

# Planning for NDC Implementation

## Quick Start Guide



## and Reference Manual



Climate & Development  
Knowledge Network





Image: Aerial view of the Amazon rainforest | Neil Palmer, CIFOR

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## Quick Start Guide

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**“The Paris Agreement sets an incontrovertible new direction toward a cleaner energy future ... We have spent years creating a new vision and now, I argue, we have to work two or three times as hard to make the new reality as laudable as the vision we created.”** Christiana Figueres, Former Executive Secretary of the UNFCCC<sup>1</sup>

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## Introduction

The adoption of the Paris Agreement<sup>2</sup> at the 21st Conference of the Parties (COP 21) to the United Nations Framework Convention on Climate Change (UNFCCC) was an historic moment, providing a universal platform for all countries to take action towards a commonly agreed goal. Central to the success of COP 21 were the Intended Nationally Determined Contributions (INDCs),<sup>3</sup> which were submitted by more than 190 countries during 2015. These set out each country’s approach to reducing emissions and adapting to a changing climate.

Since COP 21, countries have been invited to confirm these intentions by ratifying the Paris Agreement and submitting Nationally Determined Contributions (NDCs) to the UNFCCC. In the future, countries will be required to submit updated and more ambitious NDCs every five years. Figure 1 sets out this process.

NDC implementation can build on and strengthen wider development and social policy, with NDC commitments representing the opportunity to fundamentally shift a country’s approach to economic development and poverty alleviation. Climate change actions identified in NDCs can be integrated and embedded into development planning; they do not necessarily need to be a new and separate process.

Notably, implementing NDCs can support the achievement of the Sustainable Development Goals (SDGs) across all sectors and levels of government. The strong links between NDC implementation and the SDGs are recognised throughout this guide and the reference manual, with background information provided in Appendix 1. The implementation of NDCs can also support other, related international frameworks and agreements, such as the Sendai Framework for Disaster Risk Reduction 2015–2030.<sup>4</sup>

This crossover with wider development planning is an opportunity to integrate a gender sensitive approach into NDC implementation. A gender sensitive approach to climate compatible development means recognising and addressing the different interests, needs and adaptive capacities of men and women to climate change. Throughout this guide and the accompanying reference manual, we have highlighted opportunities for mainstreaming gender approaches into climate policy.<sup>5</sup>

To achieve all of this, political leadership at the highest levels will be needed, along with a clear governance structure for implementation. Developing an NDC implementation plan is the first step towards this.

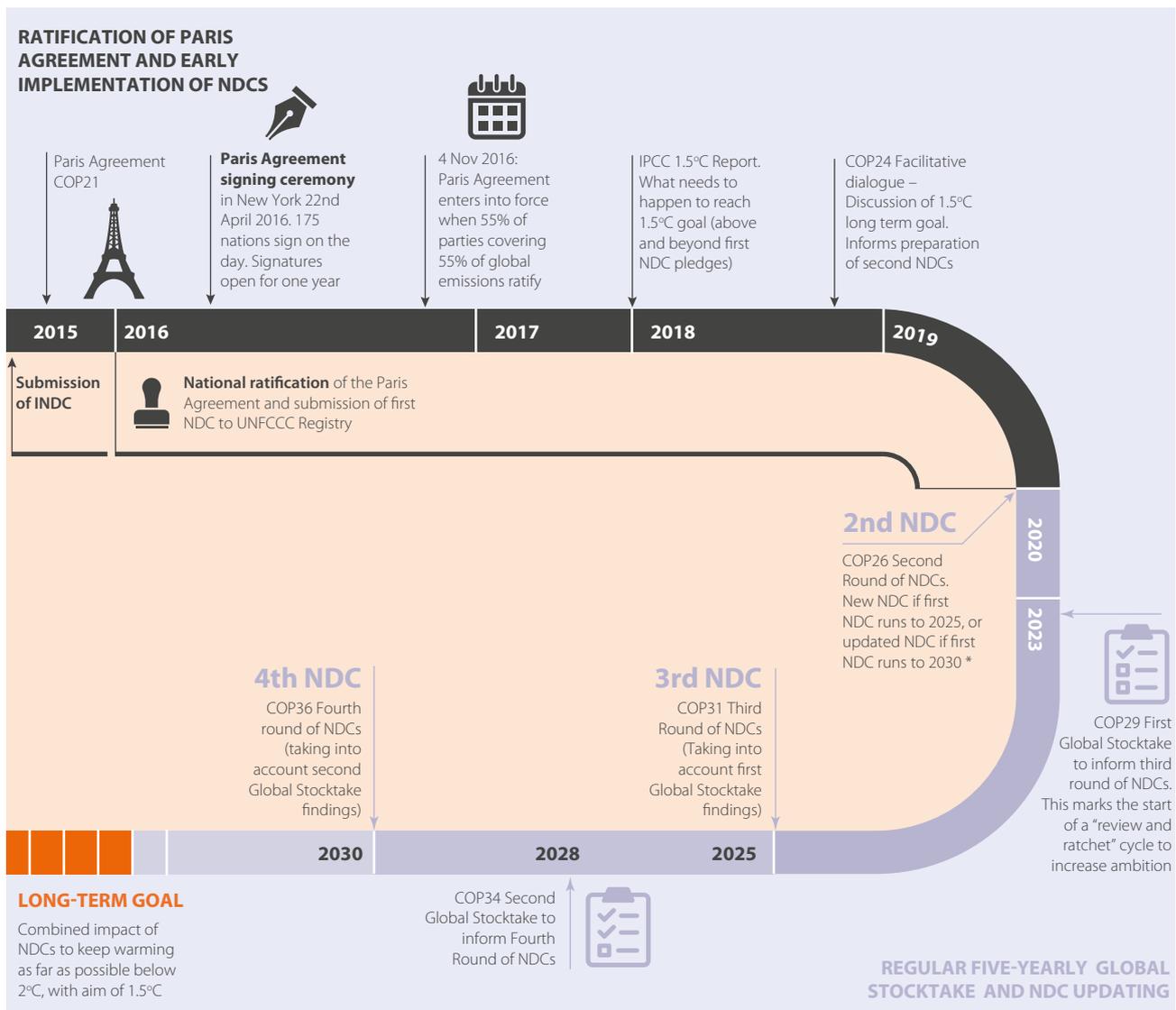
### About this Quick Start Guide

The purpose of this Quick-Start Guide is to support developing countries in implementing their NDCs. It is accompanied by a Reference Manual which provides more detail on the activities that countries can include in their implementation plans. They are aimed at policy-makers at national and subnational levels, and development partners and practitioners supporting the implementation of NDCs.

This guidance was initiated at the request of a number of developing countries, who are keen to move ahead with implementation and have expressed a need for early practical guidance on how to prepare effective NDC implementation plans and take action in what is a fast-evolving space. Many elements are also applicable to developed countries looking to implement their NDCs.

Each country is at a different stage of climate change policy development and implementation. This guide therefore addresses the diversity in NDCs and the starting points for

Figure 1: Overview of the implementation process for the Paris Agreement, including the NDC updating cycle



\* Note that in 2020, countries whose NDC contains a timeframe up to 2025 are urged to communicate an updated NDC by 2020 and every five years thereafter, while countries whose NDC contains a timeframe up to 2030 are requested to communicate or update their contributions by 2020 and to do so thereafter every five years. The timeline is divided into three distinct sections: (1) Preparation and early implementation (black); (2) Five-yearly review and NDC updating (blue); and (3) Long-term goals (orange).

their implementation. It also takes into account the fact that the requirements under the Paris Agreement do not apply equally to Small Island Developing States (SIDS) and Least Developed Countries (LDCs). At the same time, all countries face common challenges in implementing climate policy, including how to:

- build awareness of the need for, and benefits of, action among stakeholders, including key government ministries
- mainstream and integrate climate change into national planning and development processes
- strengthen the links between subnational and national government plans on climate change

- build capacity to analyse, develop and implement climate policy
- establish a mandate for coordinating actions around NDCs and driving their implementation
- address resource constraints for developing and implementing climate change policy.

We have drawn on our experience of supporting climate and development policy and INDC preparations in a number of countries, and have consulted with a range of stakeholders, including climate and development practitioners, the Climate and Development Knowledge Network’s (CDKN) global network of in-country advisors



## Box 1: The three main steps of national NDC implementation

### Step 1: Preparatory work

Countries must submit their first NDC by the time that they ratify the Paris Agreement. They will have the option of updating their INDC before submitting the first NDC. The Reference Manual provides suggested activities that a country may want to complete before they submit their first NDC (e.g. improving the evidence base in certain areas). Preparatory work also includes consideration of key strategic questions, such as the scope, timeframe and status of the NDC implementation plan.

### Step 2: Developing the NDC implementation plan

This guide sets out the key activities a country must undertake to develop their NDC implementation plan. These include initial gap analysis, an assessment of resource needs, the prioritisation of activities, and documenting their agreed

implementation activities. The reference manual can support this process: for example, it contains lists of possible NDC implementation activities, against which countries can compare their current status (gap analysis). The reference manual can also help countries to consider the resources they need to fully implement their NDC.

### Step 3: Delivering the NDC implementation plan

This is where actions are delivered on the ground, supported by capacity building and stakeholder engagement. The delivery of the NDC implementation plan may also include work to update the NDC in advance of 2020. The Reference Manual can support countries to identify capacity building needs and what types of stakeholder engagement could be beneficial for NDC implementation, as well as what work might be carried out to update the NDC.

## Using the Quick Start Guide to develop and frame the NDC implementation plan

This guide can help countries to frame their NDC implementation plan, and establish the national systems and processes that are needed to support its development and delivery. It sets out the overall NDC implementation process and provides a high-level outline of the steps that countries need to take.

It is structured around the three steps identified in Figure 2. In practice, these steps may be undertaken iteratively, rather than strictly sequentially. In addition, there will likely be ongoing iteration between direction and guidance provided by the central coordination point for NDC implementation in a country, and ownership and information coming from government ministries and other key actors responsible for NDC implementation (see the governance module in the reference manual for more details).

## Box 2: The NDC implementation framework

NDC implementation requires coordinated action across five distinct – but intrinsically linked – areas.

**Governance:** good governance maintains momentum in implementing NDCs. This includes: creating an enabling environment for action; driving progress; coordinating activities, processes and structures for decision-making; stakeholder engagement, both inside and outside of government; and maintaining strong political will at the highest levels.

**Mitigation:** long-term mitigation strategies aim to reduce greenhouse gas emissions through national and sector plans that are aligned with development priorities, and by using the right tools to minimise costs and deliver transformational changes.

**Adaptation:** integrated adaptation planning builds long-term resilience to the impacts of climate change by mainstreaming adaptation into national and sectoral plans, drawing on UNFCCC's National Adaptation Plan process.

**Finance:** a climate finance framework should match a country's needs against funding streams, and include strategies to access these.

**Measuring, reporting and verification:** these systems track implementation and apply the lessons learned, thus enhancing analytical capacity and understanding about which policies and actions work best, and why.

## Using the reference manual to identify specific activities

The reference manual will help countries to identify the detailed activities needed to meet their countries' NDC commitments and then give consideration to likely priorities, timings, resource requirements and capacity needs for NDC implementation.

These activities are set out in five modules, based on Ricardo Energy & Environment's NDC implementation framework,<sup>6</sup> summarised in Box 2. Each module follows a common format:

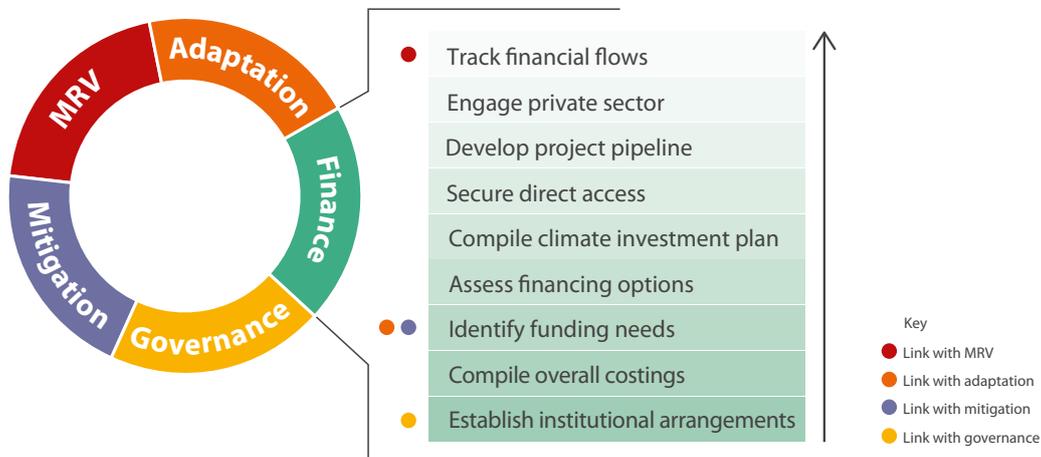
- an introduction to the module and its key elements and issues
- a diagram showing the key activities under that module

- a short explanation of how the module relates to the Paris Agreement
- a table of detailed activities that countries can take country case studies of how other countries have tackled the activities in each module.

Figure 3 provides an example of the figure included for each module (this one is for the finance module). The activities in the diagrams should be read from bottom to top, as they represent the building blocks of NDC implementation. Each figure shows where there are links with other modules, so that countries can take a holistic and integrated approach.

The reference manual is structured so that it can be applied in its entirety or as individual modules. A summary of each module is provided on pages 10–11. Please refer to the reference manual for more details.

Figure 3: NDC implementation activities under the finance module





## Governance

Effective governance involves driving progress, coordinating decision-making processes, ensuring accountability, engaging stakeholders inside and outside of government, and maintaining political will at all levels. Key activities that countries can undertake to strengthen governance arrangements include the following.

- 1. Review current institutional arrangements**
  - a. Review the NDC
  - b. Review the existing governance landscape
- 2. Establish an NDC implementation coordination team**
  - a. Identify a central NDC coordination team
  - b. Define the team's roles and responsibilities with regards to NDC implementation
  - c. Agree cooperation approaches with key government ministries, departments and agencies
  - d. Provide resources and support for NDC implementation
- 3. Set up institutional arrangements**
  - a. Integrate with existing processes
  - b. Ensure integration includes wider ministries, agencies and subnational authorities
  - c. Ensure effective communication across government
- 4. Build capacity within government**
  - a. Identify the capacity across government that is needed to enable NDC implementation, and develop a programme of ongoing support
  - b. Improve institutional memory
- 5. Engage external stakeholders**
  - a. Undertake stakeholder mapping
  - b. Agree responsibilities for engagement
  - c. Develop a clear stakeholder engagement plan
- 6. Develop legal frameworks**

## Mitigation

While it is recognised that adaptation is a priority for many developing countries, they will also need to show progress in reducing greenhouse gas emissions.<sup>7</sup> Doing so can have wide benefits, as mitigation actions can be designed to deliver not only emissions reductions, but also wider co-benefits in relation to climate change adaptation, development, employment, energy security and public health, for example. Key activities that countries can undertake to strengthen long-term mitigation planning include the following.

- 1. Review the current mitigation policy landscape**
  - a. Review the NDC
  - b. Review the existing mitigation policy landscape
- 2. Set up institutional arrangements for the coordination and oversight of mitigation activities**
  - a. Analyse the national mitigation potential to identify priority sectors and mitigation options
  - b. Identify key sectors
- 3. Analyse the national mitigation potential to identify priority sectors and mitigation options**
  - a. Identify key sectors
  - b. Analyse mitigation potential and costs across these sectors

- c. Shortlist and prioritise mitigation options
  - d. Undertake barriers analysis for each shortlisted option
  - e. Model greenhouse gas emissions under a business-as-usual scenario and emissions-reduction scenarios
  - f. Allocate national mitigation efforts across sectors
  - g. Build capacity and improve the evidence base
- 4. Conduct a detailed appraisal of priority actions for key sectors**
    - a. Review the strategic priorities for each key sector
    - b. Carry out further analysis and prioritisation
    - c. Appraise policy options
    - d. Prepare a mitigation-sector action plan
  - 5. Design mitigation policies**
    - a. Design the policy
    - b. Agree arrangements for ongoing implementation
  - 6. Access financing for mitigation actions**
  - 7. Implement mitigation policies**
    - a. Implementation
    - b. Resources and support
    - c. Evaluate policies, structures and processes
  - 8. Design and implement a mitigation MRV system**
    - a. Design and develop a greenhouse gas inventory
    - b. Design a system for the monitoring and evaluation of mitigation actions
    - c. Develop projections for greenhouse gas emissions
    - d. Develop interim milestones
  - 9. Prepare for future NDCs**

## Adaptation

Adaptation is the process of adjusting to the impacts of a changing climate, seeking to moderate or avoid harm, and exploit beneficial opportunities. The adaptation module in the reference manual sets out the activities needed to implement the adaptation activities contained in countries' NDCs, drawing on the UNFCCC's National Adaptation Plan process, which provides a country-driven, comprehensive approach to adaptation planning and implementation. It includes the following steps.

- 1. Review the current adaptation policy landscape**
  - a. Review the NDC
  - b. Review the existing adaptation policy landscape
- 2. Undertake groundwork and governance**
  - a. Apply Element A of the National Adaptation Plan process technical guidelines
  - b. Incorporate additional or enhanced activities into the National Adaptation Plan process to make the link with the NDC, as appropriate
- 3. Undertake preparatory work for adaptation plans**
  - a. Apply Element B of the National Adaptation Plan process technical guidelines
  - b. Incorporate additional or enhanced activities into the National Adaptation Plan process to make the link with the NDC, as appropriate
- 4. Access financing for adaptation actions**
- 5. Implement policies, projects and programmes**

- a. Apply Element C of the National Adaptation Plan process technical guidelines
  - b. Incorporate additional or enhanced activities into the National Adaptation Plan process to make the link with the NDC, as appropriate
- 6. Monitor and report on progress and the effectiveness of adaptation actions**
- a. Apply Element D of the National Adaptation Plan process technical guidelines
  - b. Incorporate additional or enhanced activities into the National Adaptation Plan process to make the link with the NDC, as appropriate

## Finance

Finance is critical for implementing the mitigation and adaptation actions set out in countries' NDCs. International public financing sources, such as the Green Climate Fund, will not be able to provide the large-scale investment needed alone; financing sources such as the private sector and domestic fiscal budgets will therefore be needed. Key activities that countries can undertake to strengthen financing of their NDC include the following.

- 1. Review the current climate finance landscape**
  - a. Review the NDC
  - b. Review the current status of climate finance strategies
- 2. Establish institutional arrangements for the oversight and coordination of climate finance activities**
  - a. Identify and delineate key roles on climate finance within the country
  - b. Identify a team within government to lead on national climate finance coordination
  - c. Mainstream climate change into national budgeting processes
- 3. Compile an overall costing for the NDC**
  - a. Undertake a desk review to identify and cost the main sub-actions within each mitigation and adaptation action
  - b. Check desk-based estimates with relevant national experts and stakeholders
- 4. Identify funding gaps and needs**
  - a. Scope and prioritise the actions to be undertaken during NDC implementation
  - b. Assess the funding status of each priority NDC action
  - c. Identify the level and type of support needed to address each funding gap
- 5. Assess public and private financing options**
  - a. Assess the potential for further domestic fiscal support for each action
  - b. Assess the eligibility of each action against bilateral and multilateral funding sources
  - c. Assess options for private sector investment for each action
- 6. Develop a country climate investment plan**
- 7. Secure direct access to international climate funds for national and subnational institutions**
- 8. Develop a project pipeline and financing propositions that can be put forward to different financing sources**
  - a. Build technical and relational capacities within government ministries to develop a project pipeline

- b. Develop funding proposals that can be shared with bilateral and multilateral funders
  - c. Develop funding proposals that can be shared with potential private sector financing sources
- 9. Increase private sector engagement and overcome barriers to investment**
- a. Assess and enhance the domestic investment environment
  - b. Strengthen the capacity of relevant departments to identify and develop financially viable opportunities for the private sector
  - c. Increase private sector engagement in national climate policies, strategies, coordinating committees and national financing bodies
- 10. Design and implement a climate finance MRV system**
- a. Identify climate-related spending across all relevant finance flows
  - b. Track and report climate-related spending across all relevant finance flows
  - c. Expand and improve the MRV of climate finance

## Measuring, reporting and verification

MRV for the implementation of NDCs refers to the process by which countries track and report on the implementation and impacts of mitigation and adaptation actions,<sup>8</sup> and the finance used to support these actions. In this sense, MRV has three core elements: mitigation, adaptation and finance. These can either be the elements of a single integrated national MRV system, or be separate MRV systems. Key activities that countries can undertake to develop MRV systems for their NDC include the following.

- 1. Review current MRV activities**
  - a. Review the NDC to identify any additional MRV requirements
  - b. Map existing national MRV processes
- 2. Establish institutional arrangements for the oversight and coordination of MRV activities**
  - a. Set up an MRV steering group
  - b. Agree an overall lead institution for the MRV system
  - c. Develop appropriate rules and guidance
  - d. Develop plans for reporting
- 3. Assess data gaps and needs**
  - a. Assess and prioritise data gaps
  - b. Identify how existing MRV systems can be extended to address data gaps
- 4. Design the MRV system for mitigation, adaptation and finance**
- 5. Establish data management processes**
  - a. Develop systems to improve data quality
  - b. Develop data management systems
  - c. Address data gaps
  - d. Develop data improvement plans
- 6. Build MRV capacity**
- 7. Improve the MRV system over time**
  - a. Ensure MRV reports are relevant
  - b. Consider options for continuous improvement.



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## It is important to build in regular opportunities to review progress and adjust objectives, activities and priorities as required, based on lessons learned and new external factors which may affect delivery.

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Possible revisions to an INDC might include the following.

- Increasing its ambition, for example:
  - making targets more stringent
  - including additional sectors
  - including additional mitigation and adaptation activities.
- Providing more information about the INDC, for example:
  - details of the measures to be undertaken
  - the envisaged use of international carbon markets
  - assumptions underpinning the INDC<sup>12</sup>
  - updates of national policies that have been adopted since the INDC was submitted
  - the estimated costs of implementation
  - international support requirements.
- Explaining how the country considers its NDC to be fair and ambitious, for example:
  - including statements linking the NDC to the long-term global mitigation goals in the Paris Agreement.<sup>13</sup>
- Including further details about NDC implementation plans, for example:
  - timelines for implementation activities
  - proposed institutional structures
  - how progress will be tracked through national MRV systems
  - a stronger evidence base to underpin the NDC, including long-term climate-resilient, low-emissions development strategies<sup>14</sup>
  - projections of climate change and vulnerability assessments.

The 'Guide to INDCs – Second Edition',<sup>15</sup> produced in 2015 by CDKN and Ricardo Energy & Environment, describes the content that could be included in each section of an INDC, and offers ideas on how an INDC could be updated before being submitted as the first NDC.

### 1.2. Consider key strategic questions

There are several strategic questions that countries could consider before starting work on their NDC implementation plan; this section outlines some of the key issues.

#### 1.2.1. Scope: what should the NDC implementation plan cover?

Countries have complete discretion as to the scope of their NDC implementation plans. Each will want to decide on a scope that balances their priorities and ambitions with administrative efficiency. For example, a country may decide to adopt a comprehensive approach that covers all five modules included in the reference manual; alternatively, it may decide to focus – at least initially – on a limited number of modules, or apply the modules to specific sectors only (e.g. energy, forestry) and add further modules or sectors at a later date.

For reasons of administrative simplicity, countries may decide to include existing climate – and UNFCCC-related activities within their NDC implementation plans and its related work streams. In particular, this may include those closely associated with the NDC process, such as National Adaptation Plans, Nationally Appropriate Mitigation Actions and Green Climate Fund accreditation.

In addition, countries may decide to include the finalisation of the first NDC (see Section ) in their implementation plan, the process for preparing and approving the next NDC (see activity 9 in the mitigation module of the reference manual) and broader stakeholder engagement on implementation of the Paris Agreement (see activity 5 in the governance module of the reference manual).

#### 1.2.2. Time frame: what period should the NDC implementation plan cover?

Countries can choose what time frame their NDC implementation plan covers. One option is to align domestic timelines with the NDC updating cycle set out in the Paris Agreement, including the timeline for submitting the country's next NDC, as well as wider planning processes (e.g. national five-year plans).

The principle focus of NDC implementation planning will likely be on the achievement of specific outcomes set out in the NDC; these will typically have target dates of 2025 or 2030. However, to achieve these goals, it may be beneficial for the NDC implementation plan to include activities for the pre-2020 period, for the following reasons.

- **Political momentum.** In order to maintain political leadership and support for more ambitious action in the longer term, ‘quick wins’ may need to be achieved so that politicians can demonstrate short-term benefits, for example to reinforce the progressive position taken by the country in the climate negotiations and its NDC.
- **Preparing for post-2020 action.** Mitigation and adaptation actions to reduce emissions and increase climate resilience in the period after 2020 will, in most cases, be dependent on early action and preparatory work being undertaken before 2020. This could include pilots, building capacity to implement specific post-2020 activities, and setting up and testing institutional structures and processes for implementation.
- **Addressing the pre-2020 emissions gap.** Given the gap between existing efforts to reduce emissions and the reductions that are needed by 2020 to avoid dangerous climate change, many countries are trying to identify pre-2020 actions to close this gap.
- **Increased administrative efficiency.** Given that countries are likely to be taking some action before 2020, it could be more efficient and coherent for pre – and post-2020 climate actions to be overseen by a single planning process and institutional structure, rather than two.

The time frame for each implementation plan will also relate to its scope. Countries may wish to adopt a phased approach to implementation, with certain elements to be covered in the early years, and others in later years. This approach might be particularly important where additional resources need to be secured in the first few years, in order to obtain buy-in for increasing ambition.

Alternatively, a country may decide that its implementation plan should include two (or more) implementation phases. For example, the first implementation plan might focus on the period up

to 2020, but also contain less detailed information about implementing its NDC during the 2020–2025 period, for example major implementation milestones.

When the second NDC is submitted in 2020, the accompanying implementation plan could focus on the period from 2020 to 2025 in most detail, based on and built around what was in the previous implementation plan, with some (less detailed) information on NDC implementation for the subsequent period (2025 to 2030).

Whatever time period is chosen, it is important to build in regular opportunities to review progress and adjust objectives, activities and priorities as required, based on lessons learned and new external factors which may affect delivery. This can be done through the MRV system; the MRV module in the reference manual explains how results can be used to review progress and improve policy-making.

### 1.2.3. Integration: how will the NDC implementation plan relate to other processes?

NDCs will only be successful if they integrate low-carbon, climate-resilient planning into each country’s mainstream economic development plans. The level at which this integration occurs can vary – national, sectoral or subnational – but integration is an essential precondition for the transformation of economies needed to deliver the Paris Agreement. And for integration to happen successfully, there needs to be political leadership at the highest levels to ensure buy-in across different government ministries and from other stakeholders.

Integration offers significant opportunities for win–win actions that deliver economic and social benefits, as well as climate benefits. These opportunities will also be critical to achieving the SDGs. The process of implementing NDCs provides the opportunity to identify specific activities which can support individual SDGs, and the chance to set up policy-making processes which could provide a blueprint for the national implementation of the SDGs overall. For more information on these links, see Appendix 1 of this guide, and the reference manual.

The process of developing NDCs demonstrates that integration and mainstreaming have already begun in

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## Successful integration with existing national plans and strategies will depend on ensuring a common link between any plans and strategies that directly or indirectly relate to climate change.

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many countries. Nearly all NDCs build on existing national policies and processes, and in many countries they are based on existing national climate change strategies and plans, including Low Emissions Development Strategies, Nationally Appropriate Mitigation Actions, National Adaptation Programmes of Action, National Adaptation Plans and National Communications.

In other countries, NDCs are based on the climate-related elements of national development plans, including green growth strategies or sectoral master plans for energy supply, energy efficiency or infrastructure. Successful NDC implementation will require that links to such high-priority plans, which are essential for economic growth and poverty alleviation, are established.

At the same time, it must be recognised that the Paris Agreement and the NDC process represent a more ambitious and more inclusive phase in the global response to climate change. Each country has taken on new commitments and has new obligations to report on progress and increase the ambition of its national contribution over time. Given the scale of action required, it will be important to put in place explicit checks and balances to ensure that those elements of existing processes which affect the achievement of the NDC – such as the achievement of renewable energy targets in energy strategies – are delivered and not overlooked. As a minimum, this will require changes to existing processes to ensure that NDC objectives are prioritised and their contribution to the country's mitigation and adaptation efforts are maximised.

There are a number of ways in which integration with existing processes can be achieved:

- Develop a stand-alone NDC implementation plan with explicit links to other processes, and include references to the NDC and how it will be delivered in future national development plans.
- Develop sectoral action plans to deliver NDC outcomes, which are owned by key government ministries and fully integrated into wider ministerial delivery plans (Section 2.4 contains more information on the development of NDC implementation plans and sectoral action plans).

- Make the links between the NDC and other climate change strategies transparent, and ensure that the relationships between overlapping processes are clear and unambiguous (see activity 3 of the governance module of the reference manual for more details on integrating NDC implementation across governments).
- Ensure that the governance arrangements for different processes are mutually supporting, in particular that the role of the team(s) charged with coordinating NDC implementation and reporting to the UNFCCC is clear.

Successful integration with existing national plans and strategies will depend on ensuring a common link between any plans and strategies that directly or indirectly relate to climate change. So, even if separate stand-alone documents (e.g. an NDC implementation plan or sectoral action plans) are developed, they should clearly relate to and align with each other, and with other relevant plans and strategies.

These options are not mutually exclusive; indeed, countries may choose to do all of the above if appropriate to their national circumstances. During the early planning stage, it might be useful to hold a cross-ministerial meeting for engagement and implementation planning. This will help to ensure that the NDC implementation process is integrated with existing climate and development plans in all ministries from the start, and also help to secure the high-level political leadership needed.

However, for administrative efficiency, new institutional arrangements to govern the delivery of the NDC should be avoided where they will duplicate existing efforts. Similarly, if a country is thinking of integrating SDG implementation with NDC implementation, then it should consider consolidating the respective plans.

### 1.2.4. Status: should the plan be formally approved and published?

Countries may consider formally approving their implementation plan. The form of approval needed is likely to vary from country to country, but may involve approval by parliament or sign-off by a specific minister or ministerial committee.



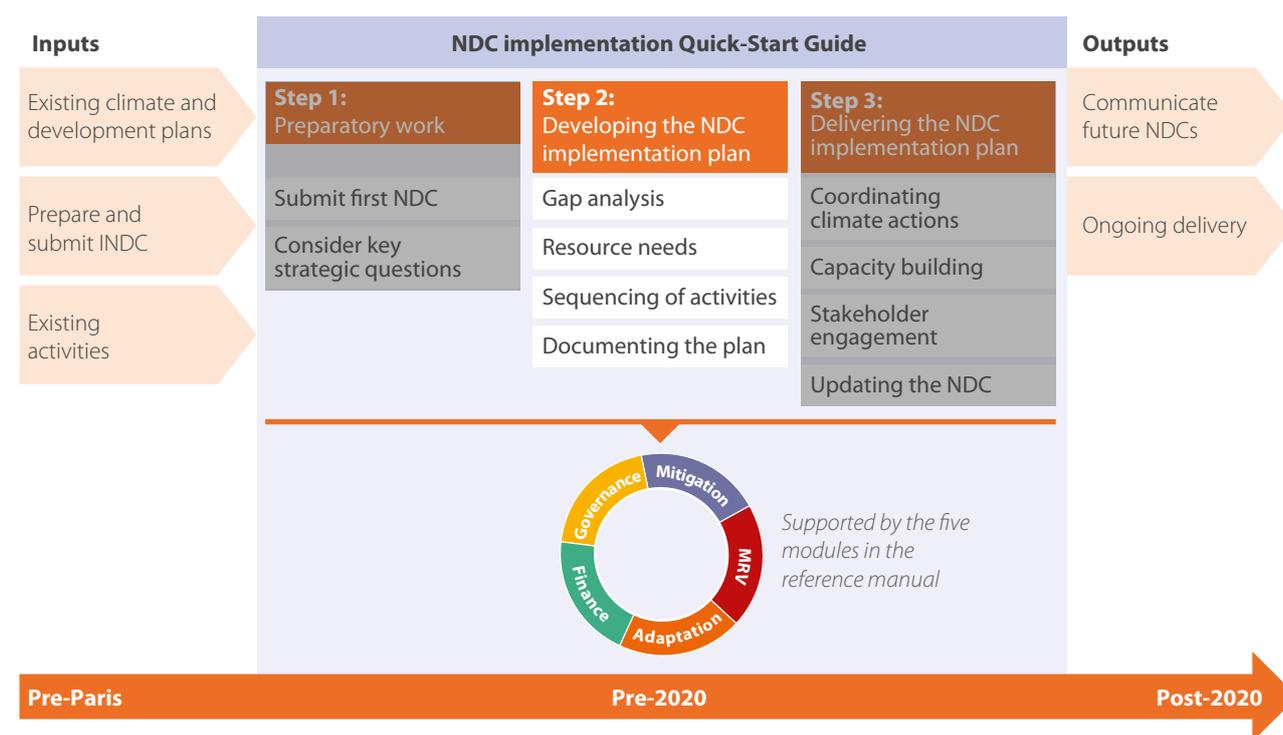
Image: © Margaret Barihaihi of World Vision ACCRA

One advantage of formal approval is that the implementation plan will have a higher status nationally and internationally, and it will offer levers for holding those responsible for delivery to account, thereby increasing the chance of successful implementation. A disadvantage, however, is that the approval process can be resource and time intensive, especially where amendments have to be resubmitted for approval. Also, to be truly effective, NDC implementation plans need to be 'living' documents which can be adapted in response to lessons learned through their implementation, as well as changes in the regulatory and policy environment. Formal approval of a document makes it less likely to be seen as a living document.

Countries may consider publishing their NDC implementation plan. Given the broad interest in the NDC implementation arrangements and the need to

involve multiple stakeholders and actors, it will be important for implementation plans to be transparent and their contents made widely available. Taking a transparent and participatory approach can strengthen public support – and therefore political will – for implementing the NDC.

Ultimately, a balance will need to be struck, based on national circumstances and practices. One approach could be for the high-level details, such as priorities, policy decisions and milestones, to be approved and published in a formal document, while more detailed plans covering individual modules, work streams and activities are updated on a regular basis and made available to relevant stakeholders.



## 2 Step 2: Developing the NDC implementation plan

Each country will approach the development of its NDC implementation plan as appropriate to its national circumstances. However, it is likely that, in each case, this process will include:

1. gap analysis to identify priority activities
2. an assessment of resource needs
3. sequencing of activities
4. documenting the NDC implementation plan.

This section sets out the process for developing an NDC implementation plan. The reference manual can be used to further inform each of these steps.

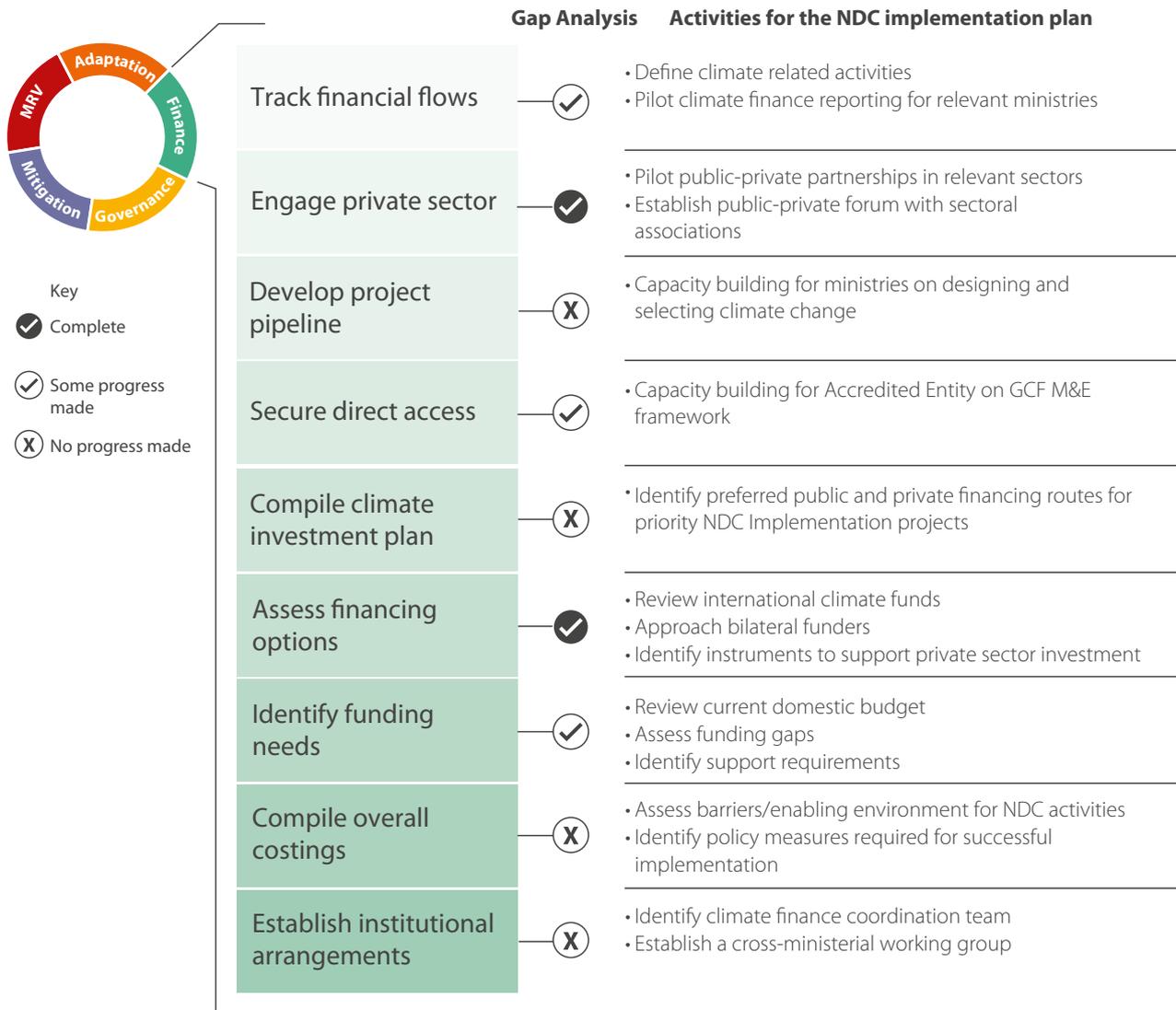
### 2.1. Gap analysis

Gap analysis of the current situation in a country involves undertaking a detailed review of the lists of activities within each module (these are found in the reference manual) and assessing which activities have already been undertaken, and which could usefully be done; the latter potentially will become part of the NDC implementation plan.

As a minimum, countries should undertake the first activity in each module (review), which involves comparing the existing country policy landscape against any commitments made in the NDC. This will identify new or additional activities that may be required to implement the NDC.

Where countries have already started to implement their NDCs (or wider climate strategies and action plans), the gap analysis can identify which activities are complete

Figure 4: Example of gap analysis on finance



and which have yet to be started. In addition, the gap analysis can identify activities which are in progress, or where an activity has already been carried out but could be improved (e.g. if better data are available). The results can be compiled into individual summaries for each module.

The gap analysis can provide a starting point for the ongoing implementation of the NDC, and identify which activities are most relevant and important. Figure 4: Example of gap analysis on finance provides an example of a gap analysis in relation to the finance module, whereby the status in relation to each activity is shown by the circles (as indicated in the key) and the activities from the module that could be incorporated into an NDC implementation plan are indicated on the right-hand side.

## 2.2. Resource needs

Having carried out this gap analysis, countries will be in a position to undertake an initial assessment of the resources needed for implementing the activities identified. This includes the finance required, but also staff time, expertise, technology and tools (e.g. emissions-scenario models). It is also advisable to carry out an initial assessment of the expected duration of the different activities, for example distinguishing between those that could be completed in less than a year and those that will be multi-year.

These initial assessments can inform the prioritisation of activities for NDC implementation, helping to identify 'quick wins'. However, it is likely that a more detailed assessment of the type and scale of resources required, and timings, will be

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## Whatever approach a country takes to NDC implementation it may be beneficial to have an overarching implementation plan across all the modules in NDC implementation.

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needed once activities have been prioritised (see Section ). This can inform decisions on the funding and other support needed for NDC implementation, for example the extent to which requirements can be met via national budgets (supporting the delivery of ‘unconditional’ targets) or whether additional sources of financing will be needed (e.g. new domestic economic instruments, private sector investment and international support to meet ‘conditional’ targets). If additional sources are needed, governments will need to work with bilateral and multilateral funders to develop terms of reference for specific projects (for further information, see activity 5 of the finance module in the reference manual).

### 2.3. Sequencing of activities

Countries will need to sequence the various NDC implementation activities identified from the gap analysis, to identify which activities should be started immediately and which can be started in the future. In particular, they should consider if any activities are sequential, or are contingent on others. It should be noted that activities can be sequential and contingent upon each other not only within the modules, but also across modules. These links are highlighted throughout the reference manual.

The governance module in the reference manual provides an important overall basis for the other modules, and it is therefore likely that many countries will include governance activities in the first stages of their NDC implementation plans. For example, establishing or reinforcing appropriate institutional structures and processes for overall NDC implementation should help to drive forward mitigation, adaptation, finance and MRV activities.

In addition, in order to implement many of the activities in the finance module, it will be important to first prioritise the key mitigation and adaptation actions for NDC implementation, so that targeted funding strategies can be developed for these.

In general, the sequencing of activities in the NDC implementation plan will be informed by:

- the relative priority of activities, including their alignment with wider national priorities (e.g. employment, economic growth, poverty reduction, food security); it will often make sense to programme higher priority actions ahead of lower priority actions

- the assessment of resources (see Section 2.2), identifying which activities are feasible with the resources available and when these should be undertaken
- the scope and timing of the NDC implementation plan overall (see Section )
- identification of the ‘precursor’, or ‘critical path’ activities required to enable the achievement of key mitigation and adaptation results; for example, financing NDC actions, integrating NDC implementation into key departments or advancing certain technologies that take time to deliver benefits
- the need to demonstrate quick wins in order to secure support from key decision-makers or stakeholders.

Countries may need to consult with key stakeholders to understand the priorities in different sectors and across national and subnational levels of government, and to identify activities for which there may already be support and momentum for their implementation. Accordingly, iteration may be required between sector entities, subnational entities and the central coordination unit for NDC implementation; see the governance module in the reference manual for more details.

Countries can make this sequencing process more robust and transparent by developing criteria (which could be agreed with stakeholders) on which to base this prioritisation. Not all criteria may be of equal importance, in which case it may be relevant to weight some criteria.

### 2.4. Documenting the plan

#### National implementation plan and roadmap

Whatever approach a country takes to NDC implementation – for example, integrating it into existing strategies and plans, delivering it through sectoral action plans, or producing a new work stream – it may be beneficial to have an overarching implementation plan across all the modules in NDC implementation.

The NDC implementation plan should clearly set out actions, timings and responsibilities. It can then act as a programme management tool for NDC implementation, allowing the central coordination team to track progress on the actions against the suggested timings. In addition,

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## Sectoral plans should set out the long-term objectives in each sector, how that sector will contribute to national-level implementation of the NDC, and details of the proposed activities, timings and responsibilities.

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the plan should make clear links to the vision of what the government aims to achieve, as set out in its NDC, not only over the implementation period but also the longer term.

It is critical to note that involving stakeholders closely in the process of developing the NDC implementation plan will encourage ownership, engagement and buy-in. Consensus will be needed within government, as well as with key external stakeholders. Depending on decisions about the status and publication of the plan (see Section ), it may also be desirable for some elements to be formally approved and/or published.

Lastly, it is likely that the NDC implementation plan will need to be revised over time. For example, a review of the policy enabling environment (e.g. legal, regulatory and institutional landscape), as part of implementing the mitigation module, may identify policy changes needed to deliver key mitigation actions and, hence, new activities or work streams may need to be added to the plan.

### Sectoral and subnational action plans

In addition to developing a national NDC implementation plan, it may be useful to develop sectoral action plans to set out clear and detailed instructions for activities in the sector in which they will be implemented. These are likely to cover all aspects of NDC implementation, detailing what needs to happen to deliver mitigation and adaptation outcomes, and possibly MRV, financing and governance arrangements.

The development of sectoral action plans is described in the reference manual (see activity 4d in the mitigation module). In summary, the process involves:

- reviewing strategic priorities for the sector
- conducting further and more detailed analysis if needed (e.g. more in-depth analysis of mitigation potential and costs)
- an appraisal of policy options for delivering emissions reductions or adaptation actions
- a review of risks and barriers, as well as potential mitigating actions.

Overall, sectoral plans should set out the long-term objectives in each sector, how that sector will contribute to national-level implementation of the NDC, and details of the proposed activities, timings and responsibilities. They should build on existing work where available, such as sectoral master plans and strategies and any sector-specific components of development strategies. Case studies from Colombia and Kenya are provided in the reference manual.

While many countries have indicated that they will adopt a sectoral approach to implementation, some countries may also want to develop NDC action plans at the subnational (e.g. state or city) level.





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## Even where external support is needed initially, countries should look to include a balanced mix of all four aspects of capacity-building in all technical assistance.

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- a climate investment plan that sets out the programme of investment and support needed to implement the NDC (see activity 6 of the finance module in the reference manual)
- a capacity-building plan, which sets out the range of capacities that need to be developed in the medium term, and maintained in the long term, to support NDC implementation.<sup>16</sup>
- The climate investment plan and capacity-building plan could be stand-alone documents, or could be included in the overall NDC implementation plan. But, as noted in Section , even stand-alone documents should align closely and link with other relevant documents.

The governance module in the reference manual provides a list of additional activities that could be considered under coordinating climate actions. These include agreeing cooperation approaches between key departments, putting in place plans for periodically reviewing ambitions, and allocating resources for NDC implementation (see activity 3 of the governance module in the reference manual).

### 3.2 Capacity-building

For most countries, additional capacity will need to be built in a range of areas to support NDC implementation. In this context, capacity means having the financial and human resources needed, together with the ability to apply skills, knowledge and tools and the willingness to deliver change. Capacity applies in a number of different aspects, including: (1) institutional capacity for governance and coordination; (2) technical capacity to carry out modelling and evaluation, including sectoral expertise; (3) relational capacity to build partnerships and invest time in processes; and (4) strategic capacity for systemic policy design and implementation.<sup>17</sup> While all four aspects apply in their own right, enabling relevant actors to develop all of them together, tailored to their specific country context, is likely to lead to a self-sustaining system.

Most countries will have some level of capacity in place; the process of NDC implementation should look to complement this and address gaps as required. Even where external support is needed initially, countries should look to include a balanced mix of all four aspects of capacity-building in all technical assistance, so that every piece of

work carried out contributes to building and strengthening a self-sustaining, autonomous system in the country. Countries may benefit from an initial comprehensive review of capacity requirements and the subsequent development of a capacity-building plan, which could be integrated into the wider NDC implementation plan.

Any capacity-building plans should be developed following the UNFCCC Capacity Building Frameworks.<sup>18</sup> These set out the guiding principles to be followed, such as capacity-building being country-driven, involving learning by doing, and being supported by existing national institutions. In addition, the Paris Agreement established the Paris Committee on Capacity Building, which will identify capacity needs and gaps, and help facilitate global cooperation on capacity-building initiatives and ideas. Countries can engage with this process to help steer their capacity-building efforts in a strategic and synergistic manner. Capacity-building also encompasses civil society and countries should consider the UNFCCC's Action for Climate Empowerment agenda, which focuses on education, public awareness and access to data.

Examples of the kinds of activities that may be relevant for capacity-building plans include the following.

- **Capacity needs assessments** analyse country and stakeholder capacity-building requirements in order to develop actionable interventions and strategies. These can be submitted to the Paris Committee on Capacity Building; they also provide the basis for discussions with technical assistance providers and funders.
- **Capacity development strategies** ensure that interventions are designed to develop institutional, technical, relational and strategic capacities to meet immediate and long-term capacity-building objectives.
- **Training courses** should be aligned with the overall training strategy and be suitable for their audience.
- A **national programme of climate change education** (e.g. inclusion in school curricula) can strengthen public awareness.
- **Learning exchanges** between countries are an opportunity to share insights and emerging practices, and explore common challenges and questions on NDC implementation.

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## Gaining consensus on an NDC implementation plan through stakeholder engagement, within government and with external stakeholders, will be critical to the successful delivery of NDC implementation plans.

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- **Stakeholder workshops** can provide updates on global changes in legislation, policies and tools, for example to ensure that government officials are kept abreast of latest best practices, guidance and approaches.
- **Support for policy-makers in effective decision-making** can develop the skills and relationships needed to drive forward new strategies, policies and climate change actions.
- **Shadowing or secondments** can foster knowledge and the exchange of skills, building capacity among different institutions.
- Other potential capacity-building activities include **institutional strengthening** and **knowledge transfer programmes**, **'train the trainer' programmes**, and **coaching and mentoring** during on-the-job learning.

These activities should be set out in a capacity-building plan with clear responsibilities and timings for when activities will happen. An example of designing a capacity-building plan in Rwanda is provided in the reference manual.

Capacity-building will take place at different levels: individual, organisational/ institutional, country and regional/global. In order to ensure that it has a long-term impact, countries should think creatively about how to build capacity at the organisational/institutional level in particular. In some cases, it might make sense to build capacity outside of the government, for example in academic institutions. This is especially important in countries where there are regular enforced job moves within the civil service. Governments can also consider institutionalising capacity-building efforts to ensure that civil servants have the appropriate skills.

The reference manual provides further information on capacity-building for NDC implementation, setting out the specific capacities needed to implement each module. An archive of individual capacity-building activities can be found at the UNFCCC's Capacity Building Portal.<sup>19</sup>

### 3.3 Stakeholder engagement

Gaining consensus on an NDC implementation plan through stakeholder engagement, within government and with external stakeholders, will be critical to the successful delivery of NDC implementation plans. Despite the urge to

push ahead with NDC implementation, the importance of full, measured and comprehensive stakeholder engagement should not be overlooked.

Firstly, it will be important for relevant stakeholders to buy into the Paris Agreement and the first NDC that is being implemented. Most countries carried out some form of stakeholder consultation during the development of their INDCs. The most extensive engagements covered key sector ministries (e.g. agriculture, energy, transport, industry, finance) and different groups of civil society (e.g. private sector, academic institutes, NGOs, civilians). The scope and effectiveness of these engagements varied, and in many cases they were limited due to the tight timetable for preparing INDCs in advance of COP 21. However, they provide a useful platform on which to build, in order to engage with key stakeholders and/or the public. Some countries have already used the same stakeholder groupings to raise awareness of the outcomes of COP 21 and to strengthen support and buy-in for the NDC and the implementation activities that will follow.<sup>20</sup>

Given the broad range of actors from government, the private sector and civil society that are likely to be involved in NDC implementation, we recommend that appropriate stakeholder engagement processes are included in all NDC implementation planning activities. The exact structure and scope of engagement will depend on the circumstances of each country, but all countries should adopt an inclusive approach so that all relevant constituencies and actors are involved, including subnational and city authorities.

There are a number of ways this 'socialisation' can be carried out, including national stakeholder workshops, online consultations and regional engagement. Wider public socialisation approaches could include using social media, traditional media and appropriate interventions targeted at specific communities and groups. More details on stakeholder engagement in the context of NDC implementation can be found in the reference manual (see activities 3 and 5 in the governance module, and case studies from The Gambia, Pakistan and Laos).

### 3.4 Updating the NDC

A final but central aspect of NDC implementation is updating the NDC itself. As set out in Figure 1, the Paris Agreement provides for the preparation and communication of successive NDCs every five years from 2020, with each being a progression and reflecting the country's "highest possible ambition".<sup>21</sup>

Having just gone through the preparation, drafting and approval of their INDC, countries are particularly aware of the analytical and technical capabilities required to prepare an NDC, and the resources and time needed for stakeholder engagement and approval processes. Given the short

timescale for INDC preparation, it was necessary for many countries to seek technical support from external experts and international sources. However, by the 2020 deadline for communicating their next NDC, it is hoped that countries will have increased their technical capabilities so that much of this analysis can be carried out by national experts.

Given that there are now only a few years until countries are invited to submit their next NDC, and that the activities needed for this may take some time to complete, they should ideally be built into NDC implementation plans. This will ensure that their implementation and progress can be tracked and managed, and that the next set of NDCs are submitted on schedule in 2020.

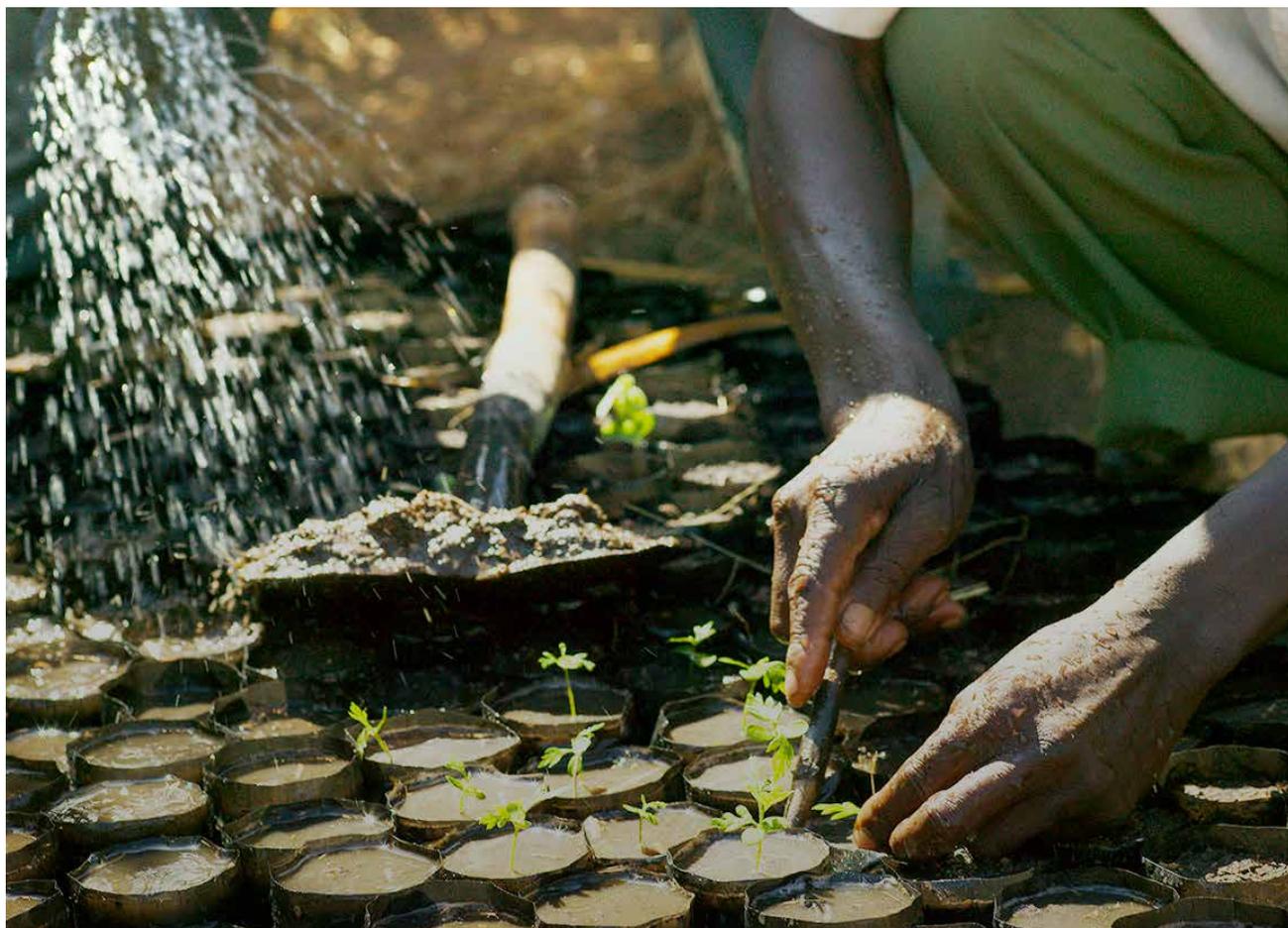


Image: © Mikkel Ostergaard, Panos

# Conclusions

This Quick Start Guide sets out the key steps and considerations that a country can take to implement its NDC. The accompanying reference manual provides a wealth of further information that can be used to carry out these steps. It is important to remember, though, that NDC stands for **Nationally Determined Contribution**: NDCs and their implementation will vary from country to country.

That said, there are likely to be common themes between countries, such as the need to ensure high-level political buy-in and leadership, and the importance of integrating NDC implementation into existing economic plans and development processes. There is also a good opportunity for peer-to-peer learning, and for countries to exchange good practice and lessons learned, to mutual benefit.

We hope that this guide and the accompanying reference manual provide a useful resource as countries work together to build capacity, exchange ideas and implement activities to ensure that the Paris Agreement is a success.

# Appendix 1: NDCs and the Sustainable Development Goals

The Millennium Development Goals (MDGs),<sup>22</sup> which covered the period 2000–2015, were achieved only partially. Notably, some important cross-cutting issues were inadequately prioritised and not explicitly recognised as MDGs, including combating climate change<sup>23</sup> and the enabling factors for this (e.g. adequate finance, monitoring and evaluation, institutional capacity).

Following on from the MDGs, September 2015 saw 193 governments agree on Agenda 2030 for Sustainable Development,<sup>24</sup> which comprises 17 global goals for sustainable development: the SDGs. The SDG framework is broad, universal and emphasises the links and synergies across the goals, as well as the importance of coherent policy, implementation and planning.

Our ability to mitigate and manage climate impacts will be crucial to our ability to achieve, by 2030, not only SDG 13 on combatting climate change, but a number of other SDGs. Hence, the NDCs provide a bridge between the Paris Agreement and Agenda 2030, and an operational mechanism for countries to transition from the MDGs to the SDGs by 2030. Table A1 summarises the overlaps between the SDGs and the Paris Agreement.

This Quick Start Guide is targeted mainly at helping governments to deliver on their commitment to SDG 13 on addressing climate change responses and its impacts. It is a viable mechanism to:

- pilot the SDG implementation process, especially SDG 13
- road-test the scope and barriers to policy coherence across the SDGs, given the cross-cutting nature of climate change
- provide a model for effective SDG implementation and reporting.

SDG 13 has significant implications on the extent to which a number of non-climate-focused SDGs can be achieved, especially those linked to poverty, food security, gender equality, water and sanitation, energy access, reduced inequalities, sustainable cities, and sustainable land use and ecosystems. Table A2 maps each of the SDGs across the five modules in the reference manual.

**Table A1: Overlaps between the SDGs and the Paris Agreement**

Key risk	SDGs	Paris Agreement
Global coverage	Adopted by 193 countries in September 2015.	Adopted by 195 countries in December 2015.
Synergies between climate change and development	Achievement of SDGs premised on effectively combating climate change (SDG 13), with at least 11 other SDGs directly or indirectly linked to climate change.	Emphasises the intrinsic relationship that climate change has with equitable access to sustainable development and poverty alleviation.
Time frame	To be implemented 2015–2030.	Current NDCs generally have timeframes running up to 2025 or 2030, but with successive and updated NDCs being submitted every five years.
Nationally determined targets	The SDGs are universally applicable, with each government setting its own national targets guided by the global level of ambition, but taking into account national circumstances. Each government will also decide how these targets should be incorporated in national planning processes, policies and strategies.	The Paris Agreement is to be implemented in accordance with the principle of common but differentiated responsibilities and respective capabilities, in the light of different national circumstances, and will involve countries ratifying and implementing their own NDCs.
Policy coherence and mainstreaming	Premised on the effective mainstreaming of the SDGs into regional, national and subnational development frameworks, as well as coherent policy and planning.	Premised on the effective mainstreaming of climate change into national, subnational and regional policy frameworks, as well as coherent policy and planning.
National reporting	National reporting will commence annually in 2018.	The new transparency (reporting) regime under the Paris Agreement is yet to be determined, but is likely to build on current MRV arrangements.



Image: © UNAMID, Flickr

**“The SDGs and the Paris Agreement together offer a once-in-a generation opportunity to end extreme poverty, create climate compatible development and avoid dangerous levels of climate change.”**

Sam Bickersteth, Chief Executive, CDKN

**Table A2: Mapping the NDC implementation modules to the SDGs**

SDG	Governance	Mitigation	Adaptation	Finance	MRV
1. No poverty – end poverty in all its forms everywhere	●		●	●	
2. Zero hunger – end hunger, achieve food security and improved nutrition and promote sustainable agriculture		●	●		
3. Good health and well-being – ensure healthy lives and promote well-being for all at all ages		●	●		
4. Quality education – ensure inclusive and equitable quality education and promote lifelong learning opportunities for all					
5. Gender equality – achieve gender equality and empower all women and girls	●	●	●		
6. Clean water and sanitation – ensure availability and sustainable management of water and sanitation for all		●	●		
7. Affordable and clean energy – ensure access to affordable, reliable, sustainable and modern energy for all		●	●		
8. Decent work and economic growth – promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	●	●	●	●	●
9. Industry, innovation and infrastructure – build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation		●	●	●	
10. Reduced inequities – reduce inequality within and among countries	●			●	
11. Sustainable cities and communities – make cities and human settlements inclusive, safe, resilient and sustainable	●	●	●	●	●
12. Responsible consumption and production – ensure sustainable consumption and production patterns		●			
13. Climate action – take urgent action to combat climate change and its impacts	●	●	●	●	●
14. Life below water – conserve and sustainably use the oceans, seas and marine resources for sustainable development		●	●		
15. Life on land – protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and reverse land degradation and halt biodiversity loss		●	●		
16. Peace, justice and strong institutions – promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels					●
17. Partnerships for the goals – strengthen the means of implementation and revitalise the global partnership for sustainable development	●			●	●

# Appendix 2:

## Resources

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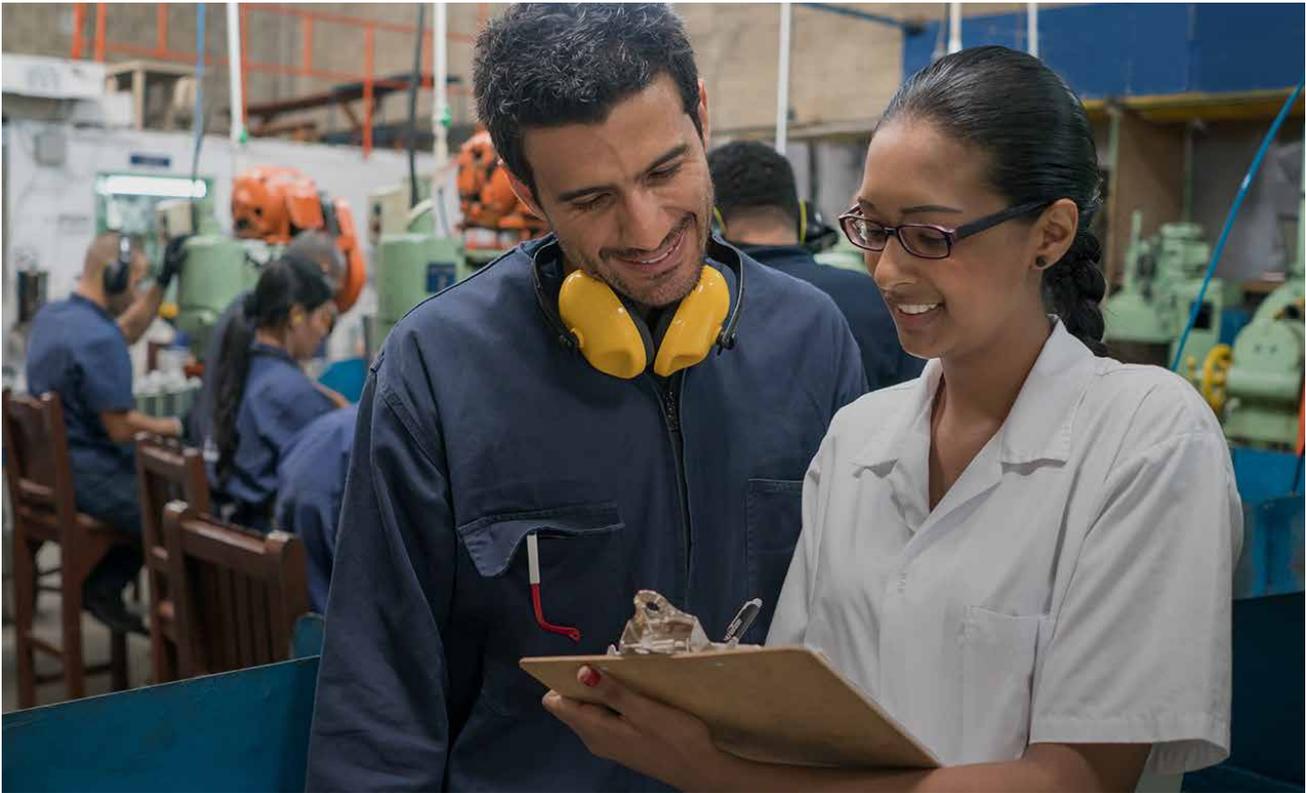


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# Glossary

CDKN	Climate and Development Knowledge Network
COP	Conference of the Parties to the UNFCCC
EU	European Union
GHG	greenhouse gas
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
INDC	Intended Nationally Determined Contribution
IPCC	Intergovernmental Panel on Climate Change
LDC	Least Developed Country
M&E	monitoring and evaluation
MDG	Millennium Development Goal
MRV	measuring, reporting and verification
NAMA	Nationally Appropriate Mitigation Action
NAP	National Adaptation Plan
NDC	Nationally Determined Contribution
REDD+	Reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries
SDG	Sustainable Development Goal
SIDS	Small Island Developing States
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
WRI	World Resources Institute

# Endnotes

- 1 The full quote and speech is available at: Yale School of Forestry & Environmental Studies (2011) 'Video: What happens after Paris? Figueres on the next climate steps'. New Haven: Yale School of Forestry & Environmental Studies. (<http://environment.yale.edu/news/article/after-paris-un-climate-negotiator-christiana-figueres-comes-to-yale/>).
- 2 See: UNFCCC (2015) 'Adoption of the Paris Agreement'. Bonn: United Nations Framework Convention on Climate Change. (<https://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf>).
- 3 The INDC Portal, which contains all submissions, is available at: [http://unfccc.int/focus/indc\\_portal/items/8766.php](http://unfccc.int/focus/indc_portal/items/8766.php).
- 4 UNISDR (2015) *Sendai Framework for Disaster Risk Reduction 2015–2030*. Geneva: United Nations Office for Disaster Risk Reduction. ([www.wcdrr.org/preparatory/post2015](http://www.wcdrr.org/preparatory/post2015)).
- 5 More information on gender equality and climate change can be found at: Kratzer, S. and Le Masson, V. (2016) *10 things to know: gender equality and achieving climate goals*. London: Climate and Development Knowledge Network. (<http://cdkn.org/resource/report-10-things-know-gender-equality-achieving-climate-goals>).
- 6 See: Dodwell, C. (2015) *Implementing the Paris Climate Agreement: turning action plans into achievement*. London: Ricardo Energy & Environment. (<http://ee.ricardo.com/cms/assets/International/Implementing-the-Paris-Climate-Agreement-Turning-Action-Plans-into-Achievement.pdf>).
- 7 Noting the special requirements for SIDS and LDCs under the Paris Agreement.
- 8 Note that for adaptation in particular, this is often referred to as monitoring and evaluation (M&E).
- 9 UNFCCC (2015) 'Adoption of the Paris Agreement'. Bonn: United Nations Framework Convention on Climate Change. (<https://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf>).
- 10 NDCs submitted to the UNFCCC have been uploaded to the interim NDC registry: [www4.unfccc.int/ndcregistry/Pages/Home.aspx](http://www4.unfccc.int/ndcregistry/Pages/Home.aspx).
- 11 At the time of writing (September 2016), some countries have already submitted revised NDCs; see, for example, Belize's NDC on the interim NDC registry. The authors are also aware of other countries that are considering submitting revised NDCs due to policy changes since their INDC was submitted.
- 12 In some countries, information was missing on issues such as which greenhouse gases and sectors were covered, or the assumed accounting methods for specific sectors.
- 13 See Article 4(1) of the Paris Agreement. UNFCCC (2015) 'Adoption of the Paris Agreement'. Bonn: United Nations Framework Convention on Climate Change. (<https://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf>).
- 14 See Article 4(19) of the Paris Agreement and paragraph 36 of 1/CP.21, which requests that such strategies be communicated by 2020. UNFCCC (2015) 'Adoption of the Paris Agreement'. Bonn: United Nations Framework Convention on Climate Change. (<https://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf>).
- 15 See: Holdaway, E., Dodwell, C., Sura, K. and Picot, H. (2015) *A guide to INDCs: Intended Nationally Determined Contributions. Second edition (May 2015)*. London: Climate and Development Knowledge Network. (<http://cdkn.org/wp-content/uploads/2015/04/CDKN-Guide-to-INDCs-Revised-May2015.pdf>).
- 16 Note that Article 11.4 of the Paris Agreement states that "developing country Parties should regularly communicate progress made on implementing capacity-building plans, policies, actions or measures to implement this Agreement". UNFCCC (2015) Op. cit.
- 17 For more information on typical climate change-related capacity requirements for developing countries, see: UNFCCC (no date) 'Priority areas for capacity-building in developing countries, as listed in decision 2/CP.7'. Bonn: United Nations Framework Convention on Climate Change. ([http://unfccc.int/files/cooperation\\_and\\_support/capacity\\_building/application/pdf/cb\\_priority\\_areas.pdf](http://unfccc.int/files/cooperation_and_support/capacity_building/application/pdf/cb_priority_areas.pdf)).
- 18 See: UNFCCC (2014) 'Capacity-building: Frameworks'. Bonn: United Nations Framework Convention on Climate Change. ([http://unfccc.int/cooperation\\_and\\_support/capacity\\_building/items/7203.php](http://unfccc.int/cooperation_and_support/capacity_building/items/7203.php)).
- 19 See: UNFCCC (no date). 'Capacity building portal'. Bonn: United Nations Framework Convention on Climate Change. (<http://unfccc.int/capacitybuilding/core/activities.html>).
- 20 For example, Myanmar held a post-Paris stakeholder workshop to share the Paris Agreement with stakeholders and to kick-start discussions on NDC implementation.
- 21 Note that in 2020, countries whose INDCs contains a time frame up to 2025 are urged to communicate a new one by 2020 and every five years thereafter, while countries whose INDC contains a time frame up to 2030 are requested to communicate or update their contributions by 2020 and to do so thereafter every five years.
- 22 See: UN (2015) *The Millennium Development Goals Report*. New York: United Nations. (<http://mdgs.un.org/unsd/mdg/Resources/Static/Products/Progress2015/English2015.pdf>).
- 23 Acknowledging that the UNFCCC is the primary international, intergovernmental forum for negotiating the global response to climate change.
- 24 See: UN (2015) *Resolution adopted by the General Assembly on 25 September 2015*. Geneva: United Nations. ([www.un.org/ga/search/view\\_doc.asp?symbol=A/RES/70/1](http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1)).



# Planning for NDC Implementation



## Reference Manual

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# How to use this reference manual

This reference manual accompanies the document ‘Planning for NDC implementation: A Quick Start Guide’. The guide outlines the key steps that countries can go through to implement their Nationally Determined Contributions (NDCs); see the Introduction section of the guide for more information. This reference manual looks at each of the five NDC implementation modules – governance, mitigation, adaptation, finance and measuring, reporting and verification (MRV) – in more detail, and sets out the specific activities in each area for planning the implementation of an NDC. It is important to note that following the reference manual does not automatically result in the production of an implementation plan; rather, by working through the different modules, users can build up a picture of the detailed activities needed to implement their NDC.

This reference manual is divided into the five implementation modules, and each follows a common format:

- an introduction to the module and its key elements and issues
- a diagram showing the key activities under that module
- a short explanation of how the module relates to the Paris Agreement<sup>1</sup>
- a table of detailed activities that countries can take
- case studies of how other countries have tackled the activities in each module.

This reference manual can be used to inform the overarching steps set out in the Quick Start Guide. In particular, countries can review the activities set out under each module, identify those which are relevant to their national circumstances, and then undertake a gap analysis by comparing these activities against their existing actions, thus identifying what further action may be needed to implement their NDC.

When reviewing these modules, countries will want to consider how each activity relates to their own circumstances. In some cases, they may not yet have carried out the activity, in which case it may sensibly form part of the NDC implementation plan. In other cases, it may be that an activity has already been completed and

can therefore be left out of the implementation plan (e.g. a steering group to coordinate work under that module has already been established). Alternatively, a country may have already carried out an activity but, on reviewing the tables of detailed activities in this reference manual, may decide to add to this or improve what is already in place (e.g. a steering group already exists but its membership and functions need to be expanded).

Throughout each module, links between the modules are highlighted, so that countries can take a holistic approach. For example, the development of an MRV system is relevant to all of the modules, since the system will require governance arrangements and will help to track climate finance and the implementation of mitigation and adaptation policies. In addition, the modules highlight win-win synergies with efforts to implement the Sustainable Development Goals (SDGs); further details are provided in Appendix 1 of the Quick Start Guide. Case studies within each module illustrate how countries have approached the recommended activities.

The diagram at the start of each module summarises the activities to be undertaken within each module, signposting relevant linkages to other modules. The activities in the diagrams should be read from bottom to top, as they represent the building blocks of NDC implementation. Note that countries can work across all five modules at once, or focus on the module(s) most important to them.

## Overview of activities

Table 1 lists the activities covered in each module, for ease of reference. These are replicated in the diagram at the start of each module. Note that as the review activity is a common first step in each of the modules, this is not included in the diagrams.

Table 1: Key activities for each module

Module	Activity
Governance	<ol style="list-style-type: none"> <li>1. Review current institutional arrangements</li> <li>2. Establish an NDC implementation coordination team</li> <li>3. Set up institutional arrangements</li> <li>4. Build capacity within government</li> <li>5. Engage external stakeholders</li> <li>6. Develop legal frameworks</li> </ol>
Mitigation	<ol style="list-style-type: none"> <li>1. Review the current mitigation policy landscape</li> <li>2. Set up institutional arrangements for the coordination and oversight of mitigation activities</li> <li>3. Analyse the national mitigation potential to identify priority sectors and mitigation options</li> <li>4. Conduct a detailed appraisal of priority actions for key sectors</li> <li>5. Design mitigation policies</li> <li>6. Access financing for mitigation actions</li> <li>7. Implement mitigation policies</li> <li>8. Design and implement a mitigation MRV system</li> <li>9. Prepare for future NDCs</li> </ol>
Adaptation	<ol style="list-style-type: none"> <li>1. Review the current adaptation policy landscape</li> <li>2. Undertake groundwork and governance</li> <li>3. Undertake preparatory work for adaptation plans</li> <li>4. Access financing for adaptation actions</li> <li>5. Implement policies, projects and programmes</li> <li>6. Monitor and report on progress and the effectiveness of adaptation actions</li> </ol>
Finance	<ol style="list-style-type: none"> <li>1. Review the climate finance landscape</li> <li>2. Establish institutional arrangements for the oversight and coordination of climate finance activities</li> <li>3. Compile an overall costing for the NDC</li> <li>4. Identify funding gaps and needs</li> <li>5. Assess public and private financing options and develop a country climate investment plan</li> <li>6. Develop a country climate investment plan</li> <li>7. Secure direct access to international climate funds for national and subnational institutions</li> <li>8. Develop a project pipeline and financing propositions that can be put forward to different financing sources</li> <li>9. Increase private sector engagement and overcome barriers to investment</li> <li>10. Design and implement a climate finance MRV system</li> </ol>
Measuring, reporting and verification	<ol style="list-style-type: none"> <li>1. Review current MRV activities</li> <li>2. Establish institutional arrangements for the oversight and coordination of MRV activities</li> <li>3. Assess data gaps and needs</li> <li>4. Design the MRV system for mitigation, adaptation and finance</li> <li>5. Establish data management processes</li> <li>6. Build MRV capacity</li> <li>7. Improve the MRV system over time</li> </ol>



# Governance

Effective governance involves driving progress, coordinating decision-making processes, ensuring accountability, engaging stakeholders inside and outside of government, and maintaining political will at all levels. In particular, the process of policy development and ensuring inclusive stakeholder engagement across diverse actors – national, subnational, municipal, public, private and civil society – is critical to obtaining buy-in and integrating NDC implementation into national policy. Each countries' NDCs may set out how this will be delivered,<sup>2</sup> building on existing policies and processes, climate-related or otherwise.

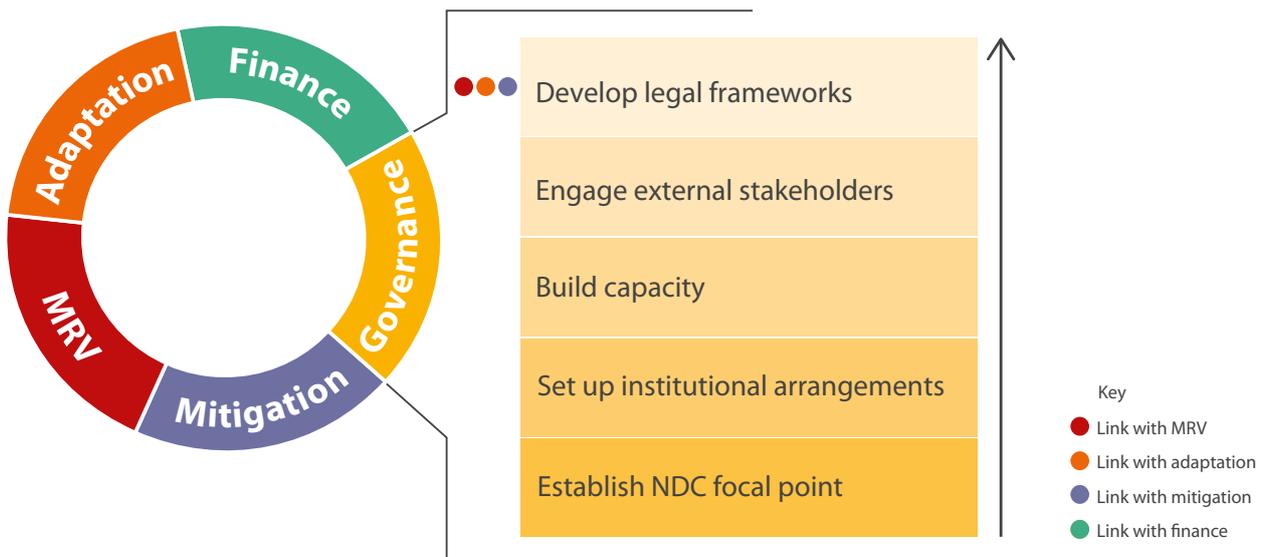
Effective governance for NDC implementation can also support the delivery of the SDGs, especially those on strong, accountable and inclusive institutions (e.g. SDG 16) and strengthening means of implementation (e.g. SDG 17).<sup>3</sup> In addition, creating more equitable governance systems, with equal access to decision-making for women and men, can support the delivery of SDG 4 on gender.

## Box 1: Governance and the Paris Agreement

Governance is a process that is unique to each country. Part of the rationale for strong and effective governance, along with driving climate action to meet national priorities, is to fulfil the key processes and meet the milestones set out by the Paris Agreement. In particular, countries will need to consider their domestic governance arrangements for communicating updated NDCs every five years, and the work that will be needed to inform this process. The Ad Hoc Working Group on the Paris Agreement has been established to continue negotiations regarding the details under the Agreement (Decision P.7); countries will want to engage with this Working Group while implementing their NDCs.

All countries are at different stages of setting up governance arrangements and institutional processes, and approaches will need to be tailored to individual countries. Nonetheless, there are overall principles of good practice regarding NDC implementation plans; these are set out in Section 2.4 of the Quick Start Guide. When reviewing this module, countries may find it useful to refer to the other four modules, to consider how good governance arrangements can help facilitate and drive action in those areas.

Figure 1: Key activities in the governance module



Note: Specific links to other modules are not shown on the diagram, but it should be noted that governance relates in general terms to all the other four modules.

## Key activities

### 1. Review current institutional arrangements

#### 1a. Review the NDC

- Review the NDC, with particular attention to the 'Planning processes' section, to identify any current or planned arrangements for NDC implementation. For example, will it be coordinated through existing structures, or will something new be established? Review how the Intended Nationally Determined Contribution (INDC) was developed, for example the process that was followed and what the key drivers and demand for the NDC have been (e.g. mitigation or adaptation, public interest or political compliance, etc.), in order to position and prioritise aspects of implementing the NDC appropriately.

#### 1b. Review the existing governance landscape

- Review key documents, such as national and sectoral low-emission development strategies, National Adaptation Plans, National Communications, Biennial Update Reports, sectoral master plans and national planning documents.<sup>4</sup>
  - To what extent do any existing structures support both adaptation and mitigation?
  - To what extent is the NDC either collating what is already in place, or setting goals which now need additional planning?
- Where powers and responsibilities are devolved to the subnational level (e.g. regional, municipal, city) then institutional arrangements at these levels should also be considered.

### 2. Establish an NDC implementation coordination team

#### 2a. Identify a central NDC coordination team

- The team will typically be within government and could be a new unit, an existing unit with an expanded remit, or a unit that already exists and is already carrying out a similar function. Seek gender balance within the team.

#### 2b. Define the team's roles and responsibilities with regards to NDC implementation

- Ensure appropriate expertise and official responsibilities across adaptation and mitigation.
- Consider including the promotion of gender equity and equal access of women to decision-making,

and whether the team should also be mandated with the development and delivery of SDG 13 on climate action or other relevant SDGs (see Appendix 1 of the Quick Start Guide for more information).

- Clearly document the team's roles and responsibilities, if possible in legislation to provide the team with the maximum mandate and authority; see activity 6 within this module. If this is not possible or desirable, consider documenting the team's roles and responsibilities within a publically available written statement or terms of reference, to aid transparency.

#### 2c. Agree cooperation approaches with key government ministries, departments and agencies

- These should set out roles and responsibilities, sharing information relevant to NDC implementation and coordination on cross-cutting issues. They should ideally be documented within legislation to provide the maximum mandate and authority, or within publicly available written statements.

#### 2d. Provide resources and support for NDC implementation

- Allocate a budget and resources for NDC implementation, including promoting equal access for women to decision-making, and identify funding sources. For example, consider what resources are needed to support the central coordination team to carry out their role, or for other government ministries to carry out new and additional activities on coordinating NDC implementation.
- Provide appropriate capacity-building for the team and key counterparts across government in relation to their mandated roles and responsibilities; see activity 4 within this module for more details.

### 3. Set up institutional arrangements

#### 3a. Integrate with existing processes

- Identify the primary vehicle for determining national development policy, as determined in activity 1 within this module. Consider whether NDC implementation can be integrated into this. For example, if a country has a regular cycle of five-year development plans, it might be possible to integrate NDC implementation into this.
- To avoid duplication, consider aligning NDC implementation with any processes that are in place for SDG implementation.

### 3b. Ensure integration includes wider ministries, agencies and subnational authorities

- In addition to formally including key line ministries in institutional arrangements for implementation (see activity within this module), steps should be taken to engage other government stakeholders, in particular at the national, subnational and municipal levels. Ensuring appropriate expertise and official responsibilities across adaptation and mitigation will help with understanding of their interests and potential roles in relation to NDC implementation, including those with specific mandates linked to the relevant SDGs (see Appendix 1 in the Quick Start Guide).
- Identify which sectors, geographies, themes or groups were included in the NDC, and the extent to which climate action is already integrated into policies and plans, both vertically and horizontally. This may highlight key opportunities for synergies and also potential gaps.

### 3c. Ensure effective communication across government

- Encourage relevant government ministries, departments and agencies to identify individuals and teams with a specific mandate to coordinate climate action for their policy areas. This may overlap with individuals tasked with SDG implementation and ensuring gender equality in policy-making.
- Set up clear lines of communication between different levels of governance (local, regional, national, international) and different sectors (e.g. promoting equal access to decision-making for women at all levels). This could include bilateral communication with specific regional, municipal or city authorities, and/or a committee that brings together different stakeholders from the same level of governance – or from different levels of governance – to discuss the coordination of climate policy between the different levels.
- Consider the development of work streams, either aligned to individual modules of NDC implementation, or to individual sectors. These can group together linked activities under a single owner to maximise synergies between activities. Options could include:
  - a forum for cross-sectoral coordination of mitigation and adaptation policy
  - a cross-sectoral forum for analysts to discuss cross-cutting technical and data issues (e.g. vulnerability assessments, adaptation appraisal methodologies, approaches for assessing mitigation potential, the quantification of co-benefits from adaptation and mitigation actions). This could be the same forum that discusses cross-cutting MRV methodological issues (see activity 6 within this module).

- Consider what information and engagement on the co-benefits of climate action might be useful to get buy-in for NDC implementation from different ministries, departments and agencies, at both national and subnational levels. For example, there might be health and air quality benefits for the ministry leading on health, and job creation or other economic benefits for the ministry that leads on economic development.
- Consider information-sharing and awareness-raising to increase understanding across the government in relation to the Paris Agreement and the NDC process, including links between NDC and SDG implementation and co-benefits of taking ambitious action on climate change.

## 4. Build capacity within government

### 4a. Identify the capacity across government that is needed to enable NDC implementation, and develop a programme of ongoing support

- Capacity requirements for the central NDC coordination team could include:
  - good project management structures and processes, for example well-managed committees and working groups
  - diverse partnerships in order to manage needs across governmental and non-governmental stakeholders
  - expertise in using appropriate tools for project management, for example Gantt charts, critical path tools and risk registers
  - understanding of the Paris Agreement and developments at international climate negotiations
  - understanding of wider government policy, for example economic and development plans, and sectoral master plans.
- Skills and capabilities may need to be developed across government, including core departments and committees coordinating NDC implementation within specific sectors, as well as national climate change funds.
- More widely, capacity requirements across government could include:
  - experience and expertise in reporting policy implementation to senior officials and ministers
  - capacity-building on gender mainstreaming for implementing ministries, departments and agencies

- basic knowledge of climate policy across key ministries, in particular an understanding of how their core work areas link with the climate agenda, and what this might mean in the light of the SDGs
- more coordinated working across key ministries to drive a national climate agenda jointly and operate at scale.

#### 4b. Improve institutional memory

- Establish processes to retain knowledge within institutions, including the robust archiving of data and the recording of decisions taken and the rationale for them; see activity 5 within the MRV module for more details on developing data management systems.

### 5. Engage external stakeholders

#### 5a. Undertake stakeholder mapping

- Map the key national stakeholders and their potential roles in NDC implementation, including the private sector, academia and civil society including women's organisations.
- Consider which organisations have already been engaged in the NDC process.

#### 5b. Agree responsibilities for engagement

- Assign responsibility for coordinating stakeholder engagement to an individual or unit. This could be part of the role of the central coordinating team.
- Assign responsibility for stakeholder relationships to relevant individuals or units throughout government, aiming for gender balance.

#### 5c. Develop a clear stakeholder engagement plan

- This could show what engagement will be carried out and with whom, but also how this will feed into policy decisions and practical actions. The Gambia case study showcases this.
- Ensure the participation of academic experts and civil society, including youth and women's organisations, so that the most marginalised groups are included in national and local governance planning.
- In particular, consider creating a policy dialogue between policy-makers faced with climate change issues and women's organisations charged with mainstreaming gender.

### 6. Develop legal frameworks

- Consider putting in place legislation to strengthen political will and formalise governance processes. This could include:
  - a mandate for the central NDC coordination team
  - the roles and responsibilities of relevant government ministries and agencies
  - decision-making and coordination processes
  - long-term mitigation and adaptation targets to guide discussions about ambition
  - a process for the five-yearly NDC updates
  - powers to obtain information or data relevant to climate policy
  - powers (specific or generic) to make secondary legislation to achieve climate actions, for mitigation or adaptation.
- At the end of 2015, more than 50 countries had framework laws or policies to address both mitigation and adaptation, providing precedents and options for other countries to consider.<sup>5</sup>



Image: © Panos

### Case study 1 – Kenya: developing a National Climate Change Action Plan and supporting climate action through legislation

Kenya's National Climate Change Action Plan<sup>6</sup> provided the basis for the country's INDC in the run-up to the 21st Conference of the Parties (COP 21) to the United Nations Framework Convention on Climate Change (UNFCCC). The implementation of this plan is now enshrined in legislation through the Climate Change Act (2016),<sup>7</sup> which will serve as the main instrument for converting Kenya's NDC pledges into action.

The National Climate Change Action Plan, published in 2013, sets out a detailed framework of priorities and actions. It covers the following chapters, among others:<sup>8</sup>

- **Adaptation and mitigation:** this includes an assessment of the priority actions, indicative finance needs and implementation period.
- **Finance:** this sets out the priority actions to finance the implementation of the plan.
- **Enabling policy, legislative and institutional frameworks:** this sets out the structure for climate change coordination and oversight, as well as the case for a climate change law and institutional reforms.
- **Knowledge management and capacity-building:** this outlines the need to address the capacity-building needs of the main institutions involved in implementing climate change actions, as well as a public awareness and communications plan.
- **Monitoring, reporting and verification:** this includes a detailed framework to implement a national performance benefit measurement framework, or 'MRV+' system, which covers monitoring and reporting on both mitigation and adaptation actions.

The development of the National Climate Change Action Plan was a year-long process and each component included a participatory stakeholder-engagement process involving the public sector, the private sector, academia and civil society. The process was led by the Ministry of Environment and Natural Resources and overseen by a multi-stakeholder, multidisciplinary task force.

The subsequent Climate Change Act aims to provide a regulatory framework for an enhanced response to climate change, and to promote the development, management and implementation of a climate-resilient, low-carbon development in Kenya.<sup>9</sup>

### Roles and responsibilities

The Climate Change Act sets out the roles and responsibilities for climate action. A high-level National Climate Change Council, chaired by the President, will be established. The council will provide overarching national coordination on climate change, by:

- ensuring the mainstreaming of climate change functions by relevant stakeholders, including county governments
- overseeing the implementation of the National Climate Change Action Plan
- providing policy direction on research and training on climate change
- administering the Climate Change Fund established under the act.

The Climate Change Directorate, located in the Ministry of Environment and Natural Resources, will be the implementing agency on national climate change plans and actions. For example, the Climate Change Act mandates the Directorate to undertake a biennial review of the implementation of the National Climate Change Action Plan and report to the National Climate Change Council. It also proposes innovative mechanisms, such as incentives for private sector investment in low-carbon, climate-resilient development, which may encourage greater private sector involvement in climate action.

### Case study 2 – The Gambia: using subnational stakeholder consultations to inform INDC development

As part of the Gambia's INDC formulation process,<sup>10</sup> the government held workshops in each of the country's eight major regions. Supported by the Government of Germany and CDKN, these workshops were designed to deepen knowledge about climate change and include inputs from a diverse range of stakeholders in the INDC preparation process.

The workshops presented information on climate variability and climate change impacts in the Gambia, with a focus on vital sectors of the Gambian economy, namely agriculture, forestry, energy and waste. The workshops also informed local stakeholders on the role of the government in the UNFCCC process.

### Ensuring citizen buy-in

During the workshops, citizens became aware of, and interested in, climate change, both mitigation

and adaptation opportunities. Rural communities, which are highly dependent on agriculture and forestry, proposed numerous mitigation options tailored to local circumstances. Most of these proposals were included in the INDC and in national policy initiatives.

These regional workshops were hugely important in the Gambia's INDC preparation process: citizens benefitted from being included in an important decision-making process that will impact their livelihoods, and the consultations helped to create sustained links between climate actions and local development. The result was not only an improved INDC, with ambitious and informed emissions-reduction pathways, but also support for necessary local developments.

### Case study 3 – Pakistan: developing renewable energy solutions with the private sector

Sialkot, a small city in Pakistan's prosperous Punjab province, has emerged as a national growth engine, but its industrial productivity is severely restricted by the country's power shortages. An assessment funded by CDKN looked into the feasibility of using the Nationally Appropriate Mitigation Action (NAMA) approach to support renewable energy for Sialkot's industry.

**Private-sector engagement:** Buy-in and active support from the Sialkot Chamber of Commerce and Industry led to a good response from private sector stakeholders. During 2015, more than 100 Sialkot industrialists participated in workshops to analyse their energy demands, the distribution among differently sized companies and the renewable energy options available, along with the associated costs, savings potential and emissions reductions. They also identified potential barriers, based on their experience of introducing new technology to the city.

**Bridging the private and public sector:** The high level of participation from private sector entities was attributed to the involvement of a local champion, who was connected into conversations with industry and helped to raise awareness of the opportunity. Following this assessment, the final NAMA development is now under way, with project partners testing solutions that can help to bridge the entrepreneurial spirit of Sialkot's private sector with the public sector to address a national priority.<sup>11</sup>

### Case study 4 – Cambodia: gender-responsive mitigation in the forestry sector

In rural Cambodia approximately 40% of households obtain up to half of their livelihood from forests, and 80% of rural women collect non-timber forest products for household consumption and sale. The formation of the Gender Group in 2014 has helped to ensure a more gender-equitable approach to reducing emissions from deforestation and forest degradation (REDD+)<sup>12</sup> in the country, while also supporting adaptation and development benefits for the most vulnerable people.

**Participatory and inclusive planning:** Women are often under-represented in the forestry sector, in community forest management committees, and in decision-making generally. Cambodia's REDD+ roadmap (2010)<sup>13</sup> did not originally include women as key stakeholders in the consultation process, but the Gender Group is a good example of why women's participation in the development of national REDD+ policies and plans is important.

**Awareness raising and stakeholder engagement:** The Gender Group has raised awareness of gender equality and women's empowerment among government and non-government stakeholders.

**Integrated approaches to implementation:** The Gender Group has also been instrumental in advising on how the national REDD+ strategy could deliver gender equity, enabling the development of implementation guidelines for achieving development–adaptation–mitigation co-benefits in an integrated way.<sup>14</sup>

### Case study 5 – Colombia: establishing a national climate change system

The Government of Colombia is pursuing two complementary climate-related goals: i) the implementation of the NDC, driven by the Ministry of Environment; and ii) the development of the Green Growth Policy, led by the National Planning Department and required as part of the Organisation for Economic Co-operation and Development's membership process. A national climate change system has been created to bring together national and international actors; previously there were few links to coordinate action on climate change, including the implementation of sector-specific plans.<sup>15</sup>

**The development of sector-specific plans:** The implementation of the NDC, which aims to reduce greenhouse emissions by 20% by 2030, received strong support from the president. The ministries of each

priority economic sector were due to propose a roadmap and action plan by December 2016 to outline their contribution to the national target.

**Establishment of a national climate change system:**

These commitments will be shared and channelled through the National Climate Change System of Colombia (known as SISCLIMA), which brings together national, private and non-profit institutions to tackle climate change. Its objectives are to:

- coordinate efforts and commitments of international, national, regional and local entities in relation to climate change
- articulate plans and strategies on climate change in an integrated manner with economic, social and environmental development, bearing in mind the priorities to achieve sustainable economic growth, eradicate poverty and use natural resources sustainably
- articulate private and public climate change initiatives in different sectors (economic and civil society)
- identify sustainable development opportunities with concrete adaptation and mitigation actions to lower greenhouse gas emissions
- reduce the impacts of climate change for the most vulnerable people
- promote the participation of civil society in climate action
- develop criteria and mechanisms to evaluate and monitor agreements on climate change.

It was legally established in February 2016 as a coordination and shared-action system to support emissions-reduction efforts and adaptation plans. More specifically, the system is expected to facilitate the alignment of decision-making processes and articulation between subnational and national levels. It will also have oversight of the implementation of the government's four climate change priority strategies: the Climate

Change National Adaptation Plan; the Colombian Low Carbon Development Strategy; the National REDD+ Strategy; and the Strategy for Fiscal Protection Against Natural Disasters.<sup>16</sup> In addition, it promoted the creation of nine Climate Change Regional Nodes, which are responsible for promoting and supporting the implementation of national policies, strategies, programmes and projects across Colombia.

### **Case study 6 – Rwanda: coordinated approach to capacity-building**

Capacity-building in Rwanda is coordinated by the National Capacity Building Secretariat.<sup>17</sup> This comprises representatives from several government ministries and is responsible for capacity-building in the areas of infrastructure (including energy), agriculture, private sector development, information and communications technology, education and health. The Secretariat provides a range of capacity-building support tools and templates.

A capacity-building toolkit<sup>18</sup> is one of these. It provides guidance on how to identify climate-related capacity needs, create a capacity-building plan and carry out monitoring and evaluation (M&E) of the impacts. The M&E guidance covers whether male and female staff members are being provided with equal access to capacity-building and career-development opportunities, and shows how gender aspects can be incorporated into capacity-building plans. The toolkit also describes how capacity-building plans should be developed alongside the development of short-term annual action plans and longer-term strategic plans, so that they are all fully aligned.

## Case study 7 – Philippines: striking synergies between climate change adaptation and development

The Philippines has developed a Climate Resilient Green Growth Plan to pursue its climate adaptation goals, as set out in its NDC, alongside economic growth and development. This provides a set of working premises to ensure that environmental, social and economic goals can be simultaneously addressed. These include: strong, equitable and sustainable economic growth; improved quality of life; gender equality; rational resource use; and provincial coordination.

The plan was informed by consultations and workshops with local stakeholders in the public, private, and non-governmental sectors in the Philippines. It was developed by the Global Green Growth Institute, with support from the Stockholm Environment Institute.

**Inclusive and pro-poor approach to vulnerability assessments:** Poverty alleviation and social and gender equity are integrated into the planning framework

through assessments based on poverty indices and gender indicators, such as the Gender Development Index and gender empowerment measures for the Philippines. Vulnerability and climate-risk assessments address actual or potential climate change challenges facing poor people, specific ethnic groups and internally displaced groups, all in view of the wider aims of alleviating poverty and realising social and gender equity.

**Climate mainstreaming in local and national development planning:** The framework focuses on priority climate change impacts, and tries to closely link economic development and climate adaptation options, with the view that doing so is a win-win scenario in the long term. It climate-proofs<sup>19</sup> local development plans and priorities by considering the impacts of climate change, the underlying trends in local economic growth, and the potential effects of plans on community welfare. It is informed by current and planned sectoral strategies, provincial development plans, various national plans and international experience in developing green-growth strategies.

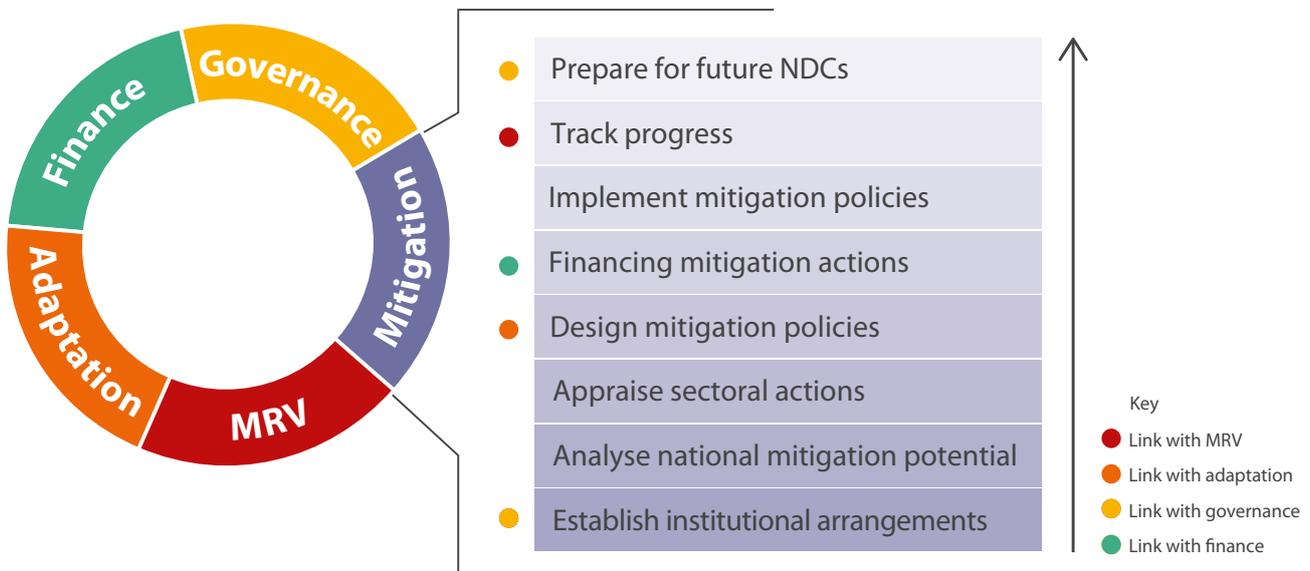


# Mitigation

While it is recognised that adaptation is a priority for many developing countries, they will also need to show progress in reducing greenhouse gas emissions.<sup>20</sup> Mitigation actions can deliver not only emissions reductions, but also wider co-benefits in relation to climate change adaptation, development, employment, energy security and public health. These co-benefits can contribute to achieving a number of SDGs, in particular those on affordable and clean energy (SDG 7), sustainable cities and communities (SDG 11) and responsible consumption and production (SDG 12).<sup>21</sup> Explicitly setting out the co-benefits of a low-emission development approach can increase stakeholder buy-in and support the prioritisation of mitigation activities. In addition, mainstreaming gender equality in mitigation policy design and implementation delivers well-planned and inclusive initiatives that produce improved results.<sup>22</sup>

NDCs can contain a range of different mitigation contributions. Many NDCs have quantified goals to reduce greenhouse gases (outcome-based goals), while others qualitatively set out specific mitigation actions (action-based goals).<sup>23</sup> In some NDCs, both outcome-based and action-based goals are included. Outcome-based reduction goals can cover discrete sectors or be economy-wide, and can take a range of forms, including: absolute reduction targets; reductions in relation to a base year or future projected business-as-usual emissions; and greenhouse gas intensity targets, for example emissions relative to gross domestic product (GDP). In addition, many NDCs contain not only an unconditional contribution but also a conditional contribution, which is contingent on the receipt of international support (or other conditions).

Figure 2: Key activities in the mitigation module



## Box 2: Mitigation and the Paris Agreement

“In order to achieve the long-term temperature goal set out in Article 2, Parties aim to reach global peaking of greenhouse gas emissions as soon as possible, recognizing that peaking will take longer for developing country Parties, and to undertake rapid reductions thereafter in accordance with best available science, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century.” – Article 4.1, Paris Agreement

The Paris Agreement establishes the global goal of keeping warming well below a 2°C increase, and calls for efforts to limit this increase to 1.5°C (Article 2). Low-carbon economies will be built upon the foundation of NDCs (Article 4.2), with each new submission every five years representing a progression on the last to reflect the highest possible ambition from each country (Article 4.3).

Greenhouse gas inventories are central to tracking progress in reducing emissions, with each country required to regularly produce a national inventory report (Article 13.7.a). Developing countries are encouraged to move, over time, towards economy-wide emissions-reduction targets (Article 4.4) and all countries are invited to communicate, by 2020, long-term low-emission development strategies (Decision P.36).

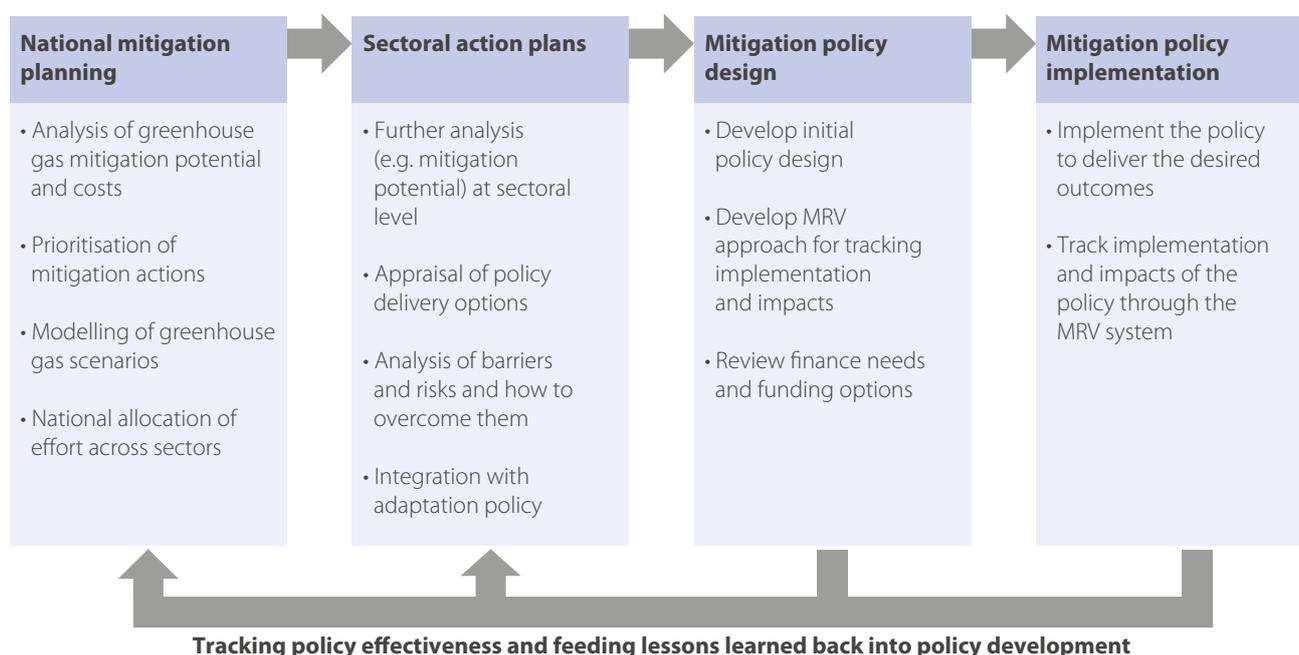
Mitigation actions, including those labelled as NAMAs (see Box 3), are the key means for delivering the mitigation contributions in the NDCs. They can include small-scale local projects (e.g. at the city or village level) or national policies, with a range of potential delivery options, such as regulations, standards, information and labelling, on-the-ground projects and infrastructure, and fiscal incentives. Mitigation actions will need to be robust and measurable (see the MRV module) to secure financing and international support (see the finance module).

## Box 3: Nationally Appropriate Mitigation Actions

The NAMA concept was introduced in the Bali Action Plan at COP 13. It refers to any action that reduces emissions in developing countries and is prepared under the umbrella of a national government initiative.<sup>24</sup> NAMAs can include projects, policies, programmes, action plans and strategies that are targeted within a specific sector or across multiple sectors, and at the national or subnational level. NAMAs can be supported by international finance (supported NAMAs) or fully funded domestically (unilateral NAMAs).

Figure 3: The mitigation planning process summarises the activities required to implement an NDC in terms of mitigation, setting out the overall planning process. Countries can undertake the activities sequentially, or immediately implement the measures that provide clear benefits and for which funding is available. Alternatively, a country can first analyse the mitigation opportunities in specific priority sectors, then undertake national-level mitigation activities at a later date (e.g. to improve the evidence base or expand the scope of the mitigation contribution).

Figure 3: The mitigation planning process



When reviewing this module, countries may find it useful to refer to the adaptation module with regards to mitigation–adaptation synergies; the finance module with regards to financing mitigation actions; the MRV module for guidance regarding tracking the implementation and effectiveness of mitigation actions and international reporting requirements in relation to the Paris Agreement; and the governance module with regards to the institutional structures and processes needed to deliver mitigation actions.

## Key activities

### 1. Review the current mitigation policy landscape

#### 1a. Review the NDC

- Identify whether the NDC proposes any additional mitigation activities compared to existing mitigation strategies or action plans (e.g. sectoral action plans, green growth strategies, climate change action plans).
- Review the type of mitigation contribution (outcome-based versus action-based) and any conditionality.

#### 1b. Review the existing mitigation policy landscape

- Identify what measures are proposed or already in place, including:
  - the level at which each measure will be implemented (e.g. national, regional, city)
  - which sectors are covered by each measure
  - the relative contributions of these measures to overall greenhouse gas emissions reductions (if known)
  - the direct and indirect implications of these measures for delivering on the SDGs.
- Identify the current arrangements for the governance framework for mitigation, and the extent to which the full range of stakeholders are already engaged (see activity 1 in governance module for more details).

### 2. Set up institutional arrangements for the coordination and oversight of mitigation activities

- Identify a focal point or coordinating entity within government for both policy (or NAMA) design and implementation.
- In practice, this is likely to be the same entity which is responsible for oversight of NDC implementation as a whole (see activities 2 and 3 in governance module for more details).

### 3. Analyse the national mitigation potential to identify priority sectors and mitigation options

#### 3a. Identify key sectors

- Identify the co-benefits of low-emission and explicitly mitigation-oriented approaches.
- Consider which sectors (e.g. power, transport, industry, buildings, waste, agriculture) are the most significant from a greenhouse gas perspective, both now – based on the country's greenhouse gas inventory – and in the future, including sectors that are key to economic development and employment or contribute a significant percentage of GDP, provide opportunities for other co-benefits, provide links with achieving SDGs, etc.
- Identify how mitigation is being, or will be, integrated into wider economic and development actions, to ensure that implementation of the NDC demonstrates its impact and contribution to core developmental goals and targets, as enshrined in the SDGs.

#### 3b. Analyse mitigation potential and costs across these sectors

- Identify drivers for emissions growth in each key sector (e.g. the effect of population growth on transport or energy demand) and nationally (e.g. urbanisation, industrialisation, an expanding middle class). This will show what data will need to be collected to assess mitigation potential.
- This could potentially be done to different levels of detail; for example, for the building sector, countries could collect data on building energy demand or the drivers of energy demand, such as persons per household, GDP per capita, etc.
- Carry out a data collection exercise, if required, including reviewing existing studies and surveying key data holders. Consider the scope for gender-disaggregated data collection to allow for the analysis of gender impacts.

- Calculate the abatement potential and produce marginal abatement cost curves, where possible.
- Collect international benchmark data where national data are not available, or are not sufficiently robust.
- Identify the emissions reductions needed to meet the unconditional and conditional mitigation contributions in the NDC. Note that it could be useful to determine the costs of mitigation within particular sectors or industries within the country. This can set a shadow price for carbon, which could help countries to tender for projects that provide the best value in terms of mitigation. This will also build experience of results-based payment systems ahead of the development of a new financing mechanism, as identified in the Paris Agreement.
- Develop a 'long list' of potential mitigation actions for each key sector. This could include technology actions, which some countries may have reviewed already as part of their Technology Needs Assessment.<sup>25</sup> Behaviour-change actions can also be considered.
- Estimate the upfront investment and ongoing costs needed for each action, identifying where there may be a need for donor and/or private sector finance. Note that expectations may need to be adjusted around value for money frameworks to ensure that environmental and social equity aspects are appropriately balanced against other considerations of efficiencies, economics and impacts (see activity 3 in the finance module for more details on compiling overall costings, and activity 4 in the finance module for more details on identifying the level and type of support needed).
- Prioritise mitigation options, either qualitatively or quantitatively (depending on data availability), using methodologies such as multi-criteria analysis and in close consultation with key stakeholders inside and outside of government.
- Appraise the co-benefits (development–adaptation–mitigation) to ensure mitigation actions adopt a 'no regrets' approach, and so that win–win actions are clearly identified.

### 3d. Undertake barriers analysis for each shortlisted option

- Assess the enabling environment for each action, for example domestic policy support frameworks and institutional barriers.
- Understand the mix of financial and non-financial measures required to successfully implement each action.

### 3e. Model greenhouse gas emissions under a business-as-usual scenario and emissions-reduction scenarios

- Choose a modelling approach suitable for the country's needs and level of data availability and quality.
- Collate data inputs for the model, including: sector-level emissions in a reference year (e.g. from the latest emissions inventory); baseline emissions; mitigation potential and costs (e.g. marginal abatement cost data); emissions growth factors (e.g. economic growth, population growth, electricity availability, levels of transport demand).
- Develop simple techniques for estimating the factors behind emissions growth where data are not available. These techniques might include extrapolation of past trends, interpolation to fill data missing in a sequence, and splicing or combining data sources.
- Run the model to produce business-as-usual and emissions-reduction scenarios, giving consideration to running different emissions-reduction scenarios that identify the mitigation pathways for both the unconditional and conditional contributions.
- Carry out quality assurance checks of the data used in the model, and sensitivity analysis to check the accuracy of results.
- Check results by comparing modelling outputs to any previous work undertaken in the country and/or models from similar countries.
- Consult key stakeholders on the modelling results and choice of scenarios. Consider revisions where appropriate, based on feedback.

### 3c. Shortlist and prioritise mitigation options

- Determine the criteria for prioritisation, such as mitigation potential, costs and technical feasibility, as well as the benefits of each action as they relate to national priorities such as resilience, development, job creation, air quality and health. Prioritisation should also factor in temporal considerations, for example actions that encourage the implementation of measures that may take some time to deliver, and/or in a way that avoids lock-in to carbon-intensive technologies.
- Consider using cost–benefit analysis tools to assess and prioritise mitigation. Tools such as jobs and economic development impact models can be used to estimate the economic impacts of constructing and operating renewable energy power plants. Multi-criteria analysis is another possible approach.

### 3f. Allocate national mitigation efforts across sectors

- Consider an appropriate allocation – of the mitigation actions in the NDC and other national mitigation goals – across key sectors, in close consultation with those sectors and affected stakeholders.

### 3g. Build capacity and improve the evidence base

- Document any remaining data gaps and develop a plan to address them through further research.
- Develop technical and modelling capability for mitigation potential analysis and scenarios, for example on how to develop marginal abatement cost curves and how to use models such as the Long-range Energy Alternatives Planning model for long-term mitigation scenarios.

## 4. Conduct a detailed appraisal of priority actions for key sectors

### 4a. Review the strategic priorities for each key sector

- For example, in the agriculture sector, is there an objective on the extent to which national demand should be met through domestic production? In the construction sector, are there any national targets for housebuilding?

### 4b. Carry out further analysis and prioritisation

- Conduct more in-depth analysis on mitigation potential and costs, if needed.
- Conduct further prioritisation of mitigation actions at the sector level if needed, including consideration of not only greenhouse gas emissions reductions but also co-benefits of particular relevance for each sector, identifying win–win options. This could include proposing specific mitigation policies or projects, as well ‘greening’ existing or planned infrastructure for a sector.
- Conduct macroeconomic impact assessments, using computable general equilibrium modelling or other tools, of selected mitigation actions to consider their impact on economic growth, distribution of income, poverty, government revenues, trade balance and investment, among other factors. This could be undertaken in collaboration with the ministries of finance and/or planning, which will have an interest in the outcomes of the analysis.
- Further analysis may be required to assess if the prioritised mitigation actions for each sector will be sufficient for the sector to achieve any mitigation targets allocated to it, and any conditional or

unconditional contributions to which the sector is expected to achieve or contribute.

### 4c. Appraise policy options

- Undertake an initial review of options for delivering the identified actions or abatements, (e.g. fiscal instruments, regulations, standards, information campaigns); these will be further elaborated under the mitigation policy design (see activity 5 within this module).
- Consider any actions that may be needed outside of each sector to support the sector achieving its targets. For example, meeting transport greenhouse gas reduction targets might require certain levels of biofuel supply; hence discussions between the transport and agriculture ministries may be needed.

### 4d. Prepare a mitigation-sector action plan

- This plan should consolidate the sector analysis. Note that cross-sectoral policies might be included in these plans or in an overarching national action plan.
- Ensure that consultations are held with relevant stakeholders, including civil society organisations, women and women’s organisations, and development-focused stakeholders, to ensure coherence and alignment with sectoral ambitions related to the SDGs.
- Bring in sectoral expertise as necessary to understand the opportunities, barriers and costs in different sectors, as well as the developmental co-benefits and implications.
- Aim to integrate sectoral action plans with relevant subnational and national plans and strategies, coordinating where appropriate with engagement mechanisms serving the whole of the NDC (see activity 3 in governance module for more details on ensuring integration with existing processes across ministries, agencies and subnational authorities). In particular, it might be beneficial to produce a combined mitigation and adaptation action plan for each sector to highlight mitigation–adaptation synergies.

## 5. Design mitigation policies

### 5a. Design the policy

- Agree the most appropriate policy options for delivering the identified mitigation actions. (Consideration of the pros and cons of individual policies is beyond the scope of this guide.)
- Design the policy, including information on the proposed policy, the expected impacts (including co-benefits), feasibility studies, alignment with similar policies and possible funding options.

- Consider the broad set of outcomes that the policy should achieve, including supporting SDG implementation and gender equity.
  - Gender-responsive climate change mitigation involves asking who should decide on the consumption of energy at the household level, who prioritises sources of energy at the national level, how technology and energy choices can address the unequal division of unpaid labour between men and women, and which technologies and emission levels are decided by governments and who takes this decision.
  - For example, consider targeted financing mechanisms such as payment plans and pay-as-you-use models<sup>26</sup> to facilitate the provision of energy services for poor households.
- Consult with relevant stakeholders when designing the policy.

### 5b. Agree arrangements for ongoing implementation

- Develop MRV arrangements for the policy (see activity 8 within this module for more details).
- Agree the policy implementation plan, with clearly defined activities, timelines, and roles and responsibilities.

## 6. Access financing for mitigation actions

See the finance module for more details: activity 3 on compiling overall costings, activity 4 on identifying the level and type of support needed, and activity 5 on assessing financing options.

## 7. Implement mitigation policies

### 7a. Implementation

- Implement the policy, putting in place appropriate frameworks for programme management, MRV (see activity 8 within this module) and stakeholder engagement.

### 7b. Resources and support

- Organise capacity-building for the institutions that will deliver the policy, to administer and successfully implement it. This will also help with developing expertise in project implementation and financing.
- Develop any communications and guidance that may be needed to support the implementation of the policy (e.g. marketing materials and technical guidance).

### 7c. Evaluate policies, structures and processes

- Evaluate the policy and make changes as appropriate, involving key stakeholders (including women) to ensure the policy is effective, user-friendly and sustainable.



Image: © Panos

## 8. Design and implement a mitigation MRV system

### 8a. Design and develop a greenhouse gas inventory

- See the MRV module for more details on setting up an MRV system.
- If a greenhouse gas inventory is not yet in place, allocate responsibilities and a budget to develop one, then establish a team and aim to take a modular approach. For example, it can initially be developed for the most relevant sectors using readily available data, then extended over time to cover all sectors.
- If there is an inventory in place, aim to close any data gaps and improve it over a number of years, in terms of its scope, data quality, staff capacity, documentation and archiving approach.
- Set up data-sharing agreements between key ministries (e.g. in the form of memoranda of understanding or legal requirements) to ensure the data are available over the long term.

### 8b. Design a system for the monitoring and evaluation of mitigation actions

- If previous Biennial Update Reports or National Communications did not contain data on mitigation actions, consider the most relevant data required to track the implementation and impacts of the mitigation actions set out in activity .
- Consider using the approach described in the World Resources Institute's (WRI) Greenhouse Gas Protocol Policy and Action Standard<sup>27</sup> to identify this data, and to consider appropriate indicators and methodologies for estimating the impact of policies and actions. Note that indicators other than greenhouse gas emissions can be important in understanding the effectiveness of a mitigation policy, and might be more meaningful to other stakeholders.<sup>28</sup>
- Where mitigation actions might affect greenhouse gas emissions in the same sector, consider assessing their impacts as a package to avoid 'double counting'.
- If previous Biennial Update Reports or National Communications contained data on mitigation actions, identify any potential gaps, for example whether impact indicators were included.
- Review whether there is an overarching structure for the collection and compilation of data and develop a long-term plan to fill in the gaps based on the above considerations.

- Ensure that development projects capture and report on their mitigation potential, and that mitigation projects capture and report on their developmental potential and impacts.

### 8c. Develop projections for greenhouse gas emissions

- Consider developing greenhouse gas projections to show whether future emissions are on track to meet any outcome-based contributions. At first this could be via ad-hoc updates supported by international technical assistance, but ultimately the aim should be to build the national capacity to carry out this work. Projections may have been produced under existing reports, e.g. a Low Carbon Development Strategy or National Communication.<sup>29</sup>

### 8d. Develop interim milestones

- Consider interim milestones (e.g. greenhouse gas targets or carbon budgets) between now and any medium – to longer-term emissions-reduction targets. These can give countries a benchmark against which to measure greenhouse gas emissions prior to the target year. Guidance on this can be found in the WRI's Greenhouse Gas Protocol Mitigation Goal Standard.<sup>30</sup>

## 9. Prepare for future NDCs

- Ensure that staff are given responsibility for updating the NDC, and that they are trained in or have access to appropriate technical skills on mitigation and adaptation.
- Regularly review and analyse the aggregate impact of mitigation activities across sectors, and consider the need to improve existing measures or introduce new measures.
- If the NDC does not include an economy-wide contribution, consider expanding the scope of the mitigation contribution to all sectors.
- If the NDC does not seek to reduce overall emissions, consider setting up a peak decline pathway for when emissions will peak.
- If the NDC does not include a long-term vision, consider an appropriate mitigation pathway up to 2050 and beyond.
- Ensure that timelines are included in the implementation plan for the next NDC. These should allow time for new technical analysis, reviews of lessons learned from implementation, stakeholder engagement on the new NDC, and national decision-making processes.

### Case study 8 – Peru: national mitigation planning in the waste sector

Peru's solid waste NAMA,<sup>31</sup> coordinated by the Ministry of Environment, is a good example of national mitigation planning, sectoral action planning, policy design and policy implementation. The following activities were carried out as part of the programme.

- Development of a solid waste inventory, including data gathering of waste and waste streams and calculating greenhouse gas emissions.
- Assessment of mitigation options in the waste sector.
- Identification of barriers to the implementation of the mitigation options and how to overcome these.
- Development of a NAMA proposal, integrated into the national solid waste strategy.
- Setting up a system for MRV, according to international standards.
- Identification of relevant institutional arrangements.
- Identification of financing options and setting reference levels for possible emissions trading or results-based finance.
- Capacity-building and training.

**Development benefits of climate action:** In addition to actions to reduce greenhouse gas emissions in the municipal waste sector, the NAMA focused on the many additional sustainable development benefits of reducing waste. These include reducing the health risks from inadequate waste disposal and the contamination of aquifers, decreased leachate production at current landfills and open dumps, and job creation from alternative waste treatment technologies.

**Embedding in national plans:** Key to the success of this process was the fact that NAMAs are embedded into Peru's development plans and strategies by local regulatory authorities. To ensure sustainability and transformational change, the NAMA proposals include different types of actions that will take place in the short, medium and long term.

**Stakeholder engagement:** The process included extensive stakeholder involvement.

### Case study 9 – Mexico: options analysis for low-carbon planning

In 2009 the Government of Mexico's Special Climate Change Program set out to reduce greenhouse gas emissions by 11% by 2020 and 50% by 2050, compared with 2000 levels. This programme was informed by a cost–benefit analysis that assessed the costs and greenhouse gas savings of 40 near-term mitigation measures in five sectors.

**Cost-benefit analysis:** The study assessed 40 near-term mitigation measures in the following sectors: electric power; oil and gas; energy end use (energy efficiency in multiple sectors); transport; agriculture; and forestry. The analysis evaluated interventions against a baseline scenario, which predicted that total greenhouse gas emissions will grow by 172% from 2008 to 2030. It also found that, together, the measures would cost US\$64 bn up to 2030, but would maintain emissions at 2008 levels. The analysis was then used to identify the areas with potential for the largest savings, and actions with significant scale-up potential.

**Modelling:** A range of tools was used, including the Long-range Energy Alternatives Planning system, the Computable General Equilibrium model, marginal abatement cost curves, input–output models and cost–benefit analysis,<sup>32</sup> which improved the robustness of the analysis.

**Options analysis to facilitate policy-making:** The cost–benefit analysis demonstrated that Mexico can move to a low-carbon pathway while generating economic opportunities. This helped align the strategy with the country's wider economic goals and fed into the national climate change programme.<sup>33, 34</sup>

## Case study 10 – European Union: developing a long-term strategy to reduce greenhouse gas emissions from the transport sector

Emissions from the transport sector are responsible for a rapidly increasing proportion of many countries' emissions, but there are specific challenges to reducing their growth. In Europe, the problem is being addressed by a long-term transport sector decarbonisation strategy for 2010 to 2050. This covers all modes of transport, including road, aviation, rail and shipping.

**Assessment of costs and co-benefits:** The work included costed assessments of demand-side and supply-side options, including their co-benefits in relation to air quality, congestion, energy consumption and energy security.

**Scenario Analysis tool:** A new transport-scenario-analysis tool, 'SULTAN',<sup>35</sup> was developed for this. This allowed all the major impacts to be considered in the assessment. Several other countries, from Japan to South Africa, have undertaken similar policy option reviews using SULTAN.<sup>36</sup>

## Case study 11 – Africa: economic empowerment of women through clean energy technologies

Solar Sister is a non-governmental organisation that helps women in Nigeria, Tanzania and Uganda to create economic opportunities and increase energy access by generating profits from sales of solar products in their community networks. It reaches out to remote communities by providing them with access to clean energy technologies. Environmental benefits include reduced carbon dioxide emissions, resulting from replacing kerosene lanterns and diesel generators for phone charging with solar alternatives, and reduced deforestation due to the use of energy-efficient stoves. The model and approach used by Solar Sister provides an innovative way to combine economic empowerment with environmental and social benefits.

**Enabling economic and social empowerment:** Providing women with an active role in energy supply and distribution has helped Solar Sister to break cultural norms with respect to women's role in the society. The specific gender-focused benefits range from income and skills development to expanding social networks, building self-confidence and improving women's status in their family and community. Improved technologies also bring health and safety benefits for women, and improved adaptive capacities in terms of climate change.

**Facilitating market access and private sector engagement:** Solar Sister has created a strong public-private partnership, which continues to grow, building a supply chain for off-grid clean energy technologies and bringing specific benefits for women. Economic impacts include the establishment of new microbusinesses, value chains and increased economic productivity from the use of solar-powered products. Solar Sister plans to reach five countries in sub-Saharan Africa by 2020 and train 5,000 entrepreneurs.<sup>37</sup>





# Adaptation

Adaptation is the process of adjusting to the impacts of the changing climate, seeking to moderate or avoid harm or exploit beneficial opportunities.<sup>38</sup> This module explains how countries can implement the adaptation component of their NDCs. For many countries, adaptation is the priority in their NDCs because they are already experiencing devastating climate impacts. This is particularly the case for small island developing states (SIDS) and least developed countries (LDCs).

Adapting to climate change is a long-term and cyclical process, and countries need to be flexible in order to respond to new evidence on vulnerability and their experiences of the impacts of a changing climate. Many countries have highlighted in their INDCs that international support will be needed to enable adaptation goals to be achieved, including finance, capacity-building and technology transfer for specific sectors.

Given the inherent synergies between adaptation and other development goals, NDC implementation can contribute to nearly all of the SDGs, especially those on health and well-being (SDG 3), clean water and sanitation (SDG 6) and ecosystems and biodiversity (SDG 15).<sup>39</sup> Gender sensitive approaches to adaptation can redress inequalities and ensure that women are engaged at all levels.

## Box 4: Adaptation and the Paris Agreement

“Parties hereby establish the global goal on adaptation of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to contributing to sustainable development and ensuring an adequate adaptation response in the context of the temperature goal referred to in Article 2.” – **Article 7.1, Paris Agreement**

Article 7 of the Paris Agreement sets out a global goal and recognises the varying scales of adaptation, from global to local (Article 7.2). It further states that adaptation plans (Article 7.9), with prioritised adaptation actions (Article 7.9.c), should be communicated periodically by parties (Articles 7.10, 7.11 and 7.12). The co-benefits of mitigation and adaptation actions are also acknowledged (Article 4.7).

The UNFCCC’s National Adaptation Plan (NAP) process<sup>40</sup> provides a country-driven, comprehensive approach to adaptation planning and implementation (see Box 5). This is an appropriate process for achieving the adaptation goals contained in countries’ NDCs (see Figure 5: The adaptation planning and implementation process).

If a country’s NDC sets out *what* adaptation outcomes it is aiming for, then the National Adaptation Plan process details *how* to achieve these through the iterative planning, mainstreaming and stakeholder engagement processes required for effective adaptation. This module presents the key activities needed, which align with the technical guidelines for the National Adaptation Plan process, produced by the UNFCCC’s LDC Expert Group.

Figure 4: Key activities in the adaptation module

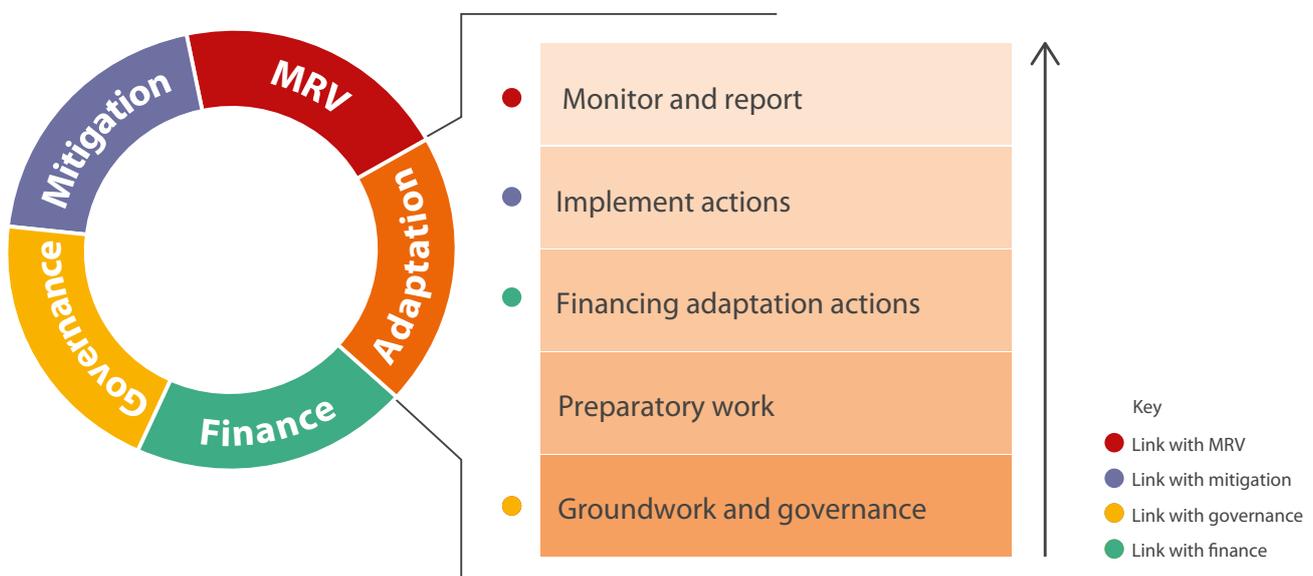
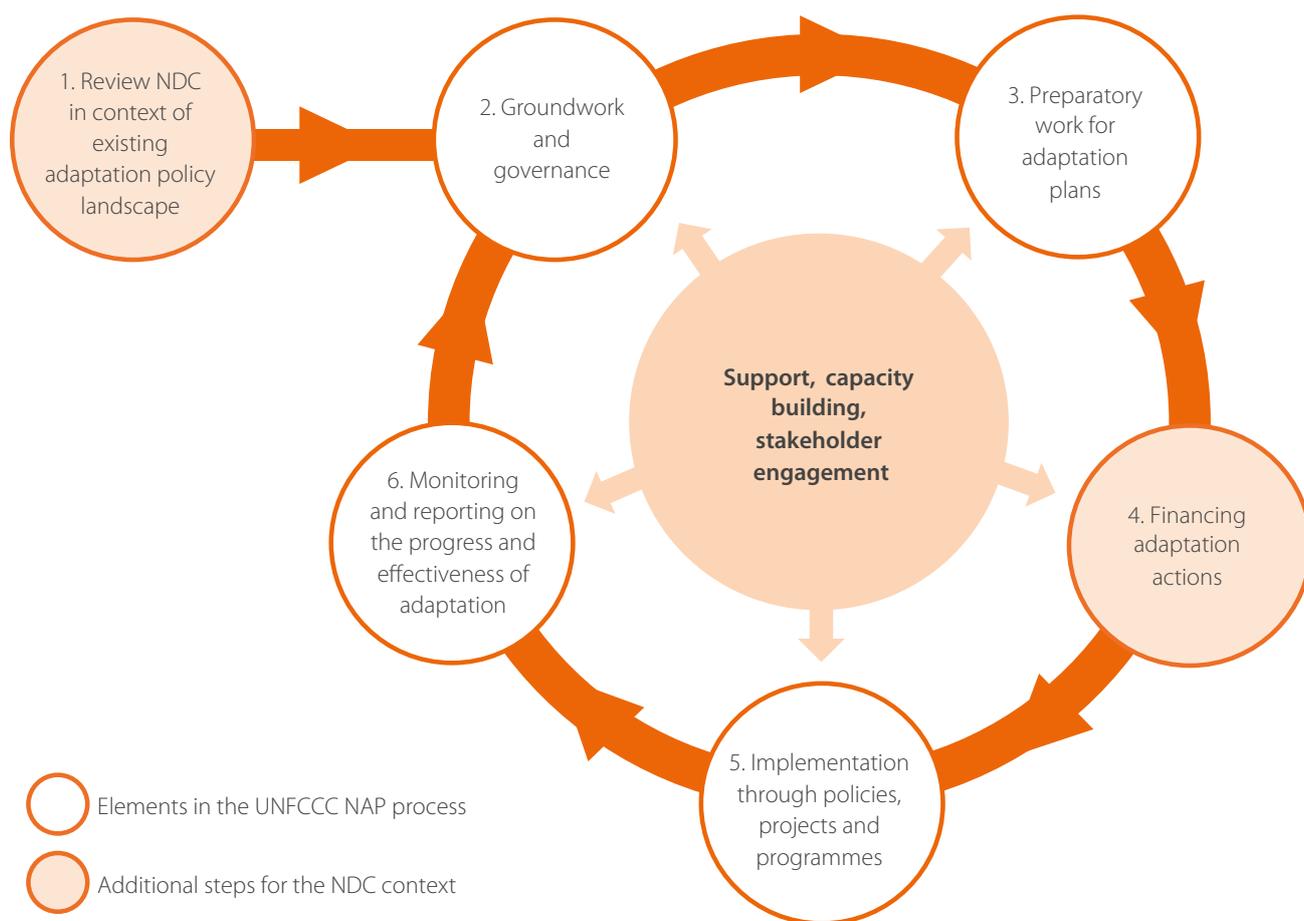


Figure 5: The adaptation planning and implementation process



Some countries drew directly on their experience of developing a National Adaptation Plan when developing their INDCs, using the INDC to communicate the National Adaptation Plan’s central goals, priorities, and activities. Other countries may not be so far along in the National Adaptation Plan process, and their INDC experience – identifying and communicating goals, priorities and activities – can be used to frame and catalyse this. Wherever a country may be in the process, the National Adaptation Plan technical guidelines<sup>41</sup> provide the key resource for implementing the adaptation efforts outlined in the NDCs.

In addition, countries may find it useful to refer to other modules in this reference manual: the finance module will help countries consider the financing of their National Adaptation Plan; the mitigation module will help countries to consider mitigation–adaptation synergies; the MRV module offers guidance on the international reporting requirements of the Paris Agreement, and on tracking the implementation and effectiveness of adaptation actions; and the governance module will help countries build the institutional structures and processes needed to deliver adaptation actions.

### Box 5: The UNFCCC’s National Adaptation Plan process

The UNFCCC’s National Adaptation Plan process<sup>42</sup> can be used by countries to implement the adaptation component of their NDCs. The process has the following objectives:

- to reduce vulnerability to the impacts of climate change, by building adaptive capacity and resilience
- to facilitate the integration of climate change adaptation into relevant new and existing policies, programmes and activities (in particular development planning processes and strategies) for all relevant sectors and at different levels.

The National Adaptation Plan process Technical Guidelines were drawn up by the UNFCCC’s Least Developed Countries Expert Group. The guidelines describe four elements of the process:

- a. Lay the groundwork and address gaps
- b. Preparatory elements
- c. Implementation strategies
- d. Reporting, monitoring and review

An accompanying report sets out country experiences as best practices<sup>43</sup> and lessons learned in addressing adaptation in LDCs.

The guidelines are clear that “the [National Adaptation Plan] process is designed to be flexible and non-prescriptive, hence countries may apply the suggested steps based on their circumstances, choosing those steps that add value to their planning process and sequencing [National Adaptation Plan] activities based on their needs to support their decision-making on adaptation”. In addition, “the individual activities are not intended to be followed consecutively or completely.”

Given that each country is starting from a different point in the National Adaptation Plan process, and that countries have linked their NDCs and National Adaptation Plans in different ways, the following activities provide a guide from

which countries can select the most relevant and necessary activities for their own circumstances. The technical guidelines for the National Adaptation Plan process state that it is “designed to be flexible and non-prescriptive, hence countries may apply the suggested steps based on their circumstances, choosing those steps that add value to their planning process and sequencing . . . activities based on their needs to support their decision-making on adaptation”.

In keeping with this, the activities outlined here are flexible and non-prescriptive, and countries should choose those that add value to their existing processes. In addition, countries can sequence these activities so as to best support their decision-making on adaptation.

The activities are not expected to be followed consecutively or completely, but countries that have not yet started a National Adaptation Plan process may find that the activities provide a logical sequence. Those countries already well under way in the process may find some helpful suggestions on how to fill gaps or capitalise on opportunities to link the National Adaptation Plan process with NDC implementation.

## Key activities

### 1. Review the current adaptation policy landscape

#### 1a. Review the NDC

- Identify whether the NDC proposes any additional adaptation activities compared to existing adaptation strategies or plans (e.g. National Adaptation Plans, climate change action plans).

#### 1b. Review the existing adaptation policy landscape

- Identify whether a National Adaptation Plan process is already underway, and what actions are proposed or already in place, including:
  - the level at which each action will be implemented (national, regional, city)
  - The sectors which are covered by each action
  - the relative contributions of these actions to improving resilience, if known
  - the direct and indirect implications of these actions for delivering on SDG goals and targets.

- Consider the *Sendai Disaster Risk Reduction Framework 2015–2030*, which comprises seven targets and four priorities for action to increase resilience to disasters, strengthen adaptation measures and improve capability.<sup>44</sup>

### 2. Undertake groundwork and governance

#### 2a. Apply Element A of the National Adaptation Plan process technical guidelines

- This helps to ‘lay the groundwork and address gaps’<sup>45</sup> and describes how to:
  - initiate and launch the NAP process
  - carry out a stocktake to identify available information on climate change impacts, vulnerability and adaptation and assess gaps and needs of the enabling environment for the National Adaptation Plan process
  - address capacity gaps and weaknesses in undertaking the National Adaptation Plan process
  - comprehensively and iteratively assess development needs and climate vulnerabilities.

## 2b. Incorporate additional or enhanced activities into the National Adaptation Plan process to make the link with the NDC, as appropriate

- Establish the appropriate institutional arrangements for coordinating adaptation actions for the NDC (see activity 3 in the governance module for more details on setting up institutional arrangements).
- If a National Adaptation Plan process is already underway, review whether the mandate established for this already includes – or could be extended to include – the implementation of the adaptation component of the NDC.
- Review the robustness of the complete national evidence base for adaptation in the context of the NDC, to ensure that NDC implementation builds on all the available evidence, and to identify the gaps that need to be addressed to support progress with NDC priorities.
- Review capacity-building needs across sectors and levels through the stocktake sub-element of the National Adaptation Plan process. Capacity needs might include:
  - understanding of, and familiarity with, the UNFCCC National Adaptation Plan process technical guidelines and other sources of guidance and best practice on national adaptation planning
  - understanding of the definitions of vulnerability and how to undertake vulnerability assessments in the Intergovernmental Panel on Climate Change’s (IPCC) *Fifth Assessment Report*,<sup>46</sup> including equity and gender dimensions
  - technical expertise on the climate impacts that affect the most vulnerable sectors, regions, themes and groups
  - economic and adaptation appraisal expertise to develop costed and prioritised adaptation plans, including consideration of co-benefits such as economic development and job creation, environmental quality and mitigation
  - capacity across government ministries to address climate uncertainties and integrate climate change adaptation planning into other policies, including sustainable development and gender
  - technical, logistical and engineering expertise to develop implementation plans for specific individual adaptation projects, ensuring equal access for women to training and skills-development programmes.

## 3. Undertake preparatory work for adaptation plans

### 3a. Apply Element B of the National Adaptation Plan process technical guidelines<sup>47</sup>

- This covers ‘Preparatory elements’ which describe how to:
  - analyse current and future climate change scenarios
  - assess climate vulnerabilities and identify adaptation options at sector, subnational, national and other appropriate levels
  - review and appraise adaptation options, including costing
  - compile and communicate National Adaptation Plans
  - integrate climate change adaptation into national and subnational development and sectoral planning.

### 3b. Incorporate additional or enhanced activities into the National Adaptation Plan process to make the link with the NDC, as appropriate

- Assess if existing or planned preparatory work or adaptation plans need to be extended or enhanced, in order to implement the adaptation component of the NDC across all relevant sectors and levels. The scope of adaptation planning needs to include current climate variability and extremes, as well as future climate change impacts.
- Extend or enhance the national evidence base underpinning the adaptation commitments in the NDC, through more detailed impact, vulnerability and adaptation assessments. This will support identified key climate vulnerable sectors, regions, themes and groups, and provides the rationale for targeted adaptation action. It is important to note that:
  - evidence can come from scientific data and stakeholder engagement
  - vulnerability assessments should align with commonly agreed definitions of vulnerability<sup>48</sup>
  - assessments should ensure that social and ecological dimensions are included, for example, noting that women traditionally have less influence on decision-making and less economic resources to help them cope with shocks and stresses
  - assessments might include an economic impact assessment of projected climate change impacts (e.g. temperature increases or projected increases in extreme events) to inform climate change adaptation planning and implementation, and resource allocation at the sector level.

- Ensure that the appraisal and prioritisation of adaptation options includes criteria that relate to mitigation and development co-benefits, to ensure that win-win-win themes are explicitly identified. It is important to note that:
  - methods for the systematic identification, appraisal and costing of the options available to address adaptation priorities should embrace uncertainties, so that all likely futures are considered; this could be through a scenario-based analysis
  - cost-benefit analysis tools can help with prioritisation
  - appraisals should be conducted in close consultation with key country stakeholders and have input and participation from women's organisations.
- Identify how adaptation is being, or will be, integrated into wider economic and development actions and capacity-building. This will ensure that the implementation of the NDC demonstrates its impact and contribution to core developmental goals and targets, as enshrined in the SDGs.
- Involve all stakeholders when preparing adaptation plans that build on and can be integrated with sectoral, subnational and national plans and strategies. Coordinate where appropriate with engagement mechanisms serving the whole of the NDC (see activity 2 in the governance module for details of stakeholder engagement, and activity 3 in the governance module for details about ensuring integration with existing processes across ministries, agencies and subnational authorities).

#### 4. Access financing for adaptation actions

See the finance module for more details: activity 3 for compiling overall costings; activity 4 for identifying the level and type of support needed; and activity 5 for assessing financing options. Note that the National Adaptation Plan process technical guidelines do not provide detailed or recent guidance on accessing finance for adaptation.

#### 5. Implement policies, projects and programmes

##### 5a. Apply Element C of the National Adaptation Plan process technical guidelines<sup>49</sup>

- This covers 'Implementation strategies', which describes how to:
  - prioritise climate change adaptation in national planning

- develop a long-term national adaptation implementation strategy
- enhance capacity for planning and implementing adaptation
- promote coordination and synergy at the regional level, and with other multilateral environmental agreements.

##### 5b. Incorporate additional or enhanced activities into the National Adaptation Plan process, to make the link with the NDC, as appropriate

- Enhance existing strategies and/or design new ones to achieve the adaptation activities set out in the NDC, efficiently and effectively.
  - Adaptation outcomes can be delivered through the integration of resilience across national planning, and coordinating with development programming.
  - Some specific adaptation measures will require new projects and programmes.
  - Strategies should achieve stakeholder buy-in – both horizontally (i.e. to mainstream adaptation in sectoral and development planning) and vertically (i.e. to integrate national planning down to subnational, city and community levels, and with implementation partners).
- Assign timelines and owners to key activities in sectoral strategies and action plans, indicating short-, medium – and long-term actions, and making explicit links with wider NDC governance.
  - Combined adaptation-mitigation action plans can help to achieve co-benefits and avoid conflicting outcomes in the implementation of the NDC.
- Promote gender sensitivity and gender transformational outcomes in the implementation of national adaptation policies and programmes (e.g. non-discriminatory access to, and use of, land resources, equitable participation in decision-making processes in the context of food security).
- Ensure that adaptation projects demonstrate their contribution to core developmental targets as enshrined in the SDGs, and that development projects show how they are bridging adaptation deficits and enhancing the adaptive capacity of communities.
- Consider using macroeconomic impact assessments of adaptation policies, using computable general equilibrium modelling or other tools. This will assess their impact on economic growth, the distribution of income, poverty, government revenues, trade balances, and investment, among other issues.

## 6. Monitor and report on progress and the effectiveness of adaptation actions

### 6a. Apply Element D of the National Adaptation Plan process technical guidelines<sup>50</sup>

- The 'Reporting, monitoring and review' section of the guidelines recommend collecting information on the National Adaptation Plan process, assessing it through a national M&E system and providing outputs for reporting on progress to the UNFCCC. It provides guidance on:
  - monitoring the process
  - reviewing the process to assess progress, effectiveness and gaps
  - iteratively updating the National Adaptation Plan
  - outreach on the process and reporting on progress and effectiveness.

### 6b. Incorporate additional or enhanced activities into the National Adaptation Plan process to make the link with the NDC, as appropriate

- Countries may consider some activities and considerations that are additional to the National Adaptation Plan process, including:
  - a review of current processes for international reporting on adaptation via National Communications
  - considering how to integrate new requirements for the Adaptation Communication<sup>51</sup> under the Paris Agreement with existing adaptation monitoring and reporting systems
  - clarifying the objectives for monitoring to guide the selection of indicators and methodologies that are most appropriate to each country's circumstance.
- Ensure that monitoring activities are implemented throughout the National Adaptation Plan process, ideally starting with the design and launch of the monitoring and evaluation system for adaptation actions alongside the launch of the National Adaptation Plan process.



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### Case study 12 – State of Palestine: handling uncertainty in the development of the National Adaptation Plan

State of Palestine faced a challenge when developing its National Adaptation Plan due to a lack of data. It overcame this challenge by involving stakeholders in a systematic and comprehensive vulnerability assessment and adaptation appraisal.

**Dealing with uncertainties:** The process was innovative in using the definitions of terms from the IPCC's *Fifth Assessment Report*, most notably in relation to vulnerability. This allowed State of Palestine to identify vulnerabilities in relation to current existing climate sensitivities and adaptive capacities, and to consider future scenarios only in connection with appraising adaptation options. At that stage, rather than develop expensive downscaled climate models, projections from the *Fifth Assessment Report* were used to define three scenarios spanning the full range of likely futures. This meant that uncertainty in future climate was dealt with in a manageable way.

**Working with limited data availability:** The process was supported by a toolkit that systematically facilitated the application of available published evidence and stakeholders' provision of expert inputs. This was particularly important due to the lack of quantitative data.

**Costings:** Stakeholder inputs enabled the development of a credible breakdown of costs for each selected adaptation option, with a total price tag for the next 10 years of US\$3.54 bn.

**Forging common understanding and commitment:** Stakeholder input ensured common understanding and commitment, and ministerial approval and commitment to delivering the final plan was secured across all themes and sectors. This will be of immediate importance in encouraging a subsequent review of strategies and policies, to ensure that they are aligned with the National Adaptation Plan and thereby help to integrate and mainstream climate change adaptation.

Another important aspect was building stakeholders' understanding of adaptation concepts, definitions of terms, and the factors that need to be considered when identifying and prioritising vulnerabilities and adaptation options. This has provided State of Palestine with the capacity to maintain its National Adaptation Plan as a 'living' document. The document has already led to the detailed identification of financial, technical and capacity needs in relation to each adaptation option.

### Case study 13 – Zambia: estimating the cost of adaptation

The Government of Zambia undertook a full consultation with line ministries to identify their priority adaptation and mitigation measures. Zambia then rationalised these separate plans into one agreed INDC, with a top-down estimate of the costs.

In the absence of disaggregated data, alternative approaches to adaptation cost estimates were used. For example, to check and substantiate the cost estimate at the level of detail required by international funding agencies, two alternative methods were used.

- First, Zambia's cost estimate was compared to estimates made by similar African countries. Zambia's cost estimate was larger than others, but the scope of its INDC was also greater and included costs relating to the country's significant role in southern Africa (e.g. its control of the headwaters of both the Congo and Zambezi rivers).
- Second, similar previous programmes were examined. One of these was the World Bank-funded Strategic Programme for Climate Resilience, which accessed the Climate Investment Fund. This had already been implemented as a pilot project, and it was possible to investigate the potential for upscaling this. Zambia's own National Climate Change Response Plan (completed 5–6 years earlier) was also reviewed, and a range of priorities were identified. These had changed and evolved since publication, but the comparison was still valid.

These pragmatic methods succeeded in substantiating the figure of US\$20 bn that Zambia needed for adaptation up to 2030.<sup>52</sup> The work also identified development issues and gaps that need to be addressed in the future.

## Case study 14 – São Tomé and Príncipe: linking adaptation actions with development plans

São Tomé and Príncipe is extremely vulnerable to climate change and has little capacity to adapt to the impacts. The majority of rural people earn a living from its two principle sectors, agriculture and fishing, and both are at high risk from climate change.

To tackle this, São Tomé and Príncipe successfully aligned activities under its National Adaptation Programme of Action with national development plans, through focusing on priority sectors for development. These include:

- land-based adaptation in vulnerable areas
- coastal adaptation for vulnerable communities
- strengthened adaptation capacity.

**Alignment with poverty reduction goals:** Adaptation measures have, as their objective, improving the lives of the most vulnerable people in the country, strengthening resilience in rural communities and poverty reduction.

**Public participation:** Interviews and surveys were carried out with poor and vulnerable communities throughout the country. These public consultations analysed six key sectors: agriculture, forests and

livestock; fisheries; public works, infrastructure and tourism; energy and water; health; and public safety and civil protection. This helped to identify the main adaptation priority areas within each sector. Once priorities had been identified, the government requested assistance from the World Bank in preparing projects to address the most urgent adaptation needs. The information from existing national plans related to climate change, the environment and poverty alleviation were also fed into the National Adaptation Programme of Action.

**Coordinated project implementation:** Mechanisms were then put in place to ensure the effective oversight of project implementation by the National Sustainable Development Committee. This will aid the General Directorate of Environment within the Ministry of Public Works and Natural Resources, which is the overall agency responsible for the National Adaptation Programme. A single programme implementation unit will coordinate projects funded by different donors (including the United Nations Development Programme, the Japan Adaptation Programme and the Least Developed Countries Fund) to ensure maximum efficiency, minimum costs and improved institutional capacity.<sup>53</sup>



## Finance

Finance is critical for the implementation of the mitigation and adaptation actions set out in countries' NDCs. International public financing sources, such as the Green Climate Fund, will not be able to provide the large-scale investment needed on their own; hence, financing sources such as the private sector and domestic fiscal budgets will be required. Strengthening finance from domestic and external sources will also support the implementation of the SDGs, in particular those on ending poverty (SDG 1), economic growth (SDG 8) and reducing inequalities (SDG 10).<sup>54</sup> Similarly, many of the INDCs submitted included conditions for their full implementation, such as additional or enhanced international support in the form of finance, technology transfer, technical assistance and capacity-building. Improving access to public and private financing sources is therefore a high priority.

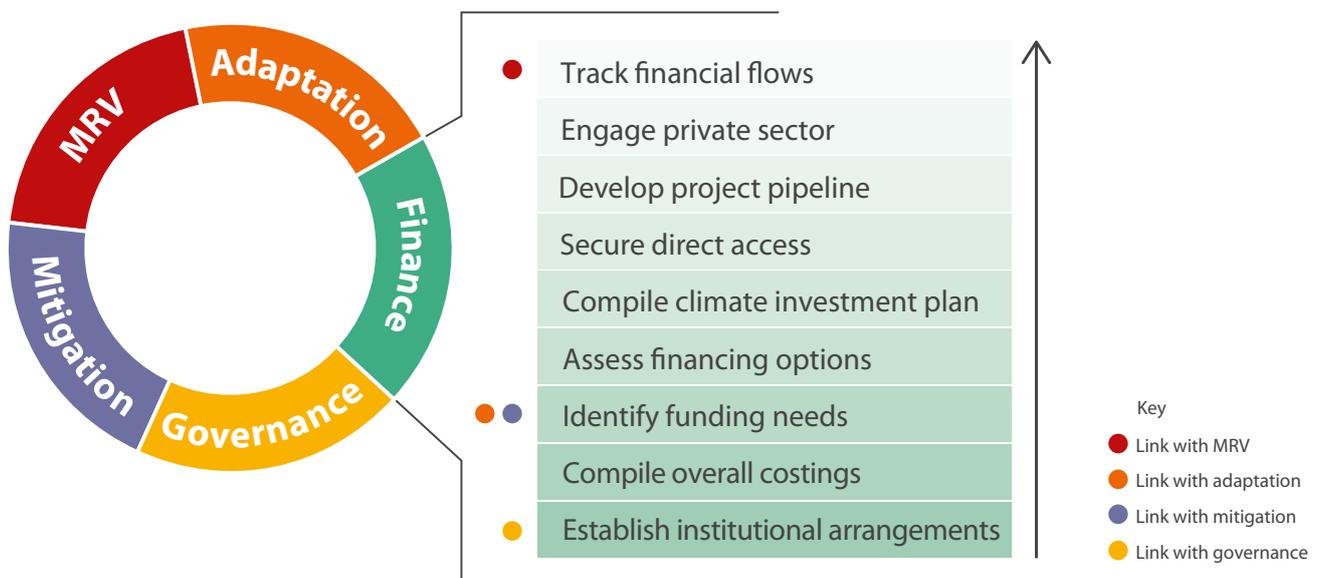
Many countries are considering the development of a country climate investment plan. These set out the programme of investments required to implement their NDC, and include a strategy for meeting those financing needs (noting that most NDCs do not include sufficient detail to represent investment strategies). In order to access finance, countries need clear project concepts

as a minimum, and financing propositions need to be developed. Furthermore, specific institutional capacities may need to be demonstrated, and the enabling environment for policy implementation and private sector engagement may need to be enhanced (being mindful to address not only financial barriers but also relevant technical and institutional barriers).

The specific funding criteria and access requirements differ between financing sources, but there are common underlying principles that countries can address to increase financial flows and improve their readiness for financing. Many climate funds have specific requirements (e.g. relating to gender, fiduciary criteria and/or environmental and social safeguards), as well as seeking demonstrated synergies between climate projects and national development priorities.

When reviewing this module, countries may find it useful to refer to the mitigation and adaptation modules to consider the financing needs of individual mitigation and adaptation actions; the MRV module with regards to tracking climate finance flows; and the governance module with regards to the institutional structures and processes needed for climate finance.

Figure 6: Key activities in the finance module



## Box 6: Finance and the Paris Agreement

“Developed country Parties shall provide financial resources to assist developing country Parties with respect to both mitigation and adaptation in continuation of their existing obligations under the Convention.” – **Article 9.1**

Finance is primarily covered by Article 9 of the Paris Agreement, which re-establishes the precedent that developed countries should take the lead for mobilising finance (Article 9.3). Details on the finance pledged and provided will be biennially communicated by developed countries (Articles 9.5 and 9.7). Developing countries can also contribute to finance but this obligation is voluntary (Article 9.2). The provision of financial resources should aim to achieve a balance between adaptation and mitigation (Article 9.4). Note that Article 6 of the Paris Agreement covers the use of market mechanisms, which may also provide a source of finance for mitigation and adaptation actions.

## Key activities

### 1. Review current climate finance landscape

#### 1a. Review the NDC

- Identify any international support requirements that may have been specified in the NDC, including financial, capacity-building, technology transfer or other types of international support.

#### 1b. Review the current status of climate finance strategies

- Climate finance strategies could include: any existing climate investment plans or policies that may be in place, whether at the national, subnational or sectoral level; work programmes established with any specific bilateral or multilateral funders; Clean Development Mechanism<sup>55</sup> project pipelines; and Nationally Appropriate Mitigation Action (NAMA) project pipelines or work programmes.

### 2. Establish institutional arrangements for the oversight and coordination of climate finance activities

See activity in the governance module for additional content regarding institutional arrangements.

### 2a. Identify and delineate key roles on climate finance within the country

- Consider internal government focal points with important bilateral and multilateral funders for adaptation and mitigation projects.
- Consider establishing a cross-ministerial working group to enhance coordination on climate finance issues between these parties.

### 2b. Identify a team within government to lead on national climate finance coordination

- This could be within the ministries of finance or environment, planning commissions or the prime minister’s office. It should ideally be a gender-balanced team and have the mandate to:
  - strategically plan and coordinate the access, mobilisation, disbursement and tracking of climate finance across the country
  - establish and maintain communication with government focal points and with bilateral and multilateral funders
  - ensure coordinated engagement with funders via these government focal points
  - disseminate information to country stakeholders regarding funding criteria and the operational requirements and procedures of major funders.

## 2c. Mainstream climate change into national budgeting processes

- This will ensure NDC implementation priorities are reflected in budgets, helping existing policies, programmes and project pipelines to be 'green'.
- This can potentially increase domestic, as well as international, fiscal support for climate change initiatives.
- See the case study on Ethiopia's Climate Resilient Green Economy for an example of how mainstreaming could be implemented in practice.

## 3. Compile an overall costing for the NDC

### 3a. Undertake a desk review to identify and cost the main sub-actions within each mitigation and adaptation action

- Costing each action involves identifying the cost for sub-actions, including upfront capital costs (e.g. infrastructure), ongoing maintenance costs, capacity-building or training, and the human resources needed to implement the action.
- A desk review could include an assessment of similar actions previously completed within the country, at national and/or subnational levels, as well as reviewing how similar countries may have costed such actions.
- Note that costs for some actions may change over time; it may be necessary to reconsider cost estimates as new information comes to light. For example, costs may decrease over time due to falling technology costs or barriers being removed by relevant policies.

### 3b. Check these desk-based estimates with relevant national experts and stakeholders

- Checking the results of the desk-based review with relevant experts can provide additional confidence that the costings are roughly correct and that no important elements have been overlooked.
- Relevant national experts could include government ministries, departments and agencies that are expected to lead the implementation of the actions, have been involved in implementing similar actions, or have experience in costing similar actions (e.g. planning or finance departments). They could also be private sector investors or academics.

## 4. Identify funding gaps and needs

See activity 6 in the mitigation module and activity 4 in adaptation module for additional information on financing actions under these areas.

## 4a. Scope and prioritise the actions to be undertaken during NDC implementation

- See the mitigation and adaptation modules for more detail on scoping and prioritising the actions; in summary, this will likely involve:
  - identifying the range of actions that could be undertaken to implement the mitigation and adaptation components of the NDC
  - prioritising these actions, in close consultation with key country stakeholders
  - undertaking a broad barriers analysis, and other analyses, to assess the enabling environment for each action (e.g. domestic policy support frameworks, institutional barriers) and understand the mix of financial and non-financial measures required to successfully implement each action.

## 4b. Assess the funding status of each priority NDC action

- Identify existing and projected domestic budgetary support for each priority NDC action, for example through the development of Climate Public Expenditure and Institutional Reviews<sup>56</sup> or other frameworks.
- Consider available domestic budgetary support, as well as any expected bilateral and/or multilateral support and private sector finance.
- Identify which actions and sub-actions have yet to be fully funded.

## 4c. Identify the level and type of support needed to address each funding gap

- Assess the amount and type of support required to close each funding gap (e.g. capacity-building, technical assistance, finance) and the likely type of funding source (e.g. government, bilateral and multilateral funders and private sector).

## 5. Assess public and private financing options

### 5a. Assess the potential for further domestic fiscal support for each action

- Review existing development policies, programmes and infrastructure project pipelines to assess the potential for 'greening' these activities, for example extending or amending these to include NDC priorities, and screening the climate risks or mitigation potential associated with these projects.

- Identify opportunities to mainstream climate change priorities into the national budgetary and infrastructure planning process. This can indirectly increase domestic and international fiscal support for climate change initiatives. See the governance module for more details regarding integrating NDC implementation across government.
- Additional engagement with key departments may be required, including planning, finance and sectors involved with NDC implementation, at both the national and subnational levels.
- Consider what information on the co-benefits of climate action might be useful to these departments, to obtain buy-in and support.
- improving the financial track record for the sector or technology, which should increase market interest.

## 6. Develop a country climate investment plan

- A country climate investment plan sets out the programme of investments required to implement each priority action in the NDC, as well as a strategy for meeting those financing needs. Examples of sector-specific climate investment plans can be found on the Climate Investment Funds website.<sup>57</sup>
- Developing the country investment plan will involve consolidating the analysis undertaken across activities 3, 4 and 5 within this module, and making decisions regarding which funding options are most appropriate for each action.
- When developing the climate investment plan, it may be useful to review how peer countries deliver and finance similar projects and what lessons can be learned.
- The country climate investment plan should build on and strengthen any existing climate investment plans in place, as well as drawing on Clean Development Mechanism or NAMA project pipelines and country programmes that have been developed for specific bilateral or multilateral funders.

## 5b. Assess the eligibility of each action against bilateral and multilateral funding sources

- Consider the country's history of accessing funds from bilateral and multilateral sources to identify potential funders with whom the country already has a relationship. These could potentially be approached in the short-to-medium term regarding financing for priority NDC activities.
- Identify any new sources of multilateral and bilateral finance that could potentially support the actions.
- Assess the eligibility of each action against the funding criteria for existing and potential new bilateral and multilateral funding sources.
- Identify the best method for the country to access each funding source, for example direct access (this is relevant for a limited number of funds; see activity 7 within this module), indirect access, or NAMA development.

## 5c. Assess options for private sector investment for each action

- Assess the suitability and potential attractiveness of each action to the private sector. This can be done by determining if the action is likely to generate a predictable future revenue stream that can cover the costs and generate profit (e.g. electricity sales to consumers where there is large unmet energy demand), or if the government may consider directly paying private sector investors (e.g. a public-private partnerships where assets are built and the government pays investors for delivering services).
- If the annual net cash flows will be insufficient, a range of financial and non-financial interventions can be considered (see activity 8 within this module).
- If investors are hesitant to make significant investments in climate-related projects, consider whether smaller, more manageable projects can be financed initially (e.g. demonstration or pilot projects), thereby

## 7. Secure direct access to international climate funds for national and subnational institutions

- A limited number of international funds allow direct access, including the Green Climate Fund, the Adaptation Fund, the Global Environment Fund and the European Commission Directorate-General for International Cooperation and Development.
- Direct access involves national or subnational institutions directly receiving finance from funding sources and disbursing them to relevant projects, i.e. without an international agency managing and overseeing the funds as an intermediary.
- Each fund has different accreditation requirements for institutions seeking direct access, including demonstrating capacities such as financial and administrative management, monitoring and evaluation (M&E), project management, gender mainstreaming and equity, and environmental and social management.
- Countries that are interested in direct access may find it useful to initially screen a selection of national and subnational institutions against the accreditation requirements for the relevant fund or funds, to identify potential eligible institutions and the resources required to fully meet the accreditation requirements.

- For countries with institutions that are already accredited (depending on the funding source, these may be referred to as ‘accredited entities,’ ‘implementing entities’ or similar), the next step may be to develop a project pipeline and put forward funding proposals so that finance can be accessed (see activity 8 within this module).
- Note that the institutions that will be seeking to access financing sources may not necessarily be the same as those leading the implementation of the actions.
- In addition, there may be non-government stakeholders who have key roles to play in the design and selection of climate change projects. It may be useful to include them in any capacity-building programmes.

## 8. Develop a project pipeline and financing propositions that can be put forward to different financing sources

### 8a. Build technical and relational capacities within government ministries to develop a project pipeline

- Capacities that can support the development of a project pipeline include:
  - the ability to undertake financial and technology needs assessments across the country’s priority sectors, to assess where efforts need to be focused and ensure projects are robust
  - technical understanding of available technologies to ensure the most suitable and effective technology is being used
  - coordination with relevant ministries to develop joint project proposals and navigate ministerial priorities
  - financial modelling and cost–benefit analysis expertise to determine the financial feasibility of the proposed projects and ensure projects stay within the country’s budget
  - writing skills to develop business cases and project concept notes, to ensure the most effective outcomes for implemented projects
  - the capability to design and select climate change projects and programmes.
- Any climate change-related capacity-building could potentially include the integration of SDG principles into project concepts, especially gender equity.
- Implementing the NDC will require a strong pipeline of climate change projects, as well as integrating climate-related activities into existing and proposed infrastructure programmes. This is likely to involve initiatives led not only by a country’s ministry of environment, but also ministries of planning, transport, energy and others. To support the integration of climate-related activities into infrastructure projects and programmes, it may be helpful to build capacity across all government departments involved in NDC implementation.

### 8b. Develop funding proposals that can be shared with bilateral and multilateral funders

- Many bilateral and multilateral financing sources allow for the submission of project concept notes, so that initial feedback can be received on the eligibility and viability of the project, before preparing a full funding proposal.
- Requirements for full funding proposals will vary between funders, with typical requirements including information about financing requirements (e.g. co-financing to be provided by the country), as well as a detailed description of project activities and the anticipated results.
- When preparing funding proposals, be mindful of any concept note or proposal templates provided by the funder, as well as the eligibility criteria.
- Some funders may provide support for the development of project concepts and proposals.
- It may be useful to meet with the funder to receive early feedback on project ideas, and how they fit with the funder’s selection criteria.

### 8c. Develop funding proposals that can be shared with potential private sector financing sources

- It may be useful to meet private sector investors to receive early feedback on project ideas, for example through roundtable discussions and consultations (see activity 9 within this module for further information on private sector engagement).
- The private sector will typically seek funding proposals that address the following concerns:
  - Is the technical solution well thought through?
  - Does the technology have a track record?
  - Are there the skills available within or outside the country to develop the project?
  - What remedies are available if projects are poorly built or operating costs are higher than expected (e.g. enforceable performance bonds from construction companies)?
  - Where will revenues to pay financiers come from (e.g. sales to customers, government support, concessions)?
  - What reassurance can be given that the revenues will be achieved (e.g. additional government

support, government-backed guarantees and credit ratings, minimum price agreements and realistic demand forecasts)?

## 9. Increase private sector engagement and overcome barriers to investment

### 9a. Assess and enhance the domestic investment environment

- Identify the barriers to private sector investment across relevant priority actions for NDC implementation. These can include perceived or actual risks (e.g. credit risks, policy or political risks, technology risks), the scale of investment opportunity available (e.g. transaction costs are too high in relation to the size of the opportunity), or returns are too low (e.g. due to interest rates and taxes).
- Identify the range of financial and non-financial interventions needed to address barriers for private sector investment across relevant priority actions for NDC implementation.
  - financial interventions include: risk-mitigation instruments (e.g. policy risk insurance, government or donor-backed partial guarantees); concessionary loans (e.g. to improve the financial viability of projects); grants (e.g. to improve financial viability of projects or climate-risk assessments and energy-efficiency audits); aggregation instruments (e.g. to increase the scale of investment opportunity); tax breaks (e.g. for low-carbon or climate-resilient technologies); feed-in tariffs (e.g. to incentivise renewable energy); and public-private partnerships.
- non-financial interventions include: strengthening the rule of law (e.g. so that investors can seek compensation if energy companies do not honour offtake agreements); developing 'matchmaking' services (e.g. between project developers and financiers); capacity-building for the financial sector (e.g. to address perceived risks associated with low-carbon or climate-resilient technologies); and knowledge transfer (e.g. writing step-by-step guides for developing projects, preparing legal templates for power purchase agreements, rental agreements and loan agreements).
- Develop public-private financing structures and launch pilot projects to showcase viable business models and attract further climate investment.
- Review the approaches used by peer countries for public-private financing and consider whether they could be applicable.



Image: © Panos

## 9b. Strengthen the capacity of relevant departments to identify and develop financially viable opportunities for the private sector

- Capacities that can support government officials to identify and develop financially viable opportunities for the private sector include:
  - understanding how projects similar to the actions being considered are normally financed in the country, to help build financial models for individual projects; this includes understanding: what loan sizes are common in the country? How long do most loans last for? In which currency are most loans? What interest rates are normally charged? Is there a bond market or an active equity market? Do banks from outside a country lend to a project?
  - knowledge of financial and investment terminology (e.g. payback periods, internal rates of return, equity returns, pre-tax and pre-finance project returns)
  - understanding of the constraints and requirements of investors (e.g. banks typically need to see sufficient net cash flows to comfortably pay loans)
  - knowledge of the range of financial and non-financial mechanisms available to increase the financial viability of projects for the private sector, and to reduce risks (e.g. the risk of cost overruns, revenue streams being lower than anticipated), as well as different ways to call for private sector involvement in projects (e.g. funding competitions, bidding for projects)
  - skills and experience in conducting commercial negotiations with the private sector.

## 9c. Increase private sector engagement in national climate policies, strategies, coordinating committees and national financing bodies

- Promote greater public-private dialogue on climate finance through regular forums and institutions. These can include sectoral associations, investor platforms and public consultations.
- Increasing public-private dialogue can lead to increased understanding of climate change opportunities within the private sector, as well as an increased appreciation of investment barriers and how these can be addressed.

- Involve the private sector in the design and implementation of national climate change policies and projects, to better understand investment barriers and jointly explore opportunities.

## 10. Design and implement a climate finance MRV system

See the MRV module for further details on designing and implementing a climate finance MRV system.

### 10a. Identify climate-related spending across all relevant finance flows

- Building on any finance MRV systems that are in place (e.g. for Biennial Update Reports), develop standard methodologies and key performance indicators for a climate finance MRV system, including agreeing a definition – with all relevant stakeholders – of what constitutes climate change-related activities.
- Identify all the relevant departments and institutions that are likely to receive climate finance, and put in place data-sharing agreements (e.g. memoranda of understanding) between relevant departments and institutions, and the climate finance tracking team.

### 10b. Track and report climate-related spending across all relevant finance flows

- Introduce regular reporting on climate activities for government ministries and implementing entities, using standard key performance indicators to ensure data comparability.
- Develop a central tracking system that allows users to input data using standard templates.
- Process and analyse data on a regular basis, delivering findings in a report that can be used to guide the strategic thinking of the team leading national climate finance coordination.

### 10c. Expand and improve the MRV of climate finance

- Refine the MRV system based on the lessons learned, and extend the scope of funding tracked to all donors and all relevant institutions over a number of years.
- If Biennial Update Reports have presented data on international climate finance received, assess and revise definitions to ensure they match the NDC targets and ensure the list of institutions involved is complete.
- Assess gaps and close them, step by step, over a longer time frame.

### Case study 15 – Ethiopia: improved access to finance through the development of national central funds

The Government of Ethiopia's Climate Resilient Green Economy Facility is the primary mechanism to mobilise, access and combine domestic and international, and public and private, sources of finance to support the institutional building and implementation of the country's Climate Resilient Green Economy Strategy. The Facility became operational in 2012 and is expected to run until 2030. It is housed within the Ministry of Finance and Economic Cooperation and is governed by the Climate Resilient Green Economy Ministerial Steering Committee, chaired by the Prime Minister's Office, which determines the overarching priorities.

This set-up has several benefits.

- **Flexible, coordinated and predictable funding.** As a central fund, the Facility provides funding through a variety of financing instruments: loans, co-financing, results-based payments and grants for actions and projects that are in line with the national strategy and development goals. Funding is provided to implementing entities at federal and regional levels to undertake projects in line with the Climate Resilient Green Economy Strategy.
- **Greater coordination between climate change activities.** It provides a single point where stakeholders can come together and make decisions about climate change issues, increasing cooperation, efficiency and effectiveness.
- **Competent monitoring, tracking and reporting of finance to donors.** Each quarter, the government publically reports the total funds received and disbursed, including expenses. Annual audited financial statements are also published. The Facility has detailed operational manuals in place, which can be used to demonstrate to donors that fiduciary standards are in place to ensure finance is being used for the intended purposes.
- **Enhanced private sector engagement.** The Facility gives confidence in government actions, which in turn ensures that private sector concerns and market barriers can be clearly acknowledged in design and implementation plans.<sup>58</sup>

### Case study 16 – India: using the Clean Development Mechanism to finance gender-responsive mitigation

The Indian Bagepalli Clean Development Mechanism Biogas Program was registered in 2005 as the world's first pro-poor Clean Development Mechanism project.<sup>59</sup> It introduced 5,500 biogas units that convert cow dung into cooking fuel and provided clean stoves for poor households. This is a good example of a climate financing mechanism that has delivered mitigation, adaptation and development co-benefits, and has been conducted in a gender-responsive way.

The project has improved the overall quality of life and social well-being of families, in particular women and children. It has reduced the collection of fuel wood, increased access to energy and made cooking easier. This has freed up time for women to engage in income-generating and other productive activities. It has also reduced indoor air pollution, improving families' health. Communities involved in the programme, especially women, have benefitted from the income generated by selling emission credits.<sup>60</sup>

### Case study 17 – Uganda: mobilising private sector development of small-scale renewables using a feed-in tariff

The Ugandan national grid faces a looming power-supply shortage, which threatens economic growth. Currently, there are significant barriers to the introduction of small-scale renewables due to a lack of proper incentives or a consistent, transparent legal and policy framework.

The Global Energy Transfer Feed-in-Tariff (GET FIT), launched in May 2013, aims to encourage private investment in renewable energy projects in Uganda to improve economic growth, reduce poverty and mitigate against climate change. Specifically, it aims to fast-track 20 small-scale renewables projects, totalling 170 megawatts and 830 gigawatt hours per year. It was developed by the Government of Uganda, Uganda's Electricity Regulatory Authority and the German development bank KfW, with support from other national governments and funds and the World Bank. By the end of 2015, there were 17 projects under construction or delivery across Uganda, including one biomass project, two solar photovoltaic projects and multiple hydropower projects.<sup>61</sup> The 17 projects have a combined capacity of 157 megawatts.

The programme uses several approaches. The GET FiT Premium Payment Mechanism is the main support lever. This is a results-based premium payment designed to top up Uganda's own renewable energy feed-in tariff. These top-up payments are made to renewable energy projects to deliver energy to the national grid over 20 years. Support is front-loaded so that funds are paid out over the first five years of operation, during early debt-repayment periods, thereby facilitating commercial lending.

The scheme also solves technical, regulatory and legal problems. Support has been provided to review, update and standardise legal documents required for project delivery in order to reduce transaction costs and times. Key stakeholders, including developers, their banks and lawyers, were involved in a consultative process to ensure broad acceptance of the revised documents.

The GET FiT M&E framework monitors the programme's outputs, outcomes and impacts. Quantitative indicators are collected from project developers and important stakeholders, and biannual performance reviews are conducted by an independent consultant. These aim to critically and independently assess whether GET FiT is meeting its targets and objectives.

## Case study 18 – Bangladesh: the Solar Homes System Program

The Solar Homes System Program is one of the largest and the fastest-growing off-grid renewable energy programmes in the world. It aims to provide clean energy to off-grid areas in Bangladesh, and forms part of the government's vision of ensuring 'Access to Electricity for All' by 2021. It has been driven by the Infrastructure Development Company Limited (IDCOL), a state-owned infrastructure-financing bank, with support from development partners such as the Asian Development Bank. Since its launch in 2003 it has provided solar energy to 3.5 million households in off-grid areas. This has enabled 24-hour energy access and reduced the use of kerosene lamps, which produce emissions that damage health.

**A strong partnership:** Key to the success of the programme has been the collaboration between IDCOL and its network of over 50 grassroots partner organisations. These partner organisations implement the programme by selling, installing and maintaining the solar systems. IDCOL also works with a number of development organisations, including the World Bank, the UK Department for International Development and the Global Environment Fund, among others. These have provided financial and technical support for the implementation and expansion of the programme.

**Innovative financing schemes:** IDCOL screens and selects partner organisations, and then provides them with refinancing and grant schemes. It has proved to be a good way to make private domestic household money available through public initiatives for solar energy.

**Positive welfare impacts:** The impact of the programme on education and home-based work (mostly of women) has been significant. The lighting system extends waking and working hours, and allows more time for productive household activities, reading and studying, as well as social interactions. Lighting also provides greater security, which has had a positive impact on women in particular.

### Case study 19 – India: mobilising finance to implement the NDC through green bonds

India's NDC has an ambitious target of adding 175 gigawatts of renewable energy capacity by 2022. It is estimated that this will require funding of US\$200 bn and will therefore require the involvement of international capital markets, via innovative instruments like green bonds.

In its NDC, India included the introduction of tax-free infrastructure bonds worth INR 50 bn (US\$794 mn) for the funding of renewable energy projects during the financial year 2015/16. It also focused more on technical support and broadening investor opportunities, including allowing 100% foreign ownership of renewable projects. By doing so, the Government of India is helping to make the business case for NDCs. And in January 2016, the Securities Exchange Board of India rolled out a concept paper

defining the guidelines for issuing and listing green bonds to further facilitate their uptake in India.

**Growth in Indian green bonds:** The YES BANK, India's fourth-largest private sector bank, successfully issued the country's first ever green infrastructure bonds in 2015. The bank made a commitment to support clean energy projects to produce 5,000 megawatts by 2020. After this, in March 2015, another leading banking institution, the Exim Bank of India, issued a five-year US\$500 mn green bond, which is India's first dollar-denominated green bond. The Exim Bank will initially use the net proceeds to fund eligible green projects in other countries, including Bangladesh and Sri Lanka.

In June 2016, India's Axis Bank launched the country's first internationally listed and certified green bond and raised US\$500 mn to finance climate change projects around the world. The bond, certified by the Climate Bonds Standards Board, has been listed on the London Stock Exchange.<sup>62</sup>



Image: © Indian Institute for Public Health



# Measuring, reporting and verification

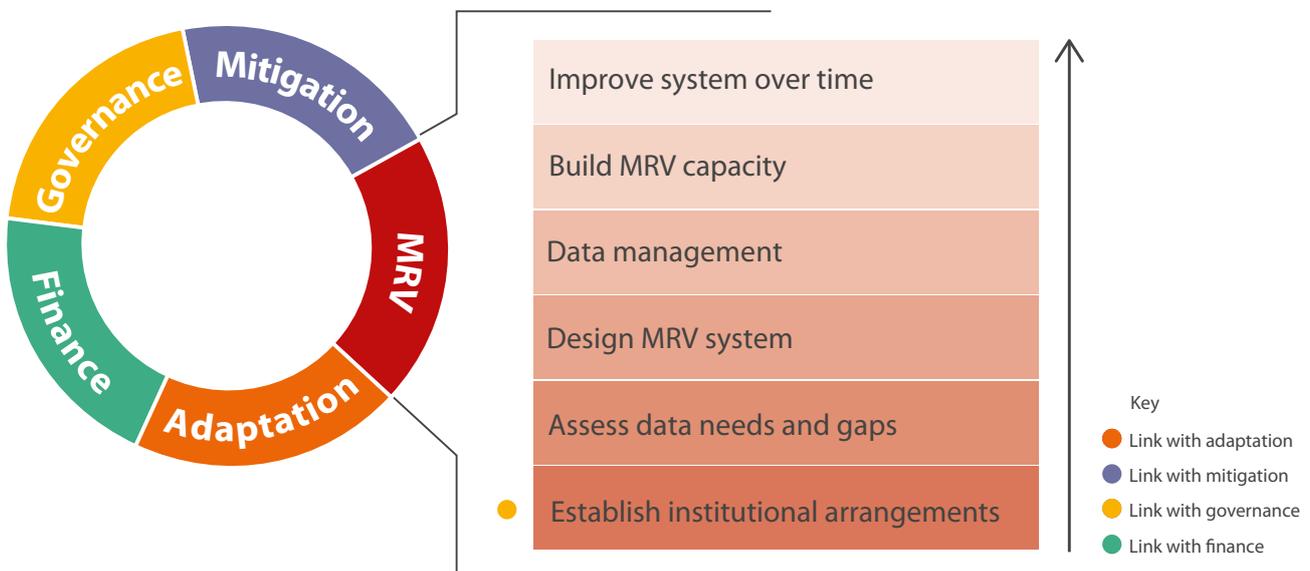
In the context of NDC implementation, MRV refers to the process by which countries track and report on the implementation and impacts of mitigation and adaptation actions, and the finance used to support these actions. These three core elements – mitigation, adaptation and finance<sup>63</sup> – can be elements of one integrated, national MRV system, or separate MRV systems. Table 2 lists the MRV systems needed to track NDC implementation under each of these elements.

Given the overlaps between the SDGs and climate change action, the MRV systems used for NDC implementation can potentially be used to track SDG implementation as well, especially the goals related to mitigation, adaptation and finance.<sup>64</sup> They could also be used to track the gender sensitive impact of climate actions and the effectiveness of gender mainstreaming initiatives.

Table 2. National MRV systems for tracking NDC implementation

MRV system	Relevance to NDC implementation
Mitigation	<ul style="list-style-type: none"> <li>Assess current progress in reducing greenhouse gas emissions towards the overall target (by reviewing the greenhouse gas inventory), and expected future emissions (by reviewing greenhouse gas projections), at national and sectoral levels, to understand the aggregate impact of mitigation actions now and in the future.</li> <li>Undertake M&amp;E<sup>65</sup> to track the implementation and assess the impacts of individual mitigation actions, to ensure actions are contributing to NDC commitments and capture lessons learned on which policies work best (and why) to inform the design of future policies.</li> </ul>
Adaptation	<ul style="list-style-type: none"> <li>M&amp;E to track implementation and assess the effectiveness of adaptation actions taken, to inform regular updates of the National Adaptation Plans.</li> <li>Integrate lessons learned into subsequent actions of the National Adaptation Plan process.<sup>66</sup></li> </ul>
Finance	<ul style="list-style-type: none"> <li>Track climate finance flows for NDC implementation, including international public finance, national domestic budgets and private climate finance, to improve the overall transparency of climate finance flows, and assess whether the scale/type of financing requirements for NDC implementation are being addressed.</li> </ul>

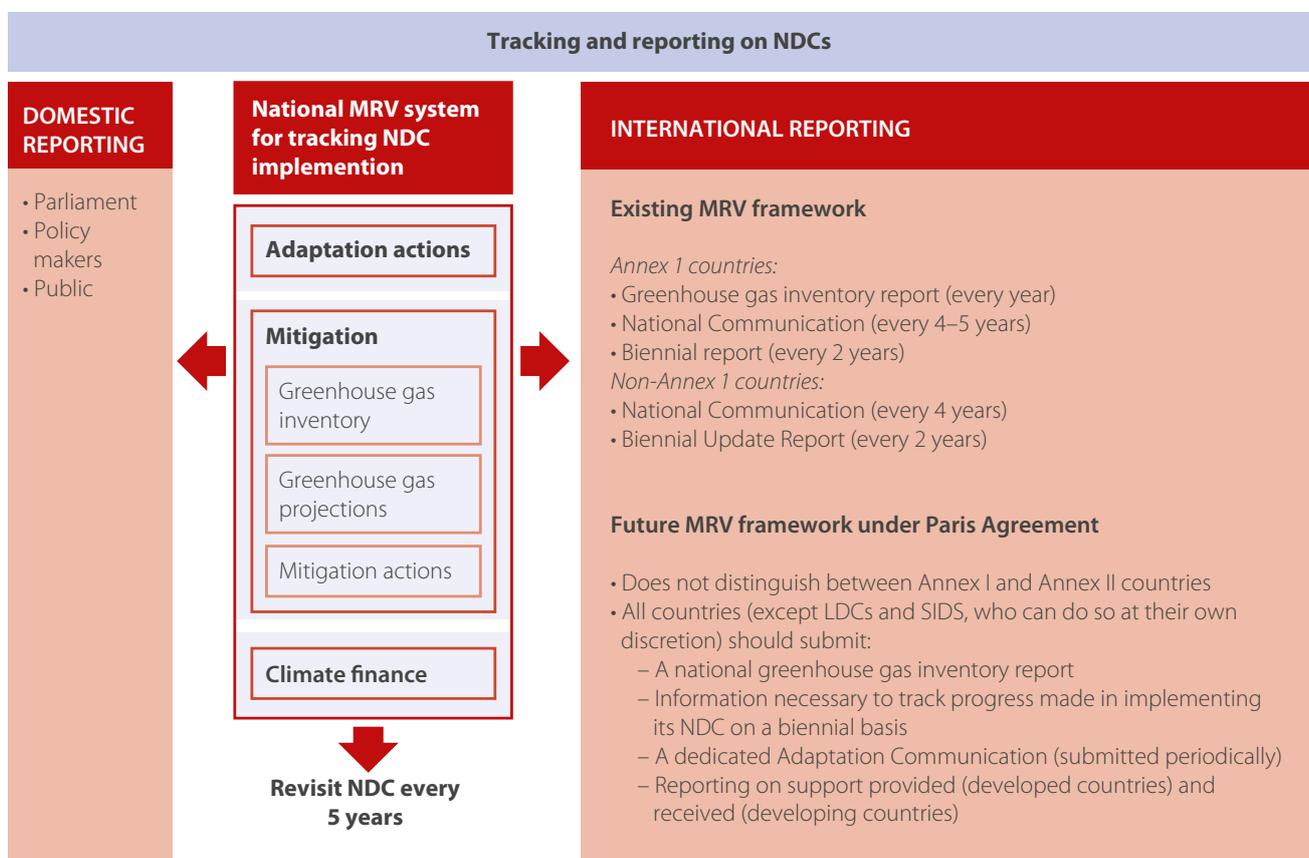
Figure 7: Key activities in the MRV module



Tracking and reporting progress on NDC implementation is needed to meet countries' international reporting requirements, as well as to meet domestic requirements. These could include reports to parliament and the public

to improve transparency, and to policy-makers to inform decisions to update or complement existing mitigation or adaptation actions. MRV systems for NDC implementation can build on existing MRV systems, as summarised in Table 3.

Figure 8: Reporting for domestic and international audiences



Note: Annex I Parties include the industrialised countries that were members of the Organisation for Economic Co-operation and Development in 1992, plus countries with economies in transition. Non-Annex I Parties are mostly developing countries.<sup>67</sup>

**Table 3: Existing MRV systems for tracking NDC implementation**

Sector	Existing MRV systems
Mitigation	<ul style="list-style-type: none"> <li>Developing countries are likely to have an MRV system for reporting on national greenhouse emissions (greenhouse gas inventory) for their Biennial Update Report. In addition, countries may report on the implementation and impacts of mitigation actions as part of Biennial Update Reports reporting. These data collection and reporting systems are likely to provide the foundation for mitigation MRV for NDC implementation.</li> <li>Potential enhancements may be required, depending on the scope and type of mitigation contribution included in the NDC. For example: <ul style="list-style-type: none"> <li>Where the NDC includes an emission-intensity mitigation contribution in relation to GDP, then GDP data will be needed.</li> <li>Where the NDC specifies a mitigation outcome relative to a dynamic business-as-usual baseline, data on the drivers of these projections will be required (e.g. population, GDP).</li> <li>More information on assessing progress towards mitigation goals can be found in the WRI's Greenhouse Gas Protocol Mitigation Goal Standard.<sup>68</sup></li> </ul> </li> </ul>
Adaptation	<ul style="list-style-type: none"> <li>Countries may already have an MRV system for reporting on the implementation and impacts of adaptation actions for their National Communications, or as part of implementing the UNFCCC National Adaptation Plan process technical guidelines (there is no requirement to report on adaptation actions in the Biennial Update Reports).</li> <li>The Paris Agreement sets a requirement for periodic Adaptation Communications in conjunction with other key reports.</li> <li>Hence, for countries that included an adaptation component in their NDC, these existing systems are likely to provide the foundation for adaptation MRV for NDC implementation, with potential enhancements required depending on the scope of the adaptation contributions in the NDC.</li> </ul>
Finance	<ul style="list-style-type: none"> <li>Countries may already have in place an MRV system for reporting on support received for their Biennial Update Report. Hence, for countries whose NDCs are conditional upon the receipt of international support, there may be existing systems which can provide the foundation for a finance MRV system for NDC implementation.</li> </ul>

When reviewing this module, countries may find it useful to refer to the mitigation and adaptation modules, to consider what indicators might be appropriate to track the implementation and effectiveness of mitigation and adaptation actions, the finance module with regards to tracking finance flows and the governance module with regards to the institutional structures and processes for robust national MRV but also how MRV outputs can be used to inform decision-making and increase buy-in for climate action.

### Box 7: MRV and the Paris Agreement

“In order to build mutual trust and confidence and to promote effective implementation, an enhanced transparency framework for action and support, with built-in flexibility which takes into account Parties’ different capacities and builds upon collective experience, is hereby established.” – **Article 13.1**

References to MRV are interwoven throughout the Paris Agreement, but are primarily found in Articles 13 and 14.<sup>69</sup> The framework mentioned in Article 13.1 will help track mitigation and adaptation actions (Articles 13.5 and 13.6) and will have flexibility for certain parties (Article 13.2). The framework has yet to be decided, but will build on and enhance the existing transparency arrangements under the UNFCCC, such as National Communications, Biennial Update Reports and International Consultation and Analysis (Article 13.3), as well as introducing a new requirement to report on adaptation communications.

The new transparency framework will inform the global stocktake (Article 14), which will be used to assess global progress against the goals of limiting warming to 2°C or, more ambitiously, 1.5°C, and the state of adaptation efforts. The Capacity Building Initiative for Transparency is established (Decision P.85) to support developing countries with meeting the enhanced transparency requirements under Article 13.

## Key activities

### 1. Review current MRV activities

#### 1a. Review the NDC

- Identify the areas for which MRV is required, based on your NDC: mitigation, adaptation, climate finance, SDGs or any important co-benefits of climate actions (e.g. energy access, job creation).
- The MRV system can be designed in a stepwise way, with some elements becoming operational in later years.
- Review whether the NDC already stipulates any specific MRV approaches and/or roles.
- Consider the data needs to allow for this.

#### 1b. Review existing national MRV processes

- Review recent Biennial Update Reports and/or National Communication submissions, identifying how data (e.g. mitigation, adaptation, climate finance) were generated for these reports, the frequency of data collection and who is involved (e.g. statistical offices, sectoral ministries and their affiliated institutions).

### 2. Establish institutional arrangements for the oversight and coordination of MRV activities

See activity 3 in the governance module for additional content on institutional arrangements.

#### 2a. Set up an MRV steering group

- The role of this group is to oversee the stepwise design and implementation of the national MRV system for adaptation, mitigation and climate finance. This could be a sub-group to a wider NDC implementation steering group.
- Align the group's work plan with the five-year NDC cycle (see the introduction to the Quick Start Guide for more details) so that data can be collected to track progress towards NDC goals and inform future policy decisions (e.g. the introduction of new policies and changes to existing policies).

#### 2b. Agree an overall lead institution for the MRV system

- This institution should have capabilities across adaptation and mitigation.
- It will be responsible for the overall set-up and coordination of the MRV system and receive guidance from the steering group.

#### 2c. Develop appropriate rules and guidance

- Put in place appropriate rules on data sharing, stating which data will be shared, by whom and how often between government ministries, departments and agencies. This could be set out in legislation (see activity 6 under the governance module) or as a memorandum of understanding between data-sharing parties. This should apply to all parties that hold relevant data, including non-government actors (e.g. academia).
- Develop and publish MRV-related technical guidance as necessary for policy teams, within government and any other stakeholders likely to be involved in the MRV system. As a minimum, this guidance will need to follow any rules and procedures agreed at the international level.

#### 2d. Develop plans for reporting

- Develop a plan for reporting, considering the intended audience, what data are needed, and the format, frequency and responsibilities. As a minimum, this will need to meet current UNFCCC reporting requirements, and any other reporting arrangements that are agreed for the new transparency regime under the Paris Agreement. It should also consider other audiences and their needs, particularly domestic audiences (e.g. public reports, reports to parliament).
- Establish how actions at the subnational level will be captured and reported at the national level.

### 3. Assess data gaps and needs

#### 3a. Assess and prioritise data gaps

- Identify the scope of data required across mitigation, adaptation, finance and other areas to track NDC implementation. As part of this process, it may be useful to reflect on the overall international MRV requirements for climate change, in order to set out what data are needed and by when.
- It may be useful to consider MRV requirements for SDG reporting, for example the incorporation of gender-specific benchmarks and indicators to track gender equity within climate change actions.
- Having mapped existing national processes (see activity 1 within this module), consider potential data gaps, for example, data which are not yet collected, not available, not in the right format or frequency, or not of the required quality.
- Prioritise addressing these data gaps, based on their relative importance for domestic and international reporting.

### 3b. Identify how existing MRV systems can be extended to address data gaps

- Consider how existing data flows, responsibilities and processes might be adjusted and extended to build a system which can collect the required data for tracking NDC implementation.
- This could include exploring complementary MRV systems for both NDC and SDG implementation, and considering options for integrating gender considerations into the MRV system (e.g. gender-specific benchmarks and indicators to assess the effectiveness of gender mainstreaming initiatives).
- Following the stepwise approach described in activity 1a, consider how any existing MRV systems can be complemented and refined over time.

### 4. Design the MRV system for mitigation, adaptation and finance

- The activities needed to develop systems for the MRV of mitigation, adaptation and finance are set out within those modules.
- These could be developed by linking individual MRV systems, or creating a single integrated MRV system.
- See activity 8 in the mitigation module, activity 6 in the adaptation module and activity 10 in the finance module for more details.

### 5. Establish data management processes

#### 5a. Develop systems to improve data quality

- This can include a number of approaches, from the robust independent verification of data, to internal data audits and quality checks, and consultation with stakeholders.

#### 5b. Develop data management systems

- There should be clear and transparent archiving of data. Consider making online data systems accessible to all or to certain individuals through password-controlled access.

#### 5c. Address data gaps

- These could, at least in the short term, be filled by using generic factors or international benchmarks, until the data can be improved.

#### 5d. Develop data improvement plans

- Develop plans for improving data sets as necessary, with suggested responsibilities, timings and resource requirements. This could be part of the wider NDC implementation plan or a stand-alone plan.

### 6. Build MRV capacity

- Assess capacity-building needs for the design and implementation of each element. Capacities of subnational and local governments should be enhanced to coordinate cohesive tracking of development plans linked to the SDGs and NDC.
- The following areas might require capacity-building support, both within the central MRV team and across stakeholders involved in the implementation of the MRV system:
  - compiling and improving the national greenhouse inventory, and understanding IPCC guidelines
  - M&E of the impacts of mitigation and adaptation actions, and their developmental co-benefits
  - MRV of climate finance
  - data management issues, including robust quality assurance and archiving
  - reporting to the UNFCCC, in particular keeping abreast of guidance being developed by the Ad Hoc Working Group on the Paris Agreement
  - the ability to draft memoranda of understanding, legal requirements and other mechanisms that ensure the provision of relevant, long-term data
  - the translation of technical data into messages for policy-makers; see the governance module for more information on this.

### 7. Improve the MRV system over time

#### 7a. Ensure MRV reports are relevant

- Establish a mechanism to ensure that the outputs from the MRV systems can inform regular updates of the mitigation, adaptation and climate finance planning processes, and lessons learned can be integrated into subsequent actions within the implementation of the NDC.

#### 7b. Consider options for continuous improvement

- Evaluate the effectiveness of the MRV system in collating and reporting relevant data, and adjust the implementation plan and the systems according to any lessons learned.
- Engage with stakeholders to seek feedback on the working and effectiveness of the MRV system.
- Work with countries with similar NDC targets and MRV needs to share lessons learned and best practice.

### Case study 20 – South Africa: an integrated M&E and MRV system

South Africa has developed a comprehensive MRV system for climate change that is integrated into national M&E processes and meets international MRV requirements. Its aim is to track progress in South Africa's transition to a low-carbon, climate-resilient economy. The system collates information on mitigation and adaptation actions, greenhouse gas emissions and climate finance in an integrated way, to provide insights into the individual and collective impacts of the measures taken. The system builds upon the National Climate Change Response Database, developed in 2009 to formalise data-reporting mechanisms through technical working groups.

Design elements of the MRV system included the following.

- **An initial review.** The system design was based on a thorough review of existing institutional structures, processes and capacities related to M&E and MRV, and incorporated these wherever possible and appropriate.
- **A phased implementation plan.** The system will be implemented in three phases over six years. Phase one involved developing a basic set of tiered indicators to track the transition to a low-carbon, climate-resilient economy, and setting up memorandum of understanding with data suppliers, as well as a legal framework to formalise data-collection structures. During phases two and three, the scope and accuracy of data collection will be improved, for example by developing more specific indicators for adaptation (e.g. project-specific) and climate finance (e.g. public money spent).
- **Flexibility to adjust the system.** Continuous learning and improvement of the MRV system was an important component; phase three in particular will be devoted to adjusting the system based on lessons learned during the first two phases.<sup>70</sup>

### Case study 21 – Chile: ensuring comparable MRV approaches for NAMAs

The Government of Chile faced a challenge: how to encourage ministries and agencies to develop their own mitigation actions, while maintaining oversight of the quality and comparability of information provided on the results achieved. Chile met this challenge by setting up a clear, robust national MRV framework for mitigation actions, supported by guidance and reporting templates for all steps. Chilean stakeholders were widely consulted throughout its development, and the framework approach was tested on the MRV of a NAMA under development at that time.<sup>71</sup>

The framework covers all sectors of the economy and ensures MRV approaches for individual mitigation actions are developed using a uniform process. In addition, the Office of Climate Change at the Chilean Ministry of Environment is responsible for approving MRV plans. The development of the framework took one year.

#### Common standards and learning from others:

The system is based on the WRI's Greenhouse Gas Protocol Policy and Action Standard<sup>72</sup> and includes experiences from the MRV approach used in the UK carbon budgets system.<sup>73</sup>

**Common sectoral assumptions:** The system uses common sectoral assumptions to provide comparability with existing projections. It aligns data and emission factors in the national greenhouse gas inventory where feasible, avoids double counting, and encourages annual reporting using standardised reports on implementation and impacts.

This system has proved highly effective. It has increased transparency and comparability, and improved data quality. The reported data provides quality information for political decision-making, as well as inputs for compiling the Biennial Update Report.

# Glossary

CDKN	Climate and Development Knowledge Network
COP	Conference of the Parties to the UNFCCC
GDP	gross domestic product
GET FiT	Global Energy Transfer Feed-in-Tariff
IDCOL	Infrastructure Development Company Limited
INDC	Intended Nationally Determined Contribution
IPCC	Intergovernmental Panel on Climate Change
LDC	least developed country
M&E	monitoring and evaluation
MRV	measuring, reporting and verification
NAMA	Nationally Appropriate Mitigation Action
NDC	Nationally Determined Contribution
REDD	reducing emissions from deforestation and forest degradation
SDG	Sustainable Development Goal
SIDS	small island developing states
UNFCCC	United Nations Framework Convention on Climate Change
WRI	World Resources Institute

# Endnotes

- 1 UNFCCC (2014) 'The Paris Agreement'. Bonn: United Nations Framework Convention on Climate Change. ([http://unfccc.int/paris\\_agreement/items/9485.php](http://unfccc.int/paris_agreement/items/9485.php)).
- 2 For example, within the 'Planning processes' or 'Introduction' sections of the INDCs. See: Holdaway, E., Dodwell, C., Sura, K. and Picot, H. (2015) *A guide to INDCs: Intended Nationally Determined Contributions. Second edition (May 2015)*. London: Climate and Development Knowledge Network. (<http://cdkn.org/wp-content/uploads/2015/04/CDKN-Guide-to-INDCs-Revised-May2015.pdf>).
- 3 Appendix 1 of the Quick Start Guide has more details on the links between the SDGs and NDCs.
- 4 This can include other previously determined priorities for action, including NAMAs (see the mitigation module), and major mitigation and adaptation project proposals.
- 5 For more details, see: Nachmany, M., Fankhauser, S., Davidová, J., Kingsmill, N., Landesman, T., Roppongi, H., Schleifer, P., Setzer, J., Sharman, A., Stolle Singleton, C., Sundaresan, J. and Townshend, T. (2015) *The 2015 Global Climate Legislation study: a review of climate change legislation in 99 countries. Summary for policy-makers*. London: Grantham Institute. ([www.lse.ac.uk/GranthamInstitute/wp-content/uploads/2015/05/Global\\_climate\\_legislation\\_study\\_20151.pdf](http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/2015/05/Global_climate_legislation_study_20151.pdf)).
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- 10 Freitas, S. and Vieweg-Mersmann, M. (2015) 'Feature: Lessons from the INDC process in The Gambia'. London: Climate and Development Knowledge Network. (<http://cdkn.org/2015/03/lessons-indc-process-gambia>).
- 11 Osornio, J.P. and Abidi-Habib, M. (2015) 'Opinion: An emblematic city looks to renewable energy in Sialkot, Pakistan'. CDKN blog. London: Climate and Development Knowledge Network. (<http://cdkn.org/2015/10/opinionanemblematic-city-looks-to-renewable-energy-in-sialkotpakistan>).
- 12 REDD+ stands for "countries' efforts to reduce emissions from deforestation and forest degradation, and foster conservation, sustainable management of forests, and enhancement of forest carbon stocks". See: Forest Carbon Partnership Facility (2015) 'What is REDD+?'. Washington, DC: World Bank. ([www.forestcarbonpartnership.org/what-redd](http://www.forestcarbonpartnership.org/what-redd)).
- 13 Kingdom of Cambodia (2010) REDD+ Roadmap in Cambodia ([http://theredddesk.org/sites/default/files/8\\_redd\\_roadmap\\_cambodia\\_v4\\_0\\_official\\_222\\_5.pdf](http://theredddesk.org/sites/default/files/8_redd_roadmap_cambodia_v4_0_official_222_5.pdf)).
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- 18 NCBS (no date) *Capacity building toolkit*. Kigali: National Capacity Building Secretariat. ([www.ncbs.gov.rw/uploads/media/CB\\_Toolkit\\_Handbook.pdf](http://www.ncbs.gov.rw/uploads/media/CB_Toolkit_Handbook.pdf)).
- 19 Climate proofing refers to protecting development investments and outcomes from the impacts of climate change.
- 20 There are special requirements for SIDS and LDCs under the Paris Agreement. For example, Article 4(6) clearly states that SIDS and LDCs *may* prepare and communicate strategies, plans and actions for low greenhouse gas emissions development, reflecting

- their special circumstances; this is therefore a suggestion rather than a requirement.
- 21 Appendix 1 in the Quick Start Guide has more details about how NDCs can contribute to the SDGs.
- 22 UNDP (2015) *Gender responsive national communications toolkit*. New York: UNDP. ([www.undp.org/content/undp/en/home/librarypage/womens-empowerment/gender-responsive-national-communications.html](http://www.undp.org/content/undp/en/home/librarypage/womens-empowerment/gender-responsive-national-communications.html)).
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- 49 For further guidance, see Element C of the UNFCCC's *National Adaptation Plan process technical guidelines*. LDC Expert Group (2012a) Op. cit.
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- 64 See these modules in this reference manual, and Appendix 2 in the Quick Start Guide, for more details.
- 65 M&E is often used when referring to the tracking of impacts of mitigation and adaptation actions.
- 66 The UNFCCC *National Adaptation Plan process technical guidelines* emphasise three elements in the M&E of adaptation: (1) documenting progress in implementation of the process; (2) measuring and communicating the effectiveness of adaptation actions taken; and (3) assessing gaps, including in the evidence base, capacity and plans, so that these can be filled. In the context of tracking the progress of NDC implementation, the second of these will be the most important.
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- 68 WRI (2014b) Op. cit.
- 69 This covers the proposed new transparency framework under the Paris Agreement. Existing international reporting requirements were agreed at COP 16 in Cancún, Mexico, in 2010, where parties agreed to submit National Communications every two years and Biennial Reports or Biennial Update Reports every two years. See: International Partnership on Mitigation and MRV (no date) 'Measuring, reporting and verification (MRV)'. Bonn: International Partnership on Mitigation and MRV. (<http://mitigationpartnership.net/measuring-reporting-and-verification-mrv-0>).
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