote renewable energy investment in developing countries (UNDP, 2013, 151 pp)

The DREI framework systematically identifies the barriers and associated risks that can hold back private sector investment in renewable energy. It assists policymakers to put in place packages of targeted public interventions to address these risks. Each public intervention acts in one of three ways: reducing, transferring, or compensating for risk. The overall aim is to cost effectively achieve a risk return profile that catalyzes private sector investment in developing countries at scale. The report describes the framework's four stages: risk environment; public instruments; levelized cost; and evaluation. Section 2.2 of the report provides a guide for selecting specific instruments to address the risks and barriers identified, and for quantifying their impact. To illustrate how the framework can support decision making in practice, it presents findings from illustrative case studies for large scale wind energy in four developing countries (Kenya, Mongolia, Panama, and South Africa).

Designing smart green finance incentive schemes: The role of the public sector and development banks (E3G, 2014, 32 pp)

This paper identifies criteria and principles for assessing whether a green incentive scheme is 'smart,' and uses these to evaluate financial instruments most commonly used in designing green incentive schemes (concessional lending). This includes green credit lines, grants for technical assistance and investments, and guarantees and insurance products. Chapter 5 of the publication provides a case study analysis of the use of these green financial incentives (6 pp). The authors note that while this paper focuses on the role of development finance institutions in the design of smart green incentives, such work should ideally be led by developing country governments and their national development finance institutions.

The design and sustainability of renewable energy incentives: An economic analysis (World Bank, 2015, 311 pp)

This comprehensive study assesses the effectiveness of different types of incentive mechanism for renewable energy, including feed-in tariffs, portfolio standards, quotas, auctions, and avoided cost tariffs. It presents a global taxonomy of the different economic and financial incentives provided by renewable energy support schemes. The study considers the effectiveness of incentive mechanisms, the details of tariff design, the integration of climate finance considerations into existing regulatory processes, and financing and affordability issues. The work is based on detailed case studies of Brazil, Egypt, Indonesia, South Africa, Sri Lanka, Tanzania, Turkey, and Viet Nam, which are included in the report. This study will be of use to policymakers and advisors considering the design of incentive schemes and who wish to take economic principles and evidence into account when setting targets and tariffs.

Country examples

Using private finance to accelerate geothermal deployment: Sarulla geothermal power plant, Indonesia (CPI, 2015, 30 pp)

This case study analyzes the Sarulla geothermal power plant which, if successful, will be the largest single contract geothermal power plant project in the world, with a total capacity of 330 megawatts in 2018. The project has the highest private sector involvement of any geothermal project on a previously undeveloped field in Indonesia, thanks to substantial public support provided through a package of instruments: financing, guarantees, and a feed-in tariff.

San Giorgio Group > Publications (CPI, 2017)

CPI's Publications webpage features case studies exploring best practice in the use of public finance to stimulate private investment. Numerous technologies and instruments are covered.

Taxes and incentives for renewable energy (KPMG International, 2015, 80 pp)

While this report is principally designed to help companies and investors stay current with government policies and programs that support renewable energy, it does provide a useful summary of tax and nontax incentives in use in 31 countries, which may be helpful for developing country policymakers who wish to see which incentive measures are being used in other countries, as a starting point for comparative analysis. The table on p. 10 summarizes the different instruments used in these countries, and the following country pages provide brief information about the specific incentives.

UNDP's *Derisking renewable energy investment: A framework to support policymakers in selecting public instruments to promote renewable energy investment in developing countries* (see [Key resources](#), this subsection) presents four illustrative case studies for wind energy in Kenya, Mongolia, Panama, and South Africa.

E3G's *Designing smart green finance incentive schemes: The role of the public sector and development banks* (see [Key resources](#), this subsection) contains case studies in chapter 5.

The World Bank's *The design and sustainability of renewable energy incentives: An economic analysis* (see [Key resources](#), this subsection) contains eight detailed case studies on Brazil, Egypt, Indonesia, South Africa, Sri Lanka, Tanzania, Turkey, and Viet Nam.

5.2 Sources of private finance

Across debt and equity there is a diverse ecosystem of sources of capital for financing renewable energy and other low carbon options. This includes investors from across the finance sector with different appetites for risk and different return expectations. Policymakers looking to increase the levels of green investment in their country and to finance their NDCs should have a good understanding of the sources of capital available, and which are most appropriate for different project types. These resources provide an introduction to different types of finance and to which might be most appropriate for particular investment opportunities, based on their characteristics. (Adapted from *Finance guide for policy-makers: Renewable energy, green infrastructure*, BNEF/Chatham House/Frankfurt School – UNEP Collaborating Centre, 2016.)

Key resources***Finance guide for policy-makers: Renewable energy, green infrastructure* (BNEF/Chatham House/Frankfurt School – UNEP Collaborating Centre, 2016, 98 pp)**

This guide provides an introductory and factual overview of the landscape of finance as it relates to renewable energy and green infrastructure investment (including energy efficiency), and outlines how transactions work. Section 1, on finance basics and sources of capital, introduces the different financial institutions (banks, institutional investors, different types of funds, impact investors), explains the roles of the debt and equity markets, and introduces the concepts of yieldcos and green bonds. A brief exploration of cost of capital is provided in section 1.4. Section 2.4, on completing a transaction, shows how the types of finance are brought together to finance individual projects.

***Demystifying private climate finance* (UNEPFI, KPMG, SDC, AusAid, 2014, 62 pp)**

This report from the United Nations Environment Programme's Finance Initiative provides a clear explanation of the types of private finance and their key characteristics. Part A explains the different types of private finance, and describes the variety of sources, intermediaries, legal considerations, and investment objectives found in the private finance landscape. Part B then analyzes the types of private finance that are particularly relevant to a sample of mitigation and adaptation activities; explains why different project types require different forms of 'private finance' to succeed; and explains how the specific characteristics of the project type affect the forms of public intervention that are needed to attract private sector finance. For further information on this report see [1.4](#).

Catalyzing climate finance: A guidebook on policy and financing options to support green, low-emission and climate-resilient development (UNDP, 2011, 160 pp)

This general resource covers many aspects of financing LEDS. It outlines a four step methodology to assist developing countries to select and deploy an optimal mix of public policies and financing instruments to catalyze climate finance in line with national development priorities. For further information on this guidebook see [Introductory resources](#).

Global climate finance: An updated view on 2013 and 2014 flows (CPI, 2016, 13 pp)

Climate Policy Initiative's Global Landscape of Climate Finance publications track global flows of climate finance. In addition to commentary about the nature of recent flows, the summary graphic presented in annex B of this update report clearly shows relative size of the main types of finance (balance sheet financing, market rate debt, low cost project debt, equity) that make up climate finance flows in recent years, as well as what kinds of institutions these flows come from.

Country examples***Aligning Kenya's financial system with inclusive green investment (UNEP Inquiry/IFC, 2015, 80 pp)***

This report explores Kenya's financial system from a green investment perspective. It focuses on policy, structural, and investment innovations across the economy and financial sector that would increase capital flows that support sustainable development. Chapter 3 describes the different sources of capital in the Kenyan financial sector, covering the banking sector, retirement/pension funds, insurance funds, capital markets, private equity, savings and credit cooperatives, and foreign direct investment. For each source covered, the chapter explores market composition, policy and regulation, and barriers and potential solutions relating to green investment.

UN Environment > Inquiry: Design of a sustainable financial system (UN Environment, 2017)

Other UNEP Inquiry country papers are available via this webpage, including those for Bangladesh, Colombia, Indonesia, and South Africa.

5.3 Risk mitigation

Underlying market barriers and a perception of high risk constrain the development and financing of renewable energy and other mitigation projects. Although falling renewable energy technology costs have significantly lowered the capital needed to invest in new systems, financing renewable energy projects is still difficult in many parts of the world. This is due to the high cost of capital elevated by risks and to underlying market barriers. Identifying attractive projects and gaining access to capital often presents a key barrier to renewable energy investments. Project risk can take multiple forms. These include political and regulatory risk; counterparty, grid, and transmission link risk; currency, liquidity, and refinancing risk; as well as resource risk, which is particularly significant for geothermal energy. Policymakers, financial institutions, and investors can draw from a strong toolkit to help overcome these barriers, mitigate investment risk, and improve access to capital for their LEDS and NDCs. (Adapted from *Unlocking renewable energy investment: The role of risk mitigation and structured finance*, IRENA, 2016.)

Key resources***Unlocking renewable energy investment: The role of risk mitigation and structured finance (IRENA, 2016, 145 pp)***

This report identifies the main risks and barriers limiting investment, supplying a toolkit for policymakers, public and private investors, and public finance institutions to scale up their investments in renewable energy. The report is meant to serve as an all-in-one guide to the key financial market instruments for renewables,

but many of the instruments are relevant for other low carbon markets. In particular, chapter 3 (28 pp) introduces a range of instruments that can be used to address investment risks: guarantees and insurances, currency risk mitigation instruments, liquidity risk mitigation instruments, and specific geothermal resource risk mitigations. Chapter 5 presents three case studies (offshore wind, geothermal, solar), in each case looking at the project structure and success factors.

Derisking renewable energy investment: A framework to support policymakers in selecting public instruments to promote renewable energy investment in developing countries (UNDP, 2013, 151 pp)

The DREI framework systematically identifies the barriers and associated risks that can hold back private sector investment in renewable energy. This report describes the framework's four stages: risk environment; public instruments; levelized cost; and evaluation. For further information on the report see [5.1](#).

Risk management for energy efficiency projects in developing countries (UNIDO, 2011, 58 pp)

This paper addresses risk management fundamentals for energy efficiency projects in developing countries, in particular industrial energy efficiency projects. It explores the nature of the risks presented by projects, and discusses best practices for energy efficiency project risk management with illustrative case studies. It also describes behavioral and other obstacles to effective risk management, together with methods for overcoming these obstacles. The role of energy service companies is also considered in identifying and managing projects and reducing risks. The paper concludes with recommendations for companies and those promoting energy efficiency schemes in emerging economies.

Energy service companies (ESCOs) in developing countries (IISD, 2010, 72 pp)

This paper examines the potential for energy service companies to accelerate uptake of energy efficiency in developing countries, focusing on barriers to their growth and measures to eliminate those barriers. Using an energy service company can greatly reduce the risk of energy efficiency projects for clients. Section 1 discusses what energy service companies are and how they operate, and reviews the potential and current status of such companies in developing countries. Section 2 examines programs currently in place to foster the growth of energy service companies. In section 3, barriers to energy service company development are considered in detail, and section 4 highlights some of the measures that might be put in place to overcome these barriers.

Country examples

Unlocking renewable energy investment: The role of risk mitigation and structured finance

(see [Key resources](#), this subsection) presents three case studies (offshore wind, geothermal, solar).

Risk mitigation instruments for renewable energy in developing countries: A case study on hydropower in Africa (CPI, 2015, 44 pp)

This case study examines the 250 megawatt Bujagali Hydropower Project in Uganda, which raised close to US\$300 million in commercial loans and private equity, an unprecedented amount of private finance in a low income country. The study is explored from a project finance perspective. It is one of very few examples of large project finance structures simultaneously to use different risk mitigation instruments provided by the World Bank Group—a partial risk guarantee from the International Development Association; and the Multilateral Investment Guarantee Agency's political risk insurance. It offers an opportunity to analyze how these particular instruments interact, and how effective they are in driving private investment and reducing the cost of renewable power in developing countries with high investment risks and very little private investment. The study also examines how these instruments might be applied to drive private investment in other renewable energy projects in developing countries.

5.4 Guarantees

Various types of guarantee can be used to address different types of risk related to green projects. In some cases, guarantees may cover risks related to the lack of collateral and the credit risk perception on the part of lenders (credit guarantees, also called partial credit guarantees). In other cases, guarantees can cover uncertainty around the amount of cash flow that projects may be able to generate from their performance (performance risk guarantees). The basic principle of a credit guarantee scheme is that a third party (the guarantor) shares the credit risk of a project with the lender and takes all or part of the losses incurred by the lender in the event of default by the borrower. The objective of the guarantee is thus to lower the residual credit risk for the lender. This is why guarantee schemes are often used to unlock cases where a market is underserved by the financial sector because of the real or perceived risks. (Adapted from *Guarantees for green markets: Potential and challenges*, IDB, 2014.)

Key resources

***Publicly backed guarantees as policy instruments to promote clean energy* (UNEP SEF Alliance, 2010, 123 pp)**

This report provides a comprehensive introduction to the topic of publicly backed guarantees and how they can be used to promote investment in renewables and energy efficiency. The executive summary (10 pp) is written for policymakers and gives a high level overview of where and how publicly backed guarantees are used, and recommendations for the design, preparation, and implementation of such programs. Chapter 1 of the report places publicly backed guarantees in the context of the financial system; chapter 2 explores their economic justification; and chapter 3 provides a survey of different types of publicly backed guarantee. Chapters 4–7 provide detailed examples of publicly backed guarantees in use.

***Guarantees for green markets: Potential and challenges* (IDB, 2014, 66 pp)**

This report from the Inter-American Development Bank considers some of the challenges of investing in low carbon markets, explores how guarantees (principally credit guarantees) can respond to those challenges, and provides various examples of guarantees used in Latin America and the Caribbean. Chapter 5 of the report considers the advantages and disadvantages of different types of guarantee (credit and performance guarantees); chapter 6 provides case studies of the use of guarantees.

Country examples

Publicly backed guarantees as policy instruments to promote clean energy* and *Guarantees for green markets: Potential and challenges (both in Key resources, above) contain country examples within case studies.

***China—Utility-based Energy Efficiency (CHUEE) Finance Program* (World Bank/IFC, nd, 2 pp)**

Established in 2006 by the International Finance Corporation and partners, the CHUEE Program provides risk sharing facilities (in the form of a guarantee) and technical assistance to support energy efficiency measures in China. The identified barriers to uptake are difficulties in marketing energy efficiency products and in accessing credit for energy efficiency projects. Access to credit is particularly difficult for small and medium-sized enterprises; in addition, commercial banks lack experience in sustainable financing. CHUEE helps to address these barriers.

***China Utility-based Energy Efficiency (CHUEE) Finance Program* (IIP, 2012, 4 pp)**

The Institute for Industrial Productivity has also produced a case study on the CHUEE Program.

5.5 Feed-in tariffs and auctions

This section provides some introductory and more comprehensive resources on feed-in tariffs and auctions—two of the most widely adopted renewable energy support policies—as well as some case studies. Feed-in tariffs are designed to increase deployment of renewable energy technologies by offering long-term purchase agreements for electricity generation at a specified price per kilowatt-hour, thereby providing market certainty for developers. (Adapted from *Feed-in tariffs: Good practices and design considerations*, Clean Energy Solutions Centre/NREL, 2016.)

Renewable energy auctions are also known as demand auctions or procurement auctions, whereby a government issues a call for tenders to supply a certain capacity or generation of renewables based electricity. They can achieve deployment of renewable electricity in a well planned, cost efficient, and transparent manner while also achieving a number of other objectives. (Adapted from *Renewable energy auctions: A guide to design. Volume 1. Summary for policymakers*, IRENA/CEM, 2015.)

Key resources

***Feed-in tariffs: Good practices and design considerations* (Clean Energy Solutions Centre/NREL, 2016, 13 pp)**

This policy brief introduces the topic of feed-in tariffs, covering key design elements and good practices, and lessons from country experience. The references section lists further resources on policy design for feed-in tariffs, and experience. The information in this brief provides a good starting point for policymakers to think about the key questions relating to feed-in tariff design in their country context.

***Renewable energy auctions: A guide to design. Volume 1. Summary for policymakers* (IRENA/CEM, 2015, 52 pp)**

This guidebook assists policymakers in understanding different approaches to renewable energy auctions. It includes some specific country experiences, representing different contexts and circumstances, and offers lessons learned and best practices on how governments can design and implement auctions to meet their objectives. Chapter 2 of the guidebook contextualizes auctions within the larger realm of renewable energy support schemes, and gives an overview of their key strengths and weaknesses. Chapters 3–6 cover four key design elements of auctions—demand, qualification requirements, winner selection, and sellers' liabilities.

***Renewable energy auctions: A guide to design. Volumes 2–6* (IRENA/CEM, 2015)**

More detail on the specific design elements of auctions is available in five further volumes: volume 2 *Renewable energy policies and auctions*; and volumes 3–6 on auction design: 3 *Demand*; 4 *Qualification requirements*; 5 *Winner selection process*; 6 *Sellers' liabilities*.

***Feed-in tariffs as a policy instrument for promoting renewable energies and green economies in developing countries* (UNEP, 2012, 122 pp)**

This report is intended as a resource for policymakers in developing countries to make informed policy decisions about the 'whether,' 'when,' and 'how' of feed-in tariffs and to support nationally appropriate policy measures to scale up renewable energy. It also aims to improve understanding of the potential benefits and challenges for developing countries in designing feed-in tariffs, as well as the factors influencing their success. The report also analyzes the funding and capacity implications. Rather than identifying a set of rigid best practices, it outlines the range of possible designs that developing country policymakers may wish to pursue, and identifies the different drivers that may guide their decisions. Chapter 2 provides a general overview of feed-in tariff policies and design elements, and compares them with other instruments; chapter 3 provides guidance on drafting feed-in tariff laws; chapter 4 explores how to fund feed-in tariff policy; and

chapter 5 examines the human, technological, regulatory, and institutional capacity needed to implement such policies.

Country examples

***The design and sustainability of renewable energy incentives: An economic analysis* (World Bank, 2015, 311 pp)**

This World Bank report includes detailed case studies on feed-in tariffs and auctions (e.g. the studies on Brazil, Indonesia, Tanzania, South Africa, and Viet Nam). For further information on this report see [5.1](#).

***GET FIT Uganda Annual Report 2015* (GET FIT Uganda, 2015, 71 pp)**

Launched in May 2013, the GET FIT Uganda Program is designed to leverage private investment into renewable energy generation projects in the country. GET FIT is supported by several donors and the World Bank. The program targets the key barriers confronting investors looking at potential investments in small renewable energy projects (1–20 megawatts) in Uganda and aims to fast track up to 20 projects. Its main feature is a frontloaded, results based premium payment designed to top up Uganda's own renewable energy feed-in tariff. This report describes the main aspects of the program, early results achieved and future results expected, and how it is governed, monitored, and funded.

***Renewable energy auctions: Analysing 2016* (IRENA, 2017, 108 pp)**

At least 67 countries had used auctions for renewable energy contracts by mid-2016, up from fewer than 10 in 2005. This report provides key updates on this crucial mechanism for price discovery and market development by analyzing the results of renewable energy auctions around the world. It provides an overview of the most recent auctions, analyzes trends in auction prices and designs, and provides an in-depth overview of the interesting experiences and results. This analysis is meant to provide policymakers with a thorough understanding of the dynamics of auctions to support their design in particular, and to make informed decisions regarding the choice of policy instruments in general.

***Performance of renewable energy auctions: Experience in Brazil, China and India* (World Bank, 2014, 39 pp)**

This paper considers the design and performance of auction mechanisms used to deploy renewable energy in three emerging economies: Brazil, China, and India. The analysis focuses on the countries' experiences in various dimensions, including price reductions, bidding dynamics, coordination with transmission planning, risk allocation strategies, and the issue of domestic content.

***The South African Renewable Energy Independent Power Producers Procurement Programme (REIPPPP)—Lessons learned* (IPPPP, 2016, 21 slides)**

This presentation summarizes the rationale, design elements, results, and lessons learned from South Africa's successful Renewable Energy Independent Power Producers Procurement Programme.

5.6 Taxes and tax incentives

Fiscal policy provides a critical set of instruments for building green economies by pricing environmental externalities and redressing social impact. In particular, it can support the shift of investments toward clean and efficient technologies and activities. Environmental taxes have proven to be the most effective tool in not only addressing environmental externalities but also inducing green investment. Many countries employ tax breaks, or tax reliefs, to support renewable energies. Yet such support needs to be well targeted and closely monitored. In some cases, it is difficult to assess their overall impact. In general, taxing 'bad behavior' is preferable to subsidizing 'good behavior,' but in some cases both might be useful. (Adapted from *Fiscal policy: Green economy briefing paper*, UNEP, 2013.)

Key resources

***Fiscal policy: Green economy briefing paper* (UNEP, 2013, 4 pp)**

This short briefing paper provides a basic introduction to the role of fiscal policy in the transition to greener economies, in particular the use of environmental taxes. It also briefly covers energy subsidy reform and introduces some lessons learned from experience of fiscal policy reform so far.

***Providing incentives for investments in renewable energy: Advice for policymakers* (World Bank, 2011, 8 pp)**

This note provides a basic introduction to the use of incentives to support renewable energy investments. It is included here because it considers some general principles of when to use tax and nontax incentives, and outlines the main types of tax incentive (p. 3). The note briefly explores how tax and nontax incentives can be combined, and presents a short case study on how Spain combined tax and nontax incentives for renewable energy.

***Environmental taxation: A guide for policy makers* (OECD, 2011, 12 pp)**

This policy guide introduces the use of taxes to achieve environmental outcomes. It outlines why countries might consider using environmental taxes (rather than, for example, subsidies), and then explores some principles for how to design effective environmental taxes, including defining the target and scope of the tax, and setting the rate. It also briefly covers how the revenues raised can be used, and how to overcome obstacles to implementing environmental taxes.

***The Mirrlees Review, Volume 1: Dimensions of Tax Design (Chapter 5: pp. 423–547)* (IFS, 2010, 125 pp)**

The Mirrlees Review was an extremely comprehensive review of the design of a good tax system. This chapter, 'Environmental taxes', provides an overview of key economic issues in the use of taxation as environmental policy. Sections 5.2–5.4 discuss the economic principles of environmental taxation, reviewing the arguments for using taxes and other market mechanisms in environmental policy, the efficient design of environmental taxes, and the fiscal value of the revenue contribution from environmental taxes. Sections 5.5–5.8 apply these principles to four specific environmental tax areas—energy, road transport, aviation, and household waste.

***Taxes and incentives for renewable energy* (KPMG International, 2015, 80 pp)**

This report provides a useful summary of tax and nontax incentives in use in 31 countries, which may be helpful for developing country policymakers who wish to see which incentive measures are being used in other countries, as a starting point for comparative analysis. For further information on this report see [5.1](#).

Country example

***Investment incentives for renewable energy in Southeast Asia: Case study of Viet Nam* (IISD, 2012, 33 pp)**

In Viet Nam, investment incentives are provided in several ways, including taxation (e.g. favorable income tax rates), low import duties and fees, loss transfer, and accelerated depreciation of assets. This report assesses investment incentives for renewable energy in Viet Nam. It focuses on small hydro, wind, solar, biogas, and biomass resources. Section 4.4 of the report provides an overview of the different tax measures in Viet Nam's investment incentive framework that apply to all sectors, and section 4.6.2 presents preferential tax incentives for renewable energy companies in Viet Nam. The impact of different incentives is discussed in section 5, and conclusions are presented in section 6.

5.7 Carbon pricing

A price on carbon helps shift the burden for the damage back to those who are responsible for it, and who can reduce it. Instead of dictating who should reduce emissions where and how, a carbon price gives an economic signal and polluters decide for themselves whether to discontinue their polluting activity, reduce emissions, or continue polluting and pay for it. In this way, the overall environmental goal is achieved in the most flexible and least costly way to society. A carbon price also stimulates clean technology and market innovation, fueling new, low carbon drivers of economic growth. There are two main types of carbon pricing: emissions trading systems (ETS) and carbon taxes. (Adapted from World Bank > What we do > Pricing carbon.)

Key resources

Cap and trade: The basics (IETA, 2015, 1 p)

This one page summary explains the basics of how emissions trading works, what sectors are typically covered, how entities comply with trading schemes, and which countries have implemented trading schemes.

The bottom line on carbon taxes (WRI, 2008, 2 pp)

Climate policy debates often feature discussions about the role of a carbon tax, either as an alternative or as a supplement to a cap and trade program. This factsheet describes the similarities and differences between the two policy approaches and answers other common questions about a tax on carbon.

Putting a price on carbon: Reducing emissions (WRI, 2016, 36 pp)

Although written to explore the impact on the USA of a national carbon price, this issue paper provides a useful and clear explanation of how carbon pricing leads to reduced emissions, and investment in low carbon technology development and deployment, including from an economic perspective. The paper describes how and when emission reductions from a national carbon price are likely to take place in key sectors, showing for example that a strong carbon price will be transformative in the electricity sector, where systems are in place to shift production away from high carbon fuels when it becomes cost effective to do so, but more gradual in other sectors such as transport. This paper will be a useful resource for policymakers interested in how carbon pricing works.

The FASTER principles for successful carbon pricing: An approach based on initial experience (World Bank/OECD, 2015, 49 pp)

This report draws on a growing base of global experience in implementing carbon pricing mechanisms, as well as economic literature, to identify a set of principles—the FASTER principles—for successfully steering an economy toward the long term goal of decarbonization through the use of carbon pricing. It focuses on how to achieve this in a fair and transparent way that harnesses emission reduction opportunities at least cost, provides flexibility, and is aligned with other policies. It focuses on domestic carbon pricing mechanisms that put an explicit price on greenhouse gas emissions—whether through taxes or emissions trading systems. Throughout the report, brief case study examples are given to show how the principles are being used in different countries.

State and trends of carbon pricing 2016 (World Bank, 2016, 140 pp)

This report provides an up to date overview of existing and emerging carbon pricing instruments around the world, including national and subnational initiatives. It presents summary information on the level of coverage of the schemes and the prices prevailing in them. Section 2.3 describes developments in national and subnational schemes; section 3 focuses on the importance of aligning carbon pricing with the broader policy

landscape. The analysis provides lessons for policymakers on how to maximize synergies between climate mitigation and other related policies while managing potential tensions and trade-offs. This report is a useful and up to date summary of the state of carbon pricing around the world.

Effective carbon rates: Pricing CO₂ through taxes and emissions trading systems (OECD, 2016, 174 pp)

This detailed report from the Organisation for Economic Co-operation and Development presents the first comprehensive analysis of the extent to which countries use carbon prices. Chapter 2 (6 pp) discusses why carbon prices are an effective and low cost policy tool, exploring the environmental effectiveness of carbon prices and why they allow countries to reach their emissions targets in the cheapest possible way, as well as looking at the economic benefits of carbon pricing. Chapter 4 presents the results of the analysis of effective carbon rates in 41 (mainly OECD) economies.

Country example

The world's carbon markets: A case study guide to emissions trading (EDF/ICE/IETA, 2015, each approx. 12 pp)

This series presents 18 case studies of country, city, or regional carbon pricing schemes. Each includes a brief analysis of each program's unique features, as well as the challenges faced in its development, implementation, and operation. They also outline the key design elements, important issues, and results to date.

Introductory
resources

1 Understanding
the situation

2 Planning
and coordinating

3 Creating an
enabling environment

4 Using
public finance

5 Designing financial
instruments

6 Developing
good projects

6 Developing good projects

[6.1 General resources](#)

[6.2 Impact and transformation](#)

[6.3 Making projects financeable](#)

[6.4 Measuring, reporting, and verification](#)

To achieve the targets outlined in NDCs and other LEDS plans, countries will need to develop and then implement a range of interventions—these are the building blocks that collectively will achieve the overall outcomes sought. To secure international financial support for these actions and to encourage the private sector to participate, countries will need to develop good quality projects that make sense to the private sector and that meet the standards of international funders. The resources in this section provide guidance on how to develop good quality projects, both in general terms and focusing on making them both impactful (e.g. meeting the Green Climate Fund's requirement to achieve 'paradigm shift') and financeable. Most of the resources focus on NAMA projects, but will also be relevant for other kinds of project seeking international support, including from the Green Climate Fund. In many ways, this section is about how to package the concepts covered in preceding sections of this *Resource guide for NDC finance* into a specific intervention (or combination of interventions) that will achieve LEDS or NDC policy outcomes and, in doing so, attract finance from international public sources as well as leveraging private investment. There are strong links with the themes of sections 3, 4, and 5, all of which will normally feature in a NAMA or Green Climate Fund project.

Featured resources

***Planning for NDC implementation: Quick start guide and reference manual (Finance: pp. 68–77)* (CDKN/Ricardo, 2016, 92 pp)**

CDKN's NDC implementation reference manual was produced to support developing countries in implementing their NDCs. In the Finance chapter, activity 8 (Develop a project pipeline and financing propositions that can be put forward to different financing sources) is relevant here. For further information on this manual see [Introductory resources](#).

Guidance for NAMA design in the context of Nationally Determined Contributions: A tool to realize GHG mitigation under NDCs (UNDP/UNEP DTU Partnership/UNFCCC, 2016, 100 pp)

This guide, updated in 2016, aims to support developing countries in the NAMA development and implementation process by providing guidance and good practices on the key aspects of NAMAs, and insights on how NAMAs may support NDCs. The guide includes the policy framework; potential types of action; financing; institutional arrangements; the roles of different actors; and measuring, reporting, and verification procedures. It also provides guidance on best practice and other practical advice for those faced with the task of developing a NAMA, especially in the context of an NDC. While focused on NAMAs, much of the guidance will be relevant to the development of any ambitious mitigation project and the link to NDCs.

***Green Climate Fund proposal toolkit 2017: Toolkit to develop a project proposal for the GCF* (Acclimatise/CDKN, 2017, 112 pp)**

This toolkit aims to help private sector entities understand the key considerations and to fulfill the Fund's requirements when developing proposals for the Green Climate Fund. For further information on the toolkit see [4.4](#).

6.1 General resources

The resources in this subsection were developed to provide comprehensive guidance across most or all aspects of good project design and development.

Key resources

Guidance for NAMA design in the context of Nationally Determined Contributions: A tool to realize GHG mitigation under NDCs (UNDP/UNEP DTU Partnership/UNFCCC, 2016, 100 pp)

This guide, updated in 2016, aims to support developing countries in the NAMA development and implementation process by providing guidance and good practices on the key aspects of NAMAs, and insights on how NAMAs may support NDCs. For further information on this tool see [Featured resources](#) in this section.

Green Climate Fund proposal toolkit 2017: Toolkit to develop a project proposal for the GCF (Acclimatise/CDKN, 2017, 112 pp)

This toolkit aims to help private sector entities understand the key considerations and fulfill the Fund's requirements when developing proposals for the Green Climate Fund. For further information on the toolkit see [4.4](#).

Nationally appropriate mitigation actions (NAMAs): Steps for moving a NAMA from idea towards implementation (GIZ, 2016, 100 slides)

This GIZ NAMA tool provides developers and implementers of NAMA projects with brief, step by step instructions on how to develop a NAMA, updated in 2016 to reflect the links between NAMAs and NDCs. Most if not all of the content is relevant to any mitigation project where international financial support is desired. The process is structured into 10 steps designed to help practitioners work through the stages necessary to develop a good project, and to supply users with data, publications, and tools relevant for certain aspects of developing a NAMA. Also available in French and Spanish.

IRENA handbook on renewable energy nationally appropriate mitigation actions (NAMAs) (IRENA, 2014, 80 pp)

This handbook presents guidance on NAMA project development for renewable energy experts and policymakers, which can be used to support renewable energy deployment in developing countries. It discusses the NAMA concept and its relevance to renewable energy, considers typical barriers and how NAMAs can address them, explores financing options, and outlines the NAMA development process. The final chapter contains detailed case studies of renewable energy NAMAs in Chile, Mexico, and Tunisia.

Accessing international financing for climate change mitigation—A guidebook for developing countries. TNA Guidebook Series (UNEP, 2012, 142 pp)

This guidebook provides information to help developing countries identify and access financial resources for their mitigation activities. Chapter 5 addresses the key elements of program and project proposals, and provides some guidelines for proposal preparation. This chapter provides a useful overview of the different sections of a project proposal and what needs to be covered in each section. The target audience is national experts, consultants, and government agencies within developing countries' technology needs assessment teams, including a broad range of stakeholders from government institutions, nongovernment organizations, and the private sector.

Country examples

IRENA handbook on renewable energy nationally appropriate mitigation actions (NAMAs) (IRENA, 2014) The final chapter of this handbook (see [Key resources](#) above) contains detailed case studies of renewable energy NAMAs in Chile, Mexico, and Tunisia.

6.2 Impact and transformational change

Projects are designed to achieve specific outcomes. In the context of LEDS and NDCs, these are often measured in greenhouse gas emissions reduced, or in the increased resilience of people and communities. Many projects will also lead to broader impacts (also known as co-benefits or benefits), such as improvements in air pollution levels, energy security, or employment. The resources in this subsection provide some guidance on how to identify and estimate impact (both greenhouse gas and broader impacts), and on the emerging concept of transformational change. This is now a requirement of several providers of international public climate finance (the Green Climate Fund uses the term ‘paradigm shift’ to refer to this concept), but it is not yet widely understood in a consistent way.

Key resources

Greenhouse Gas Protocol Policy and Action Standard: An accounting and reporting standard for estimating the greenhouse gas effects of policies and actions (WRI, 2014, 188 pp)

The *Policy and Action Standard* provides a standardized approach for estimating and reporting the change in greenhouse gas emissions resulting from policies and actions. The primary intended users are analysts and policymakers considering or designing government policies and actions at any level: national, state, provincial, or municipal. The Standard was designed to help users estimate the greenhouse gas effects of planned policies and actions to inform decision making, monitor progress of implemented policies and actions, and retrospectively evaluate greenhouse gas effects to learn from experience.

The co-benefits of climate change mitigation: Sustainable Development Brief No. 2 (UNECE, 2016, 5 pp)

This introductory brief describes how mitigation actions can have benefits that go beyond greenhouse gas emissions reduction, and presents some high level estimates of the significance of these benefits. Including information on these broader impacts can make project funding proposals more compelling (some funders may actually require such information).

Framework for measuring sustainable development in NAMAs (UNEP DTU Partnership/IISD, 2014, 47 pp)

This paper proposes a framework for measuring the sustainable development impacts of NAMAs. While the framework (see section 4.4 of the paper) is quite conceptual in nature, it provides a useful high-level approach to inform thinking about how broader impacts should be considered in NAMA development. It also offers guidance to specific tools and resources that may help. The template in the annex provides a useful and comprehensive list of potential broader impacts across four dimensions—environmental, social, economic, and institutional.

Potential for transformational change (NAMA Facility, 2014, 2 pp)

Several funders require evidence of ‘transformational change’ in the projects they fund (the Green Climate Fund refers to this as paradigm shift). Being a rather new concept, this term is often poorly understood. The NAMA Facility was one of the first funders to use the term transformational change, and this factsheet offers insights on its understanding of what constitutes transformational change in the context of sustainable low emission development.

From theory to practice: Understanding transformational change in NAMAs (UNEP DTU/Wuppertal Institute, 2014, 28 pp)

This concept paper proposes an operational definition of what transformational change means in the context of NAMAs, taking into consideration ongoing discussions among NAMA experts. Section 1 of the paper (5 pp) provides a useful exploration of the key aspects of transformational change in the context of NAMAs;

the review of theoretical approaches in section 2 may be less relevant for LEDS practitioners and policymakers.

Country examples

Transformational change for low carbon and sustainable development (UNEP DTU, 2015, 112 pp)

This publication presents five case studies exploring success factors and indicators of transformational change in low carbon development across countries and sectors. The cases were selected in order to learn from the most successful examples of transformations that have happened, or that are planned, to achieve low carbon development. Two developed country and three developing country examples are explored.

Assessing the missed benefits of countries' national contributions: Quantifying potential co-benefits (NewClimate Institute, 2015, 74 pp)

This report assesses the co-benefits that a selection of countries could realize by achieving the emission reduction targets in their INDCs, and the additional co-benefits they could achieve through more ambitious targets. First it provides an overview of the general co-benefits that climate action may have, and how they could be used to incentivize further ambitious greenhouse gas reductions. It then provides illustrative results for the forgone or missed benefits that could have been achieved through action to meet a trajectory toward 100% renewables by 2050, compared with the current policies and INDCs. The countries/regions considered are Canada, Chile, China, the European Union, India, Japan, South Africa, and the USA.

6.3 Making projects financeable

Nearly all projects designed to contribute to LEDS and NDC goals will require financing. This includes both the finance required to initiate a project (usually provided by some form of national or international public finance), and the resulting flow of private investment toward a low emission or more climate resilient solution. In order to secure that initial financing (e.g. from the Green Climate Fund) and then, more importantly, to effectively stimulate a lasting change in how private investment flows, projects must be designed with realistic financial structures and mechanisms at their core. This requires an understanding of who the relevant market and financial actors are, how finance flows between them, and what models could successfully change these flows toward a low emission model. The resources in this subsection provide guidance and lessons learned on how to make projects 'financeable'.

This subsection has a particularly strong link with [section 5](#), as the financial structure of many projects will ultimately make use of one or more of the financial instruments covered in that section.

Key resources

Designing NAMAs to catalyze bankable low carbon investments (CCAP/UNEP DTU/NewClimate Institute, 2016, 11 pp)

This policy brief looks at how to develop NAMAs or other mitigation projects that are 'bankable'—that is, something that a bank or other financier is willing to finance. It proposes three main elements for making projects bankable and explores each of these: improving policy and institutional frameworks; addressing financial risks and returns; and identifying projects and demonstrating feasibility. This brief, written by leading NAMA finance experts, is a useful introduction to this topic.

Understanding 'bankability' and unlocking climate finance for climate compatible development (CDKN, 2017, 20 pp)

This CDKN working paper focuses on understanding the concept of 'bankability' in support of the development of quality 'bankable' project proposals—to assist countries' access to international climate finance. It was developed by CDKN in response to the observation that many countries are struggling to

develop strong funding proposals that are ‘bankable’ and to understand what ‘bankability’ means for different funders in different contexts. The paper was informed by the experience of CDKN’s climate finance related support across Africa, Latin America, and Asia.

Guidance for NAMA design in the context of Nationally Determined Contributions: A tool to realize GHG mitigation under NDCs (Chapter 5: pp. 29–44) (UNDP/UNEP DTU Partnership/UNFCCC, 2016, 100 pp)

This guide, updated in 2016, aims to support developing countries in the NAMA development and implementation process by providing guidance and good practices on the key aspects of NAMAs, and insights on how NAMAs may support NDCs. For further information on this tool see [Featured resources](#) in this section.

Financing nationally appropriate mitigation actions (UNEP DTU Partnership, 2014, 36 pp)

This primer is devoted to the financing of NAMAs and presents essential principles and models of financing. It highlights challenges in financing the policies and programs that make up NAMAs, as well as possible ways to overcome these challenges. The guide’s four sections cover defining NAMA finance, sources of NAMA finance, instruments, and leveraging finance for NAMAs. Although focused on NAMAs, the content of this guide would be very applicable to the design of any mitigation project that requires a robust financing strategy (such as Green Climate Fund projects).

Demystifying private climate finance (UNEPFI, KPMG, SDC, AusAid, 2014, 62 pp)

Part B of this report highlights the fact that the effective design and implementation of public interventions needs to be guided by a more nuanced understanding of current barriers to the flows of private finance in developing countries. These barriers, in turn, depend on the type of private finance required, as well as the location of the activity. The report considers three case studies (grid scale renewables, energy efficiency, climate resilient infrastructure) and for each one identifies the major barriers that currently prevent private capital from flowing into these project types, and what interventions can overcome them. For further information on this report see [5.2](#).

Derisking renewable energy investment: A framework to support policymakers in selecting public instruments to promote renewable energy investment in developing countries (UNDP, 2013, 151 pp)

The DREI framework systematically identifies the barriers and associated risks that can hold back private sector investment in renewable energy, and can help project designers identify an appropriate set of instruments for their project that can create a risk-return profile capable of attracting private investment. For projects aiming to stimulate renewable energy investment, this will be a key determinant of whether or not they are financeable. For further information on the report see [5.1](#).

6.4 Measuring, reporting, and verification

Good projects will be designed with consideration of how their impact can be monitored and evaluated, to provide information on how to improve project performance, to check whether the desired results are being achieved, and to provide lessons for future project development. In the international arena of climate negotiations and international climate finance, this has additional significance in the form of measuring, reporting, and verification (MRV), now referred to under the Paris Agreement as ‘transparency’. MRV is relevant at the project level as well as at national and international levels, and many providers of international climate finance require MRV to be built into project design from the outset and for information to be provided on this in project proposals. The resources in this section provide some introductory guidance on how to incorporate MRV into project design.

Key resources

MRV 101: Understanding measurement, reporting, and verification of climate change mitigation (WRI, 2016, 28 pp)

This introductory paper aims to clarify the different types of MRV relevant to climate mitigation. It covers three types—MRV of emissions, of mitigation actions, and of support. MRV of mitigation actions, covered in section 2.2 of the paper, is most relevant here. The publication is aimed at national decision makers and practitioners from environmental and development organizations with no or little prior knowledge. It does not provide detailed guidance on implementing each type of MRV, nor does it cover monitoring and evaluation of adaptation efforts. The aim is that this paper will enhance understanding of the landscape of MRV, the ways in which different types of MRV fulfill particular needs and utilize respective methodologies, and the synergies among them.

Guidance for NAMA design in the context of Nationally Determined Contributions: A tool to realize GHG mitigation under NDCs (Chapter 7: pp. 55–70) (UNDP/UNEP DTU Partnership/UNFCCC, 2016, 100 pp)

This guide, updated in 2016, aims to support developing countries in the NAMA development and implementation process by providing guidance and good practices on the key aspects of NAMAs, and insights on how NAMAs may support NDCs. For further information on this tool see [Featured resources](#) at the beginning of this section.

Greenhouse Gas Protocol Policy and Action Standard: An accounting and reporting standard for estimating the greenhouse gas effects of policies and actions (WRI, 2014, 188 pp)

The *Policy and Action Standard* provides a standardized approach for estimating and reporting the change in greenhouse gas emissions resulting from policies and actions. The Protocol is mainly focused on estimation before implementation of projects, but does provide some guidance on how to estimate and report impacts after implementation. For further information on this standard see [6.2](#).

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