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NDC Implementation Roadmap Development: Guidelines for Small Island Developing States

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The NDC Hub provides country- and sector-specific technical assistance and facilitates match-making of support to PICs for NDC implementation, enhancement, and financing. This support includes strengthening policy and institutional instruments as well as capacity development of PICs in understanding and implementing NDC reporting requirements. The Hub further encourages knowledge sharing and engagement of the private sector on NDC implementation and coordinates between NDC Hub partners and other supporting agencies to promote synergies among these multiple actors.

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The recommendations in this report are based on the experience of Fiji, and although they have been generalized for other SIDS, applicability to all country contexts cannot be guaranteed. Therefore the recommendations provided here should be adapted as needed to the specific circumstances of the country developing the roadmap.



TABLE OF CONTENTS

ABBREVIATIONS	06
LIST OF FIGURES AND TABLES	06
1. INTRODUCTION	07
2. METHODOLOGY AND PROCESS FOR NDC ROADMAP DEVELOPMENT	09
3. STEP 1: PREPARATORY ACTIONS AND KEY CONSIDERATIONS	10
3.1 Establishing Good Governance in Developing the NDC Roadmap	10
3.2 Defining the Overall Goal and Objectives	11
3.3 Defining the Scope	13
3.4 Defining Mitigation Targets and Timeframe	14
3.5 Determining the Baseline	15
3.6 Alignment with Policies, Plans, and Strategies	17
3.7 Ensuring Gender Equality and Social Inclusion	18
3.8 Ensuring an Inclusive Stakeholder Engagement Process	22
3.9 Enhancing the NDC	25
4. STEP 2: REVIEW OF DATA AND INFORMATION	27

5. STEP 3: FUNDAMENTAL ANALYSIS	28
5.1 Identification of Existing Actions	29
5.2 Identification of Potential New Mitigation Actions	30
5.3 Barriers and Needs Assessment	32
5.4 Evaluation and Options Analysis	34
5.5 Creating Summary Descriptions of Potential New Mitigation Actions	36
5.6 Classification into Short-, Medium-, and Long-Term Actions	36
5.7 Governance and Institutional Arrangements	38
5.8 Reporting of the Fundamental Analysis and Stakeholder Feedback	39
6. STEP 4: PREPARATION OF THE NDC IMPLEMENTATION ROADMAP	40
6.1 Development of the Draft NDC Roadmap	40
6.2 NDC Roadmap's Context within the Country's NDC	42
6.3 NDC Roadmap Context within the Country's NDC	42
6.4 Description of the Stakeholder Engagement Process	42
6.5 Presentation of Selected Mitigation Actions by Sector	43
6.6 A Sector-Specific High-Level Logical Framework	44
6.7 Depiction of the Implementation Pathway	46
6.8 Alignment with the Sustainable Development Goals	47
6.9 Governance Structure for Implementation	48
6.10 Measurement, Reporting, and Verification of the NDC Roadmap	49
6.11 Financing the NDC Roadmap	52
7. STEP 5: VALIDATION AND FINALIZATION OF THE NDC IMPLEMENTATION ROADMAP	56
8. CONCLUSION	58



ABBREVIATIONS

BAU	Business As Usual
COP	Conference of the Parties to the UNFCCC
GAP	Gender Action Plan
GDP	Gross Domestic Product
GGGI	Global Green Growth Institute
GHG	Greenhouse Gas
LULUCF	Land Use, Land-Use Change, and Forestry
MRV	Measurement, Reporting, and Verification
NDC	Nationally Determined Contribution
SDG	Sustainable Development Goal
SIDS	Small Island Developing State(s)
UNFCCC	United Nations Framework Convention on Climate Change

LIST OF FIGURES AND TABLES

Figure 1	Methodology and process for NDC Roadmap development	9
Figure 2	Essential preparatory actions and key considerations for NDC Roadmap development	10
Figure 3	Integrating elements of the Gender Action Plan’s cross-cutting activities into NDC Roadmap development and implementation	19
Figure 4	The stakeholder engagement and communication process – example from Fiji	23
Figure 5	Steps for fundamental analysis	28
Figure 6	A scoring system for the comparative evaluation matrix – example from Fiji	35
Figure 7	Summary sheet template for potential new mitigation actions	36
Figure 8	Example of classification into short-, medium-, and long-term mitigation actions	37
Figure 9	Outline and process of preparing the NDC Roadmap document	40
Figure 10	Combining individual interventions into mitigation actions by type and sub-sector outcomes – example from Fiji	43
Figure 11	Diagram summarizing mitigation actions in one sector (electricity generation and transmission) – example from Fiji	44
Figure 12	Elements of the logical framework	45
Figure 13	Applying the high-level logical framework of the NDC Roadmap to a low-level project logical framework – example from Fiji	46
Figure 14	Depicting the implementation pathway – example from Fiji	47
Figure 15	Governance structure for implementing the NDC Roadmap – example from Fiji	49
Figure 16	Three dimensions of the MRV system	50
Figure 17	Steps for setting up the MRV system with a bottom-up approach	51
Figure 18	Financing instruments for NDC Roadmap implementation – example from Fiji	54
Table 1	Matrix for NDC Roadmap Alignment with national policies, plans, and strategies – example from Fiji	17
Table 2	Matrix linking mitigation actions with SDGs and SDG targets – example from Fiji	47
Table 3	Template for showing the estimated investment needs for NDC Roadmap implementation	53

1. INTRODUCTION

This guidelines document describes a general approach for developing a Nationally Determined Contribution (NDC) Implementation Roadmap (hereinafter referred to as an NDC Roadmap). The document is intended for any country implementing an NDC under the Paris Agreement, with a specific focus on small island developing states (SIDS). It sets out a high-level outline of the steps that countries can undertake to create an overall NDC implementation plan for one or more sectors. The guidance in this document is intended primarily to assist in planning for implementation of the mitigation (or carbon emission reduction) aspects of an NDC, although parts of the document are also relevant for adaptation implementation planning.

The intended audience of this document are the key stakeholders involved in the development of an NDC Roadmap in a specific country. These can include: government employees involved in national or sectoral planning, regulation, and implementation; employees of development agencies supporting governments; and consultants or institutions providing capacity building, technical assistance, and other services.

Developing countries, in particular SIDS, face common challenges when designing and implementing sustainable climate change policies and national plans. The challenges faced in implementing NDCs are no exception, and can include:

- Building awareness among stakeholders on the relevance of actions, and describing the benefits of the actions
- Integrating climate change into national planning and development processes
- Strengthening links between sectoral, national development, and climate change plans, and the Sustainable Development Goals (SDGs), especially their gender and social dimensions
- Building capacity to analyze, develop, and implement climate policies and plans
- Establishing and maintaining information and data systems to collect the necessary information
- Addressing resource constraints in developing and implementing climate change mitigation and/or adaptation actions

This document provides guidelines which can contribute to addressing these challenges by describing a step-wise and practical approach for countries to develop their NDC Roadmap in an integrated manner. The steps focus on:

- Review and analysis of sectoral data and broad national-level information
- Assessment of existing and potential new mitigation actions and technologies, and their impacts and resource needs
- Prioritization of actions



- Continuous and intensive engagement with stakeholders
- Documentation of the roadmap development process and results in a comprehensive and logical manner

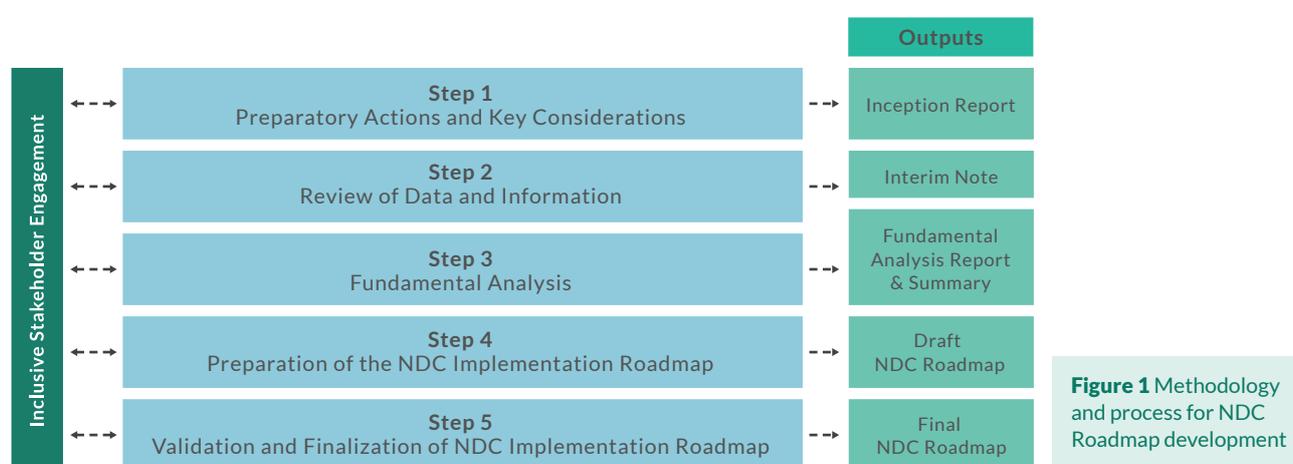
An overview of the general approach for developing an NDC Roadmap (with all main components) is provided in section 2.

This guideline takes the approach that an NDC Roadmap is a “living” document, meaning that information in a final NDC Roadmap document represents the understanding of the country at the time it is published. The roadmap should be periodically updated to ensure validity, transparency, and accuracy over time as new information and technologies become available.



2. METHODOLOGY AND PROCESS FOR NDC ROADMAP DEVELOPMENT

The methodology presented here for developing an NDC Roadmap consists of five steps that integrate an inclusive stakeholder engagement process while delivering specific outputs (see Figure 1). The five steps build upon each other, and the outputs are used to build the NDC Roadmap into a final useable document. Some of the steps may undergo one or more iterations or happen in parallel. This methodology and process are described in detail in sections 3 to 7.



Step 1 of the methodology focuses on the essential preparatory actions and key considerations for the development of the NDC Roadmap. To set the basis for a smooth and effective development process, decisions on these issues should be addressed early on and documented in an inception report or work plan as a reference for stakeholders involved in developing the NDC Roadmap.

Step 2 consists of compiling all available national- and sectoral-level information in written form and through one-on-one interviews with stakeholders, and then determining the accuracy of the information and the need for additional data collection. The results from this step can be documented in an interim note so that key stakeholders can help facilitate additional information gathering.

Step 3 covers building the outline of the NDC Roadmap by identifying and detailing existing and new mitigation actions that have the potential to be included in the NDC Roadmap. The outputs from this step include a fundamental analysis report, which incorporates an options analysis and prioritization exercise. The fundamental analysis report and its results are then used to inform stakeholders of the potential for action and obtain their qualified feedback.

Step 4 involves building the body of the NDC Roadmap and details the core components and expected results of the NDC Roadmap, which are presented in a draft NDC Roadmap document to the key stakeholders.

Step 5 involves validation of the NDC Roadmap and preparation of the final NDC Roadmap document.



3. STEP 1 | PREPARATORY ACTIONS AND KEY CONSIDERATIONS

The process for developing the NDC Roadmap requires some essential preparatory actions and attention to key considerations that should be addressed at the start of the development effort. This step is important to ensure a high level of awareness and participation among key stakeholders. It also helps to instill the relevance of the NDC Roadmap in the involved government ministries, agencies, and departments that will use it to help guide future planning and operations. Figure 2 identifies these essential preparatory actions and key considerations, and the sub-sections below offer further explanation.

Preparatory Actions	Key Considerations
Establish good governance	Determining the baseline
Define the overall goal and objectives	Alignment to policies, plans, and strategies
Define the scope	Gender inclusion
Define mitigation targets and timeframe	Inclusive stakeholder engagement
	NDC enhancement

Figure 2
Essential preparatory actions and key considerations for NDC Roadmap development

3.1 ESTABLISHING GOOD GOVERNANCE IN DEVELOPING THE NDC ROADMAP

Good governance is essential to maintain momentum and help ensure the quality of the final document. Good governance includes:

- Determining which party is responsible for driving progress and coordinating activities
- Defining processes and structures for decision-making
- Ensuring inclusive stakeholder engagement (both inside and outside of the government)
- Maintaining strong political will at the highest levels

A best practice for NDC Roadmap governance is to divide responsibility between two bodies: a coordinating entity and a steering committee.

The coordinating (or managing) entity is normally a single government unit with national- level knowledge of climate change- and development-related policies and plans, as well as access to key stakeholders within the sector(s) covered by the NDC Roadmap. The role of this entity is to coordinate overall development of the NDC Roadmap, facilitate stakeholder engagement, and ensure alignment with other parallel national and sectoral planning documents and processes.

The steering committee should be composed of key stakeholders involved in the targeted sector(s), both government and non-government. This steering committee is further described in section 3.8.

RECOMMENDATIONS FOR SIDS

- ▶ Review existing governance structures before establishing new ones, because this can save time and avoid duplication of effort. SIDS often have existing formal and informal governance structures and committees to serve various purposes, especially for climate change and blue economy actions. Tapping into these existing structures and expertise can increase efficiency of the whole process.
- ▶ Consider including one or more development partners in the steering committee. This is because many SIDS receive significant development aid from bilateral and multilateral development partners (especially for adaptation).

3.2 DEFINING THE OVERALL GOAL AND OBJECTIVES

The overall goal and objectives of the NDC Roadmap need to be clarified by the government before beginning any work on the document. It is critical that the goal of the document is clear. An example of a clear goal is: “To provide a pathway for the implementation of mitigation actions in the energy sector, and to list the required actions to meet the NDC targets.”

When defining overall goals and objectives, the following questions can be used as a guide:

- What is the intended purpose of developing the NDC Roadmap?
- How will specific sectors contribute toward achieving the NDC targets of the country?
- Will formal approval of the document be required? If so, by whom?
- How and by whom will the NDC Roadmap be communicated to the target audience?
- How will the results of the NDC Roadmap be used in the future?
- How does the NDC Roadmap align to the country’s ambitions in promoting socially inclusive economic development and environmental safeguards, as well as achievement of the SDGs?
- Which sectors/sectoral plans already have mitigation goals? Do they need to be considered in the NDC Roadmap and if so, how?



Some examples of NDC Roadmap objectives include the following:

- Increasing awareness among stakeholders about what is required to achieve the NDC targets
- Providing an overarching framework and guidance for low-carbon transformation of the country or sector for the public and private sectors
- Defining a pathway with concrete mitigation actions leading to emissions reduction and transformational change in the country and/or sector(s)
- Highlighting “quick-win” mitigation actions that have recently been implemented, or can be implemented in the short term to show early success
- Providing information about the resources and support required (e.g., technology, data repositories, finance, and capacity building) to track progress and achieve the NDC targets

RECOMMENDATIONS FOR SIDS

- ▶ Integrate adaptation actions within the mitigation infrastructure to enhance the resilience of mitigation actions. The climate resilience of mitigation actions is an important consideration for SIDS due to their vulnerability to sea-level rise and severe weather events. Climate-resilient mitigation will also reduce costs to SIDS in the long run.
- ▶ Assess the extent to which maritime transport can mitigate emissions without causing negative socio-economic impacts to the country or region. SIDS are often highly dependent on maritime transport, and the domestic part of this sector can be a significant source of greenhouse gas (GHG) emissions.





3.3 DEFINING THE SCOPE

It is important to clearly define the scope of the NDC Roadmap – specifying whether it includes only mitigation or adaptation actions, or both; what geographic area it will cover (if not the whole country); and whether it will address all sectors or just a subset (e.g., energy, transport, agriculture, and waste) or even sub-sectors (e.g., power generation and maritime transport).

Selecting the scope may depend on the existing NDC targets and/or the development or budgetary priorities set by the government of the country. Other considerations include the availability of information, resources, and technology, as well as the potential for private sector participation. The scope of the NDC Roadmap may cover all the NDC targets, or it may be narrower, focusing only on a subset of sectors, particular targets, or a specific period of time.

In this document, it is assumed that an NDC Roadmap's scope is sector-specific and focuses only on mitigation actions. However, the basic methodology presented can also be applied to adaptation actions, bearing in mind that there are dedicated resources for national adaptation planning processes (through the Green Climate Fund), and there is an obligation to present an Adaptation Communication under the Paris Agreement.



RECOMMENDATIONS FOR SIDS

- ▶ Consider addressing the most common sectors included in the current NDCs of SIDS, which are:
 - Electricity supply, including on- and off-grid electricity generation and transmission, and demand-side energy efficiency
 - Transport, including land transport and domestic maritime transport
 - Forestry, including afforestation/reforestation, and land use, land-use change, and forestry (LULUCF)
- ▶ Consider incorporating other sectors that represent significant sources of emissions, including:
 - Waste management, including solid waste, wastewater, and sanitation
 - Agriculture and fisheries, including coastal mitigation activities
- ▶ Also consider including the tourism sector. For many SIDS, the tourism sector contributes considerably to the economy. When an NDC Roadmap covers the electricity supply (including demand-side energy efficiency) and transport sectors, many aspects of the tourism economy will be included in terms of GHG mitigation. However, tourism may need to be addressed separately, as there may be other relevant aspects (e.g., modes of transport, building and construction, sources of food and materials, and waste management processes) and data availability may vary. Adaptation considerations (e.g., protection of coastlines, mangroves, and coral reefs) are also extremely important for the tourism sector.
- ▶ Ensure that emissions reductions are only counted once. SIDS may include the agriculture, forestry, and other land use sector in their NDC's conditional and/or unconditional targets. However, if these activities are to be included in voluntary or compliance-oriented carbon trading systems markets, care should be taken to avoid double counting.

3.4 DEFINING MITIGATION TARGETS AND TIMEFRAME

It is important that the mitigation actions in the NDC Roadmap contribute to national mitigation objectives, but they do not necessarily need to fulfill the ultimate targets defined in the NDC. The NDC may differentiate between unconditional and conditional mitigation targets, and the country should decide whether this distinction is maintained in the NDC Roadmap targets. Ultimately, the actions included in the NDC Roadmap will have implications for the implementation plan, financing instruments, and overall support required.

The timeframe of the NDC Roadmap is linked to both its objectives and planned outcomes. It is essential to define whether the NDC Roadmap will cover the entire period of the NDC (typically five or ten years), a specific period within the NDC timeline (e.g., the next two or three years), or a specific target year, like 2025. It is also useful to determine when the Roadmap will next be updated. The chosen timeframe will dictate the implementation scale, depth of mitigation actions, and content of the NDC Roadmap.

Since the objectives and timeframe of the NDC Roadmap are co-dependent, governments can define these based on strategic long-term planning (greater than 5 years), tactical short- to medium-term planning (less than 5 years), or a combination of both.

RECOMMENDATIONS FOR SIDS

- ▶ Align the NDC Roadmap with relevant targets and timelines of national development plans. Many SIDS have specific national development plans that detail the sector and sub-sector actions the country plans to take in their short- to medium-term development.
- ▶ Incorporate the outcomes and timelines of relevant development projects in the NDC Roadmap. In most SIDS, development partners fund short- and medium-term projects in the sectors defined within the scope of the NDC Roadmap.
- ▶ Take into account timeframes in existing national and sectoral planning documents that refer to the same sectors as the NDC Roadmap. Aligning with existing targets and their timelines can avoid contradiction between the NDC Roadmap and other planning documents and reinforce implementation.

3.5 DETERMINING THE BASELINE

A baseline scenario for sectoral GHG emissions should be defined based on the NDC targets and the overall implementation period for the NDC Roadmap. This will provide a basis for determining emission reductions as the Roadmap is implemented. The baseline can either be an absolute or business-as-usual (BAU) scenario – both will require a reference year for GHG emissions within the defined scope of the NDC Roadmap. An absolute baseline scenario defines a fixed level of emissions in a future target year, whereas a BAU scenario is calculated by extrapolating current emissions to a future year, assuming no additional policy or other interventions are made that would reduce them.

Assuming that a BAU baseline scenario is used, it should be calculated using extrapolation from current GHG emissions. There are two ways to do this – *ex-ante* and *ex-post* methods, which are explained below. Prior to the baseline year, only the *ex-ante* method can be used. After the baseline year occurs, the *ex-post* method is recommended for greater accuracy.

- **An *ex-ante* GHG emissions baseline** is an estimate of expected future GHG emissions that is calculated by extrapolating emissions from the reference year to some future year, based on the predicted growth of some factor such as population growth or gross domestic product (GDP) growth.
- **An *ex-post* GHG emissions baseline** is calculated in a similar way as an *ex-ante* baseline, but it uses actual growth factors (e.g., population growth and GDP growth) rather than their predicted values. An *ex-ante* baseline can only be calculated after the baseline year. It estimates the emissions that may have resulted if actions had not been taken for GHG mitigation.¹

¹For example, the baseline emissions for electricity is set at the actual emissions determined from data in the baseline year of 2013. To get a baseline value for 2025, the 2013 baseline value is multiplied by the increase in predicted electricity demand in 2025 to get the BAU emissions baseline in 2025 (*ex-ante*). In 2025, an *ex-post* baseline can be calculated by multiplying the 2013 baseline value by the actual increase in electricity demand measured in 2025.



The use of an *ex-post* BAU baseline that takes into account actual annual GHG emissions will not only allow for real economic variability, but also a greater level of accuracy in terms of monitored data, reported outcomes, and verification. However, an *ex-ante* BAU baseline is required as a starting point to estimate GHG emissions over time, based on currently available data and assumptions (e.g., population and economic growth).

Moreover, for countries with data limitations, using an *ex-post* BAU approach will provide an opportunity to develop data collection modalities and collect enough data sets before setting a well-informed and realistic baseline. The *ex-post* baseline can be set in a phased approach with the collection of actual data followed by setting of a baseline. Potential sources of *ex-post* data include national communications and annual assessment reports.

RECOMMENDATIONS FOR SIDS

- ▶ Re-examine the reference year used in the NDC. The majority of SIDS use a BAU baseline in their NDCs, and their choice of reference years varies widely. Re-examining the reference year can be important for SIDS because annual GHG emissions can be highly impacted by a wide variety of factors especially when severe weather events dramatically change GHG emissions in the reference year chosen in an NDC.
- ▶ Re-examine the BAU baseline. Many SIDS utilize top-down methodologies and data in determining the baseline GHG emissions in their NDCs. If a more accurate bottom-up methodology and data from a sector or sub-sector can be used to determine the baseline (and mitigation actions), their incorporation into the NDC Roadmap is worth considering.
- ▶ Obtain support to collect and analyze data, including factoring the potential synergies of mitigation and adaptation benefits into cost-benefit calculations. National GHG inventories require support to coordinate the collection of data and inputs from relevant entities at the national/sub-national/sectoral level and at the international level. Like many developing countries, SIDS also require support to analyze the collected data and use this analysis as a basis for identifying viable mitigation options in sectors, and prioritizing options and their co-benefits.
- ▶ Determine the sector baseline using a bottom-up approach. In many sectors there are issues with data availability and data quality, making it difficult to develop a GHG emissions baseline. When determining a baseline for a sector, the recommended first step is to define what minimum bottom-up information is required from the sector, and what information can be used to improve accuracy. Without a reliable baseline, SIDS will face difficulties in prioritizing mitigation actions and accurately quantifying the actual GHG mitigation impacts under a measurement, reporting, and verification (MRV) system during implementation.
- ▶ Be aware of the challenges in obtaining reliable data for the baseline in the maritime transport sector. These challenges are due to many factors related to inter-island transport, intra-island transport, and international transport of goods and passengers, as well as those involved in the fishing industry. Generally, the maritime transport sector has less data and research results available compared to land transport. This has implications for the MRV system and often makes it difficult to define the baseline situation and future scenarios (e.g., regarding energy consumption and GHG emissions). Developing clear NDC targets for the sector, identifying key mitigation actions, and quantifying potential impacts are therefore often not possible or very difficult.

3.6 ALIGNMENT WITH POLICIES, PLANS, AND STRATEGIES

Prior to developing an NDC Roadmap, processes should be defined to ensure that the document is closely aligned to key national and sectoral policies (e.g., climate policy, energy policy, and transport policy), plans (e.g., development plan, adaptation plan), and relevant regulations, as well as international commitments such as the SDGs.

Government ministries and other statutory bodies should clearly outline which existing policies, plans, and strategies need to be considered, and whether there are other relevant policies under development. Identifying these from the start will significantly improve the effectiveness of the NDC Roadmap, as these documents tend to include substantial mitigation actions and defined country needs. It will also enable the identification of gaps in policies, plans and regulations which need to be addressed in the NDC Roadmap in order to reduce emissions effectively.

A useful method is to prepare a simple matrix listing the policies, plans, and strategies, and their applicability to the sectors included in the NDC Roadmap. An example of this type of matrix is provided in Table 1.

National Policy / Plan / Strategy	Applicability to Different NDC Sectors		
	Sector A SUB-SECTOR 1	Sector A SUB-SECTOR 2	Sector B
Nationally Climate Change Policy	✓		✓
Nationality Determined Contribution	✓	✓	✓
Green Growth Strategy	✓	✓	✓
National Energy Policy	✓	✓	✓
National Sustainable Development Plan	✓	✓	✓
Electricity Act of 2017	✓		
Power Development Plan	✓		
Maritime and Land Transport Policy			✓
Transport Development Plan			✓

Table 1 Matrix for NDC Roadmap alignment with national policies, plans, and strategies – example from Fiji²

Further efforts can dig deeper into the alignment to policies, plans, and strategies for each sector and sub-sector within the scope of the NDC Roadmap. This deeper alignment is achieved by identifying specific linkages between chosen mitigation actions and the specific activities, targets, and goals found in the policies, plans, and strategies.

² Adapted from: Ministry of Economy, Republic of Fiji, *Fiji NDC Implementation Roadmap 2017-2030* (2017). https://www.reinfofiji.com.fj/wp-content/uploads/2017/11/FIJI-NDC-IMPLEMENTATION-ROADMAP_LOWRES.pdf



RECOMMENDATIONS FOR SIDS

- ▶ Align mitigation actions with socio-economic resilience. For many SIDS, improving socio-economic resilience is a key theme running across national policies, plans, and strategies. Alignment of this theme with mitigation actions is critical in the development of the NDC Roadmap. For example, existing policies and regulations for new infrastructure may require that all new structures be built at a certain height above sea level or be able to withstand certain wind loads.
- ▶ Use the NDC Roadmap to link sectoral planning differences by defining climate-resilient mitigation actions. For example, policies and planning for natural resource use may highlight areas vulnerable to the salination of natural drinking water supplies, or areas where there will be less rainwater. In these cases, the location of planned mitigation actions may need to be shifted and/or different technologies may need to be used.
- ▶ SIDS have significant coastal and ocean-based resources. Consider aligning both mitigation and adaptation efforts with policies, plans, and strategies for transitioning to a “blue economy” to protect SIDS’ oceans while benefiting from the resources they offer to improve livelihoods and climate resilience.

3.7 ENSURING GENDER EQUALITY AND SOCIAL INCLUSION

Ensuring gender equality and social inclusion in NDCs and their implementation is an integral part of the international agenda on climate change. Gender was emphasized in 2017 at the Twenty-Third Conference of the Parties (COP 23) to the United Nations Framework Convention on Climate Change (UNFCCC), where the pre-2020 Gender Action Plan (GAP)² was adopted. The GAP highlights five priority areas for action by the UNFCCC, parties/countries, and observer organizations: capacity-building, knowledge sharing, and communication; gender balance, participation, and women’s leadership; coherence; gender-responsive implementation and means of implementation; and monitoring and reporting.

A gender-sensitive approach to climate-compatible development means recognizing and addressing the different interests, needs, and adaptive capacities of women and men to climate change. The GAP focuses on activities within the UNFCCC processes. In particular, there are four cross-cutting activities (listed in Figure 3) that directly relate to the development and implementation of NDCs and are applicable to this guidelines document. Based on these cross-cutting activities, it is recommended that countries address gender equality, and more broadly, social inclusion during both NDC Roadmap development and implementation to achieve more equitable and sustainable climate change results. Figure 3 highlights the four cross-cutting activities of the GAP and provides example actions to integrate GAP activities into the NDC Roadmap.

²UNFCCC, “Establishment of a gender action plan,” advance unedited version (Decision -/CP.23), https://unfccc.int/files/meetings/bonn_nov_2017/application/pdf/cp23_auv_gender.pdf.

Gender Action Plan UNFCCC COP23 (Applicable Priority Area Activities)	NDC Roadmap Process of Development	NDC Roadmap Process of Implementation
A.2 ... systematic integration of gender-sensitive and participatory education, training, public awareness, public participation and public access to information from national to local level into all mitigation and adaptation activities ...	Within the inclusive stakeholder engagement process, ensure that both genders are adequately represented when distributing summary findings and conducting workshops (specifically include gender- and youth-related NGOs/CSOs).	Make publicly available the NDC and NDC Roadmap (and any updates), follow on sectoral development plans (in draft or final form), and feasibility and impact studies of mitigation actions.
B.4 ... Cooperate in, promote, facilitate, develop and implement formal and non-formal education and training programmes focused on climate change at all levels, targeting women and youth ...	Within the inclusive stakeholder engagement process, ensure that there is an open forum for feedback by all key and non-key stakeholders, with adequate time allocated for responses.	Ensure a gender-inclusive approach to implementing activities of the LFA that involve education and training.
D.3 Strengthen the capacity of funding ministries, non-governmental organizations and civil society organizations, for the integration of gender-responsive budgeting into climate finance, access and delivery ...	Ensure a gender-inclusive approach to designing activities in the LFA, taking into account gender-related stakeholder feedback.	Incorporate gender-inclusive practices in the design of financial instruments and incentives within the finance-related activities of the LFA, including access and procurement processes.
E.1 ... Make a submission on... (b) Integration of gender considerations into adaptation, mitigation, capacity-building, Action for Climate Empowerment, technology and finance policies, plans and actions ...	Identify and duplicate country and regional gender inclusive practices applied to existing financial instruments and incentives. Quantify the process of gender inclusion during NDC Roadmap development, and include results within the NDC Roadmap document or in a separate report on gender inclusion.	Include gender assessments in activities involving public consultation, feasibility, and evaluation of mitigation actions. Include quantifying gender-inclusive practices in the implementation of the MRV system.

Figure 3 Integrating elements of the Gender Action Plan's cross-cutting activities into NDC Roadmap development and implementation⁴

It is important to ensure the appropriate contribution of both women and men (including young women and men) during the entire NDC Roadmap development and implementation process. This starts with the establishment of good governance and an inclusive stakeholder engagement process that involves adequate representation throughout.

There should be a commitment to promoting the interrelated goals of gender equality and social inclusion, where the term “gender” can be considered more broadly to include different age, sexual orientation,⁵ indigenous or minority status, and disability. The consistent application of gender-responsive and socially-inclusive approaches at process, performance, and portfolio levels will contribute to the achievement of more equitable and sustainable climate change outcomes.⁶

⁴ CSOs = civil society organizations; NGOs = non-governmental organizations; and LFA = logical framework approach.

⁵ Considering the lesbian, gay, bisexual, and transgender community.

⁶ Green Climate Fund, “GCF Gender Equality and Social Inclusion Policy and Action Plan 2018-2020,” February 7, 2018.



The actions presented in Figure 3 for the NDC Roadmap development process can help facilitate gender-responsive and socially-inclusive results that bring the following benefits:

- Prioritizing and selecting mitigation actions that have equal importance to both women and men, and addressing the needs of other relevant stakeholders
- Prioritizing climate change initiatives that are more sustainable, equitable, and effective as women's empowerment and social inclusion considerations are integrated into the design and implementation of programs and projects
- Providing lessons learned where key gender-related groups may have already tested approaches that worked well, or have already identified barriers and gaps that prevent broader implementation of potential mitigation actions
- Providing country-specific know-how and experience on the design of activities under the logical framework approach (LFA) for stakeholder engagement (including training and education) during NDC Roadmap implementation
- Identifying specific financial instruments and incentives that lead to a higher impact on mitigation and economic development in both rural and urban areas
- Reducing conflict and financial risks, including increasing program efficiency, by identifying gender-specific issues and solutions before NDC Roadmap implementation

Gender equality and social inclusion related issues which impact NDC Roadmap implementation should be addressed throughout the development process. This can start with designing mechanisms to ensure that effective social inclusion strategies are considered, including continuous contribution of both women and men, as well as other relevant stakeholders during the implementation process. It is important to ensure adequate gender and social representation in the governance process, and to highlight gender responsiveness and social inclusion as one of the pillars for measuring progress in the MRV system (see section 6.10).

These mechanisms should be included in further downstream planning for implementation, such as within physical mitigation actions, information dissemination, capacity building, training, and access to finance.

This mainstreaming of gender equality and social inclusion in the NDC Roadmap development process will increase the leadership and engagement of all people, regardless of their socio-economic background, ethnicity, minority status, disability, or sexual orientation, in implementing the transformative agenda required to respond to climate change.

Some examples of gender-responsive and socially-inclusive mechanisms in NDC Roadmap implementation include the following:

- Seeking gender and diversity balance in all key advisory and decision-making bodies
- Promoting and tracking gender-responsive and socially-inclusive training of government employees at offices associated with implementing the NDC Roadmap, including training-the-trainer courses
- Mandating that capacity building and technical assistance activities integrate gender equality and social inclusion in project planning, indicators, and results (e.g., gender and socio-economic assessments, appropriate contribution of women, men, and other relevant stakeholders in consultations, and tracking impact of the activities on disadvantaged and/or marginalized communities)
- Promoting and tracking financial instruments and incentives that offer a balanced impact on both women and men, or target underrepresented groups
- Engaging gender/women's ministries (or similar) and social affairs/protection ministries (or similar) in the development and implementation of national and sub- national policy, planning, and programming
- Considering the scope for gender-disaggregated data collection to allow for the analysis of gender impacts
- Considering the broad set of outcomes that the NDC Roadmap should achieve, including supporting SDG implementation through gender equality and social inclusion
- Using MRV systems for NDC implementation to track the gender and social impact of climate actions, and the effectiveness of gender and social mainstreaming initiatives





3.8 ENSURING AN INCLUSIVE STAKEHOLDER ENGAGEMENT PROCESS

The approach to stakeholder engagement should be defined at an early stage, prior to the start of fully developing the NDC Roadmap. In the beginning of the engagement process, a top-down approach may be used to identify potential stakeholders. These should include representatives from national and international institutions, non-state actors, and private sector entities within the scope of the NDC Roadmap. Additional stakeholders may be added later in the development process after specific mitigation actions have been identified.

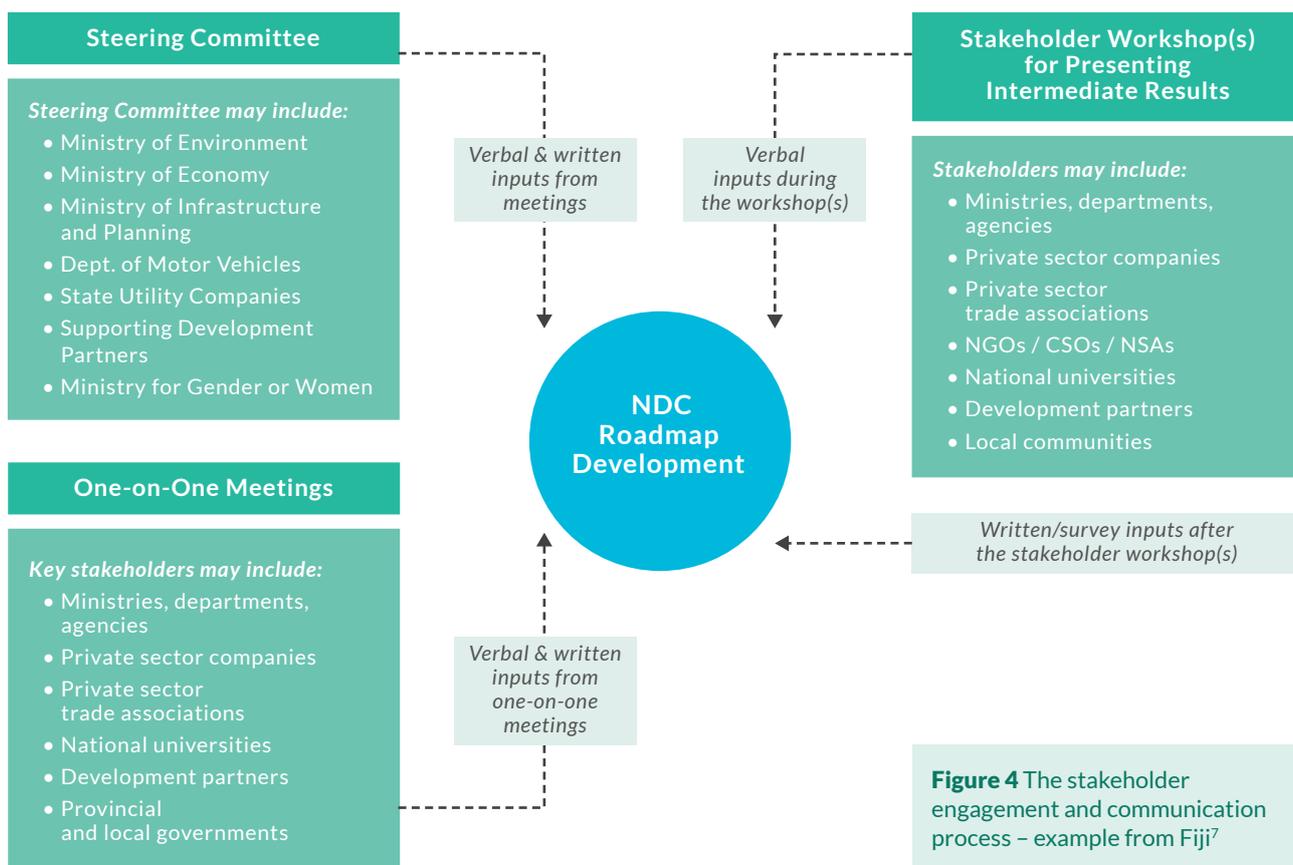
Distinguishing between “key” and “non-key” stakeholders may be useful. Key stakeholders are entities and organizations that will drive the development of the NDC Roadmap and directly impact its implementation. Non-key stakeholders are those who may contribute sectoral information, potential finance, and/or participate in the development or implementation of mitigation actions, or those who will be impacted by the mitigation actions in the NDC Roadmap.

The coordinating entity driving the development of the NDC Roadmap should establish a participatory and inclusive approach to stakeholder engagement. This approach should include inputs from key government institutions at a high level (e.g., through a steering committee and one-on-one meetings), as well as from the wider group of stakeholders (e.g., through workshops, feedback sessions, interviews, and one-on-one meetings). This approach will help create awareness among a broad set of stakeholders and provide clarity on stakeholder expectations.

The following questions should be considered in establishing a participatory and inclusive approach:

- Who are the key and non-key stakeholders?
- What activities are needed to encourage a strong level of participation and inputs (e.g., workshops, feedback sessions, interviews, and one-on-one meetings)?
- Which government agency or other entity(s) will support the practical aspects of facilitating the engagement pathways (e.g., introduction to stakeholders and coordination)?
- How will stakeholder inputs be obtained and recorded for each of the selected engagement pathways (e.g., verbal, emails, surveys, and recordings)?
- Do communication methods need to be tailored to the specific kinds of stakeholders (e.g., translation into local languages or use of more traditional modes of communication and engagement)?
- What resources and funding are allocated to ensure a strong level of participation (e.g., human resources, venue hire, and development of outreach materials)?

Once the above questions are appropriately answered, the inclusive stakeholder engagement process can begin. Figure 4 shows an example of such a process.



As described in section 3.1 on governance, it is useful to establish a steering committee for development of the NDC Roadmap. The steering committee generally consists of key government ministries and departments responsible for climate change, national development planning, sectoral planning, gender mainstreaming, and regulation. Steering committee members may also include key non-governmental stakeholders in the targeted sectors, such as utilities and sectoral associations.

The steering committee is responsible for agreeing on the scope and approach to developing the NDC Roadmap, facilitating communication with key and non-key stakeholders, advising on engagement pathways, and reviewing the draft and final NDC Roadmap. Engagement between the coordinating entity and the steering committee is typically in the form of scheduled meetings, and written and verbal communications. The coordinating entity may also be the chair of the steering committee and/or play the role of Secretariat to the steering committee.

In addition to participation in steering committee meetings, members can also be engaged in one-on-one meetings during the development stage of the NDC Roadmap, focused on detailed information gathering and consultation.

Besides the members of the steering committee, other key stakeholders include other key government ministries and departments, and key non-governmental entities in the targeted sectors (e.g., companies, associations, universities, civil society organizations, and development partners). Engagement with these entities is also typically in the form of scheduled meetings and written and verbal communications.

⁷ Adapted from: Ministry of Economy, Republic of Fiji, *Fiji NDC Implementation Roadmap 2017-2030* (2017). https://www.reinfofiji.com.fj/wp-content/uploads/2017/11/FIJI-NDC-IMPLEMENTATION-ROADMAP_LOWRES.pdf. CSOs = civil society organizations; NGOs = non-governmental organizations; and NSAs = non-state actors.



Non-key stakeholders can be engaged in a workshop where the results of the fundamental analysis are presented (see section 5). It is useful to create a summary of the fundamental analysis for workshop participants prior to the event to bring out key conclusions and areas of the document to be discussed during the workshop. Depending on the length of time allocated for the development of the roadmap, it might be desirable to hold more than one workshop, or to hold sector-specific workshops.

All key stakeholders should be invited to the workshop(s), including those consulted in one-on-one meetings, as well as non-key stakeholders in the targeted sectors, which may include non-state actors, individual companies, financial institutions, local communities, and development partners. Engagement with these entities is typically in the form of verbal communication during the workshop and via written or survey inputs after the workshop. When planning the workshop, organizers should ensure equal representation from both genders, and from any marginalized groups.

The inputs and feedback obtained during the workshop and the broader consultations should be documented, reviewed, and categorized by sector. Specifically, input should be sought regarding the feasibility and implementation of mitigation actions, step-by-step sector planning, capacity building needs, governance, and finance. Feedback can be integrated into the development of the NDC Roadmap at three points:

- i. During preparation of the fundamental analysis, and after the broader consultation workshop under Step 3
- ii. During preparation of the draft and final NDC Roadmap under Step 3 and Step 4
- iii. During validation by the steering committee under Step 5

RECOMMENDATIONS FOR SIDS

- ▶ Make use of existing forums for dialogue and community decision-making in the stakeholder engagement process.
- ▶ Many SIDS have populations with different ethnic groups speaking different languages. Make sure to consider these in the stakeholder engagement process and in the final NDC Roadmap (as a published document).
- ▶ Some SIDS are not fully independent states but protectorates of larger countries. Where appropriate, consider the processes of the larger countries (e.g., budgeting, regulations, and laws) in the stakeholder engagement process.
- ▶ Consider involving representatives of other SIDS and/or regional organizations in the stakeholder engagement process. Other SIDS face similar problems in achieving greater GHG mitigation and may already have developed the solutions needed. Regional support organizations and partnerships like the Pacific NDC Hub can also offer assistance through information sharing and peer-to-peer exchange activities.
- ▶ Involve representatives from key economic sectors in the stakeholder engagement process. SIDS are often dependent on a few key sectors for income (e.g., tourism, agriculture, and fisheries). It is important to engage with these key sectors, even if they are not directly in the scope of the NDC Roadmap target sectors.

3.9 NDC ENHANCEMENT

Most countries' intended NDCs (INDCs) were developed prior to the Paris Agreement, when there was high uncertainty about the outcome of COP 21 and little guidance available for developing them. According to the Paris Agreement, all Parties agreed to either communicate their current NDCs or submit updated NDCs by 2020, and to do so every five years thereafter.⁸ This process is expected to deliver enhanced NDCs over time, as countries learn the process, include additional sectors, and update their targets. This enhancement process can start with the NDC Roadmap.

Reasons for enhancing NDCs may include:

- Changes to national mitigation targets (every five years, as required by the Paris Agreement)
- Advances in innovation and declining cost of emissions-mitigation technologies
- Different or new resources available (e.g., funding and private sector participation)
- New or updated regulatory framework(s), and long-term goals and strategies

⁸Decision 1/CP.21, Adoption of the Paris Agreement, FCCC/CP/2015/10/Add.1 (January 29, 2016), paragraphs 23 and 24.

- Additional and updated information, and data available to better assess GHG mitigation and impacts
- Inclusion of new sectors
- Inclusion of adaptation
- Improved integration of gender mechanisms, ministries, and/or machineries in decision-making on climate actions, finance, and other means of implementation, including at inter-ministerial level.

It is important to note that the NDC Roadmap is a national-level document that can include options for enhancement beyond the NDC and its targets, without acting as a formal commitment made under the Paris Agreement. However, governments should consider the implications of publishing an NDC Roadmap that has greater ambition than their current NDC.

RECOMMENDATIONS FOR SIDS

- ▶ Increase targets by including additional sectors in future NDCs. Most SIDS' NDCs focused initially on the energy sector. In order to better align the NDC to national plans and strategies and to overall development goals, it is necessary to increase targets in future NDCs by adding additional sectors (e.g., agriculture, forestry, and waste). While this does not necessarily need to be done during the NDC Roadmap process, the process can collect relevant data and provide options to be considered in future for NDC enhancement.
- ▶ Promote regional collaboration among SIDS. It may provide advantages for enhancing NDCs (e.g., by bundling renewable energy targets across SIDS) and attract private investment.
- ▶ Consider the requirements of SIDS' key agricultural products. SIDS are often dependent on a few agricultural products (e.g., fish, sugar cane, coconut oil, and coffee). The specific requirements and high economic and cultural relevance of such products and processes (e.g., transport, requirements of land, work force, and seasonal differences) are important to consider when developing and enhancing NDC targets.

4. STEP 2 | REVIEW OF DATA AND INFORMATION

The next step is to perform a review of available data and information to enable alignment of the NDC Roadmap to national development plans and priorities and assess the sectors relevant to the NDC Roadmap.

First, all available relevant content on the sectors and sub-sectors to be addressed should be collected, using a variety of sources (e.g., government statutory bodies, sectoral stakeholders, and government records including documentation, reports, policies, plans, and strategies).

This information should be reviewed to identify past, ongoing, and planned mitigation actions in the country that relate to the targeted sectors. The review should also identify relevant data and information about costs and finance, GHG emissions, timelines, and relevance of actions to national and sectoral plans. Section 5 addresses how this information is further used.

The key results of the review of data and information can be presented in a summary document, excel sheet, and/or presentation. This will enable the coordinating entity to share vital findings with key stakeholders (e.g., the steering committee) and ensure that main issues affecting the NDC are objectively captured.

The review should also identify additional information needs, including data necessary for developing the NDC Roadmap, and information that can strengthen its results and content.

RECOMMENDATIONS FOR SIDS

- ▶ Be aware that a high turnover rate of public employees may result in limitations on institutional memory. Information needed to produce an accurate NDC Roadmap may or may not exist in various government ministries, departments, and agencies, and an exhaustive search may be required to access it. This will take time and resources which have to be planned for. On the other hand, if the government is fully engaged in the NDC Roadmap effort, this may be less of an issue.
- ▶ Recognize that in-country development partners tend to possess a broad level of knowledge regarding past, current, and future capacity building and actions (projects) undertaken in applicable sectors under NDCs. These in-country development partners can be a valuable information resource in preparing the NDC Roadmap.
- ▶ Consider conducting a comprehensive data assessment and survey. Data limitations and issues with identifying the most suitable mitigation actions are common in SIDS. However, due to the smaller scale of potential actions and limited number of stakeholders involved in SIDS, such a survey could be affordable and improve the data basis. See also a similar recommendation on this issue highlighted in section 3.5 related to determining the baseline for the NDC Roadmap. The feasibility of conducting a survey will depend both on the time and resources allocated for the development of the roadmap.

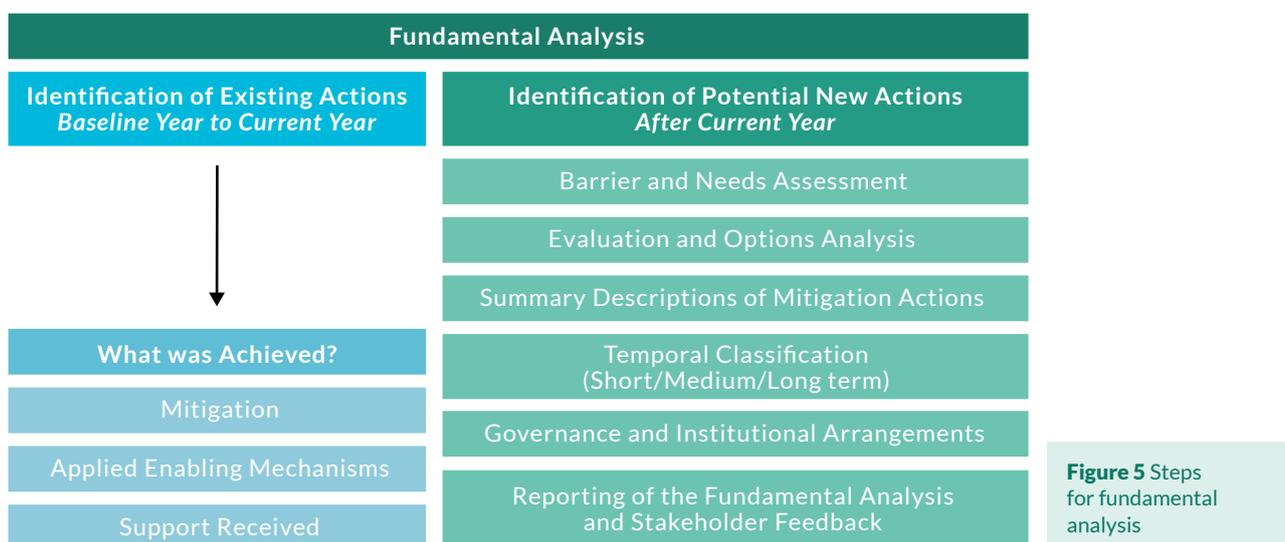
5. STEP 3 | FUNDAMENTAL ANALYSIS

The objective of the fundamental analysis is to build a solid analytical foundation for determining the mitigation actions that will make up the NDC Roadmap. The focus is on identifying potential NDC building blocks by:

- Identifying existing and potential new mitigation actions
- Defining existing barriers, and assessing support and finance needs for achieving mitigation
- Proposing a preliminary emissions reduction pathway for potential new mitigation actions
- Assessing institutional and governance structures

A step-by-step approach is recommended to ensure that the NDC Roadmap is fully aligned to the country’s legal framework, policies, and plans. It will also ensure that country circumstances, available resources, and sectoral capacities (and needs) are taken into consideration.

The approach of the fundamental analysis is to focus on identifying potential mitigation actions and enabling mechanisms that can contribute to achieving the NDC targets. These are divided into “existing actions” that have occurred after the baseline reference year and up to the current year, and “potential new actions” that are either planned or have the potential to occur in the future. Figure 5 depicts the steps in conducting the fundamental analysis, and each step is described in the sub-sections below.



5.1 IDENTIFICATION OF EXISTING ACTIONS

The objective of this sub-step is to identify existing mitigation actions that can contribute to the NDC mitigation targets in the selected sectors. Existing actions are mitigation actions that have been implemented between the baseline reference year of the NDC Roadmap and the current year in which the NDC Roadmap is being developed – in other words, mitigation actions that are already in place.⁹ The results of this sub-step will outline current activities and their potential to meet the NDC mitigation targets.

Existing mitigation actions can be identified using the results of stakeholder consultations and the review of data and information from reports. Because there is often uncertainty about the implementation status of existing mitigation actions, it is important to verify the status of such actions during stakeholder consultations.

Next, a summary table listing all existing mitigation actions should be prepared. The table should include relevant information for each action, including the responsible implementing entity (e.g., ministry), sector/sub-sector, start and end year of implementation, required investment made and/or planned, and the annual or total GHG emissions reduction achieved or expected to be achieved. See Figure 7 for an example of a summary table.

In addition to describing the existing mitigation actions themselves, the following items should be identified and described for each existing mitigation action:

- Specific enabling mechanisms (e.g., regulatory framework and incentive schemes) that have been applied or used to help implement the mitigation actions
- Support that has been provided, such as finance, technical assistance, and/or capacity building
- Community engagement and gender inclusion mechanisms that have been used in preparing for and implementing the action
- Quantification of the actual or expected impacts, including GHG mitigation, and social, gender, and environmental co-benefits

⁹The Paris Agreement officially starts in 2020, and it was agreed at COP 23 that developing countries can include previous actions in meeting their commitments. This is why defining the baseline year is important, as it is the official starting point for a country.



RECOMMENDATIONS FOR SIDS

- ▶ Hold discussions with utilities and the private sector to identify existing mitigation actions. In SIDS, it is common for semi-independent and independent utilities and the private sector (e.g., commercial associations, tourism associations, large resorts, and energy service companies) to undertake mitigation actions that are not directly monitored by the government. It is important to engage in discussions with these entities on topics including electricity generation, distribution, and demand-side energy efficiency to access information that might not be available otherwise.
- ▶ Meet with relevant implementing agencies to discuss existing enabling mechanisms (e.g., regulatory frameworks and incentive schemes). The implementing agencies involved such as the customs authority, independent regulator, development bank, revenue or tax authority, and bureau of statistics can describe existing enabling mechanisms and provide details about how they function and how they are financed. They may also be able to provide data for estimating GHG mitigation.

5.2 IDENTIFICATION OF POTENTIAL NEW MITIGATION ACTIONS

Potential new mitigation actions also need to be identified and assessed. New mitigation actions are those that are planned within the defined timeline of the NDC Roadmap. It is recommended that countries identify and include some “quick-win” mitigation actions that can be implemented in the short term to show early success of the NDC Roadmap and also provide momentum for further action.

New mitigation actions may include the extension of ongoing actions (e.g., expansion of existing renewable energy power plants, updating and/or expanding minimum energy performance standards and labelling programs, or increasing incentives for purchase of efficient/hybrid vehicles), or completely new mitigation actions not previously undertaken in the country.

The identification of new mitigation actions is based on results of the review of data and information, additional research into existing country-specific and international studies, and collated inputs from stakeholders.

For each potential new mitigation action, an initial estimation of GHG mitigation potential and investment needed should be made. Then all potential new mitigation actions should be summarized in a “long list” (see section 5.5). The considerations in section 5.1 are also applicable to the identification of potential new mitigation actions.

RECOMMENDATIONS FOR SIDS

- ▶ Be aware that there are typically many actions already planned for the future – especially in the short-term. For example, utility power development plans and national forestry management plans commonly must be produced using at least a 10-year horizon. Using this information can save time and assist in aligning the NDC Roadmap with existing sectoral objectives.
- ▶ Consider the lessons learned from past actions, and country-specific reports which can provide an understanding of the thresholds for the inclusion of new technology.
- ▶ Carefully estimate the investment cost of potential new mitigation actions. In SIDS, the cost of investment and resource use tends to be higher than in other developing and developed countries.
- ▶ In the transport sector (and other sectors), consider the following:
 - Specific requirements on the local infrastructure (e.g., scrappage facilities, materials recycling, and disposal of used components, like batteries in hybrid and electric cars)
 - Potential social and environmental impacts of new mitigation actions
 - Potential to produce biofuels which could increase self-reliance and create jobs but also introduce negative impacts e.g. competition with other agricultural products, limited available land, and impacts on biodiversity and tourismAvailability of, and experience with, new technology in the country/region
 - Import chains – some SIDS import goods like fuel and cars from a neighboring SIDS, acting as a regional hub, and then transport them to smaller SIDS. When mitigation actions impact the import of the type of fuel or requirement for vehicles, their impacts on other SIDS should be considered



5.3 BARRIERS AND NEEDS ASSESSMENT

The first objective of this sub-step is to identify and assess the key barriers, gaps, and challenges to implementing each identified mitigation action. This assessment should be based on the latest knowledge regarding the technology or action applied, and on existing experience in the region or country. The assessment should be completed in close dialogue with national stakeholders from the sector.

Potential barriers, challenges, and risks may include:

- Capacity barriers (e.g., skilled labor and their know-how of transitioning to cleaner technologies)
- Technical barriers (e.g., grid reliability and sustainability)
- Infrastructure (access) barriers
- Political, regulatory, and institutional barriers
- Financial barriers (e.g., capital cost of implementing renewable energy)

- Limited technical resources
- Lack of an incentive system
- Legal and administrative barriers (e.g., land ownership)
- Information and data barriers (e.g. regarding confirmation of renewable energy resources like wind)

Each barrier should be described with as much detail as possible, including the source of the barrier and expected impacts on the mitigation action.

The second objective of this sub-step is to perform a needs assessment for each mitigation action. This involves defining the key elements needed to overcome each barrier. Fulfilling the needs of a mitigation action may require capacity building, institutional restructuring, new legislation, policy or regulations, additional planning, technology transfer, financial investments, and/or financial incentives. For each mitigation action, preliminary recommendations for fulfilling these needs should be documented in a summary sheet (see section 5.5).

RECOMMENDATIONS FOR SIDS

- ▶ Conduct an inclusive stakeholder consultation, and include implementing agencies that are directly involved in the identified mitigation actions to capture their experiences and lessons learned.
- ▶ Undertake research and hold south-south dialogue with government officials and regional and/or international organizations that have implemented GHG mitigation solutions in other SIDS. This includes identifying barriers faced and methods used to overcome them, as well as quantifying the means of implementation. In many cases, these south-south dialogues may lead to scaling up (or bundling) of mitigation solutions to benefit the country and region and attract financiers.
- ▶ Place careful attention on the non-monetary resources available to SIDS for implementation. For example, how much land or rooftop area is suitable for solar photovoltaic power generation? Are there hydro reservoirs where floating solar could be implemented?
- ▶ When developing and implementing mitigation actions and building long-term capacity within the country, carefully consider ways to manage SIDS' sometimes limited resources (e.g., financing, manpower, availability of people with relevant skills and experience).
- ▶ Examine the roles of regional cooperation bodies in overcoming some of the barriers identified. SIDS commonly have regional cooperation bodies (regional organization) that address the interdependencies and common challenges between SIDS and often provide a pool of technical expertise and data repositories available for access by country members.



5.4 EVALUATION AND OPTIONS ANALYSIS

For each sector included in the NDC Roadmap, a combined qualitative and quantitative evaluation should be performed to help identify the most realistic mitigation options, along with their potential for implementation and projected co-benefits. The ultimate goal of this evaluation is to prioritize mitigation actions in each sector.

At this stage, reliable information on each mitigation action may be hard to obtain. Because of this, an indication of data quality should be included in the documentation of evaluation results, as well as any important assumptions made.

It is important to apply a transparent process to the evaluation so that key stakeholders are aware of the uncertainties involved and can provide feedback that may improve knowledge around implementation of mitigation actions and reduce uncertainties. This transparency will enhance the quality of the evaluation and contribute to stakeholders' ownership and buy-in of the prioritized mitigation actions.

A comparative evaluation matrix with key criteria for prioritizing mitigation actions can be created, presented to, and refined by the steering committee and/or other stakeholder groups. The matrix should include five to eight key criteria that can be applied to all the potential mitigation actions in the sector but more criteria can be included if desired. The criteria should address, at a minimum, the NDC targets, national and sectoral development priorities, technical feasibility, and impacts. The following are some examples of criteria for evaluation:

- GHG mitigation potential
- Level of investment required
- Extent of expected private sector financial participation
- Impact on the state budget
- Potential for positive social-economic impacts
- Level of incremental financial needs
- Level of national and regional technology availability
- Potential for negative environmental impacts
- Potential for negative impacts on mobility
- Potential for balanced gender impacts
- Expected timeframe for implementation
- Potential adaptation and other co-benefits

No.	Mitigation Action	GHG Mitigation Potential	Private Sector Financial Participation	Environmental Impact	Technology Availability	Final Score	Acc. GHG Mitigation
1	Action 1	5	3	0	3	11	60,000
2	Action 3	4	3	-1	4	10	100,000
3	Action 6	3	5	0	2	10	120,000
4	Action 4	5	2	-2	4	9	200,000
5	Action 5	3	4	0	1	8	215,000
6	Action 2	4	0	-1	2	5	245,000

Scoring for GHG Mitigation Potential

- +5 points for >50k tCO₂e/yr
- +4 points for 50k–25k tCO₂e/yr
- +3 points for 25k–15k tCO₂e/yr
- +2 points for 15k–10k tCO₂e/yr
- +1 points for 10k–5k tCO₂e/yr
- +0 points for < 5k tCO₂e/yr

Short List
NDC Target
(180,000 tCO₂e/yr)

Figure 6 A scoring system for the comparative evaluation matrix – example from Fiji¹⁰

For each criterion, a country-specific weighted scoring system can be defined. The scoring system can be developed in consultation with the steering committee and/or other stakeholder groups. Certain criteria may have higher weight than others, and have positive or negative scoring. The weighting of criteria should be agreed on by the key stakeholders representing the government and the sector, such as the members of the steering committee. Figure 6 shows this country-specific scoring system for the criterion “GHG mitigation potential”. A qualitative, descriptive analysis based on the criteria can also complement the scoring system. Results of the evaluation will contribute to an initial prioritization of the mitigation actions identified for the sector, based on their final combined scores. This list of priorities can then be used to select a short list of mitigation actions. For example, the short list can include the minimum mitigation actions needed to reach the NDC GHG reductions target (see “Short List” in Figure 6).

In some sectors, mitigation actions may not directly lead to GHG reductions. Examples of these indirect mitigation actions are electricity grid extension and upgrades, and new roads or rails. These actions require a separate comparative qualitative evaluation.

¹⁰ Adapted from: Ministry of Economy, Republic of Fiji, *Fiji NDC Implementation Roadmap 2017-2030* (2017). https://www.reinforfiji.com.fj/wp-content/uploads/2017/11/FIJI-NDC-IMPLEMENTATION-ROADMAP_LOWRES.pdf. ktCO₂e/yr = kilotons of carbon dioxide equivalent per year.



5.5 CREATING SUMMARY DESCRIPTIONS OF POTENTIAL NEW MITIGATION ACTIONS

For each selected new mitigation action, a summary sheet should be developed using a standardized template to make more detailed qualitative and quantitative comparisons possible between proposed mitigation actions. An example summary sheet format is provided in Figure 7.

No.	<i>Number of the mitigation action</i>
Action Name	<i>Name of the mitigation action</i>
Sector/Sub-Sector	<i>Sector or sub-sector of the mitigation action</i>
Description	<i>General description of the mitigation action and justification for selection</i>
Implementing Entity	<i>Agency or organization responsible for carrying out the action</i>
Policy/Plan Link	<i>Linkage to national or sectoral policies and plans</i>
Start & End Year	<i>Start and end year of implementation</i>
Mitigation Potential	<i>Annual expected GHG reductions resulting from the action</i>
Investment (USD)	<i>Expected capital needs</i>
Gaps & Barriers to Implementation	<i>List gaps and barriers separately</i>
Enabling CB & TA Needs	<i>Expected support, including enabling mechanisms, needed capacity building (CB), and needed technical assistance (TA)</i>
Environmental & Social Impacts	<i>Potential environmental, social, and gender impacts</i>
Information & MRV Needs	<i>What information is still needed, including for the MRV system</i>

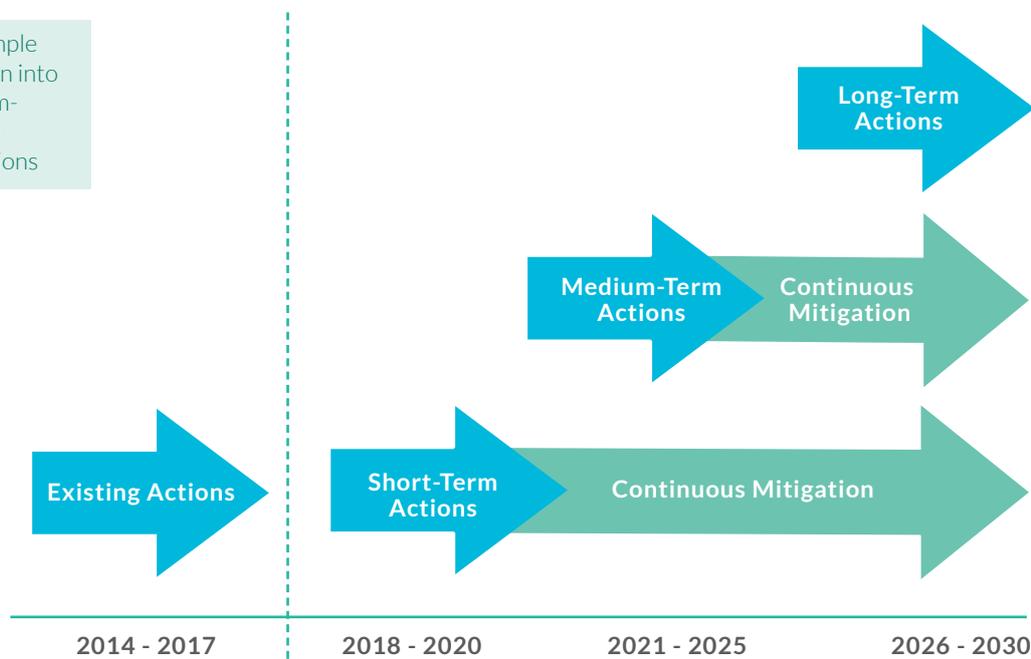
Figure 7 Summary sheet template for potential new mitigation actions

5.6 CLASSIFICATION INTO SHORT-, MEDIUM-, AND LONG-TERM ACTIONS

All prioritized new mitigation actions should be classified in terms of their envisaged timeframe of implementation. Depending on the overall timeline of the NDC Roadmap, this classification can be made through short-, medium-, and long-term categories, defined by the year in which implementation will first take place (see Figure 8). Some mitigation actions may need to be split into implementation phases occurring in different terms or continue across the defined terms (e.g., the green arrows shown in Figure 8).

The classification can consider aspects like country or sector priorities, availability of funding, availability of technology for the actions, expected impacts of the actions (e.g., GHG mitigation), and time required to build an enabling environment for the actions (e.g., regulatory framework, institutional arrangement, and incentive scheme).

Figure 8 Example of classification into short-, medium- and long-term mitigation actions



Usually, short-term mitigation actions require support that is already available, and lead to immediate impacts (e.g., GHG mitigation) and quick wins. Long-term mitigation actions, on the other hand, may have bigger mitigation potential and require significant preparatory steps. For most sectors, a mix of short-, medium-, and long-term mitigation actions is usually appropriate.

RECOMMENDATIONS FOR SIDS

- ▶ Differentiate as much as possible between short-to-medium term and medium-to-long term actions. Due to limited resources in SIDS, it is necessary to distinguish between actions that are achievable in the short-to-medium term with financing and technologies readily available locally with no significant preparations required (e.g., regulatory changes), and medium-to-long-term actions needed to transform the sector but that require significant preparations (e.g., identifying and confirming financing, structural reform, new regulations, and assessing the data basis and baseline for responsible decision-making). These preparatory actions can be included in the NDC Roadmap as pre-actions.
- ▶ Consider the contribution to climate resilience as a criterion in the classification of actions, since one of the challenges for SIDS is their vulnerability to climate-related disasters such as hurricanes and cyclones. If an action can achieve both mitigation and increased climate resilience, then it can improve efficiency and save costs.



5.7 GOVERNANCE AND INSTITUTIONAL ARRANGEMENTS

To facilitate successful implementation of the NDC Roadmap, the document should contain a description of the governance structure that will be used to coordinate and track implementation of the selected mitigation actions. Three primary areas of responsibility are explained below and are divided into key roles that can be assigned to one or more entities, as follows:

- i. Implementation** – involves the entities that will directly manage or implement the policies or regulations, enabling mechanisms, or physical mitigation actions (e.g., projects) in the NDC Roadmap. These may include ministries (and their departments), national government statutory bodies (e.g., agencies, authorities, and commissions), national government institutions or companies (e.g., schools and utilities), non-state actors (e.g., civil society organizations and non-governmental organizations), or the private sector (e.g., companies and individuals).
- ii. Coordination** – includes dissemination of NDC Roadmap information to involved stakeholders, and coordination of mitigation actions between implementing entities. An additional role is to report the progress and results of the NDC Roadmap to the government and the UNFCCC, and coordinate the MRV process and data collection between implementing entities. The final role is the coordination of development partner support to mitigation actions under the NDC Roadmap, including integration with both public and private sector activities and finance. Coordination may be handled by one government entity performing a centralized role, or several entities performing specific roles within each sector.
- iii. Bilateral and Multilateral Support** – roles are provided by development partners or private institutions (either in-country, regionally, or internationally). They offer means of implementation and support to mitigation actions under the NDC Roadmap (e.g., capacity building, technical assistance, technology transfer, and finance for mitigation actions).

Existing institutional arrangements and the roles of entities involved in the NDC Roadmap should be mapped out in the fundamental analysis. The potential interdependencies of different entities should be mapped and a flowchart showing responsibilities and interrelations may be useful. From this information, the NDC Roadmap can draw upon existing institutional arrangements, relationships and interdependencies to develop the governance and role allocation for the roadmap. Sometimes it may be more efficient and practical to use existing institutional arrangements than create new structures to implement the NDC Roadmap.

5.8 REPORTING OF THE FUNDAMENTAL ANALYSIS AND STAKEHOLDER FEEDBACK

Based on the fundamental analysis, a full assessment report should be drafted detailing the results of the analysis. This report will provide the steering committee with important background information, and serve as a starting point for further discussions with key stakeholders. The report can also provide input for future decision-making related to the NDC Roadmap. The steering committee should provide detailed feedback based on the information provided in the report.

Countries can develop a short summary of the fundamental analysis report, highlighting key elements and important information on the sectors, proposed mitigation actions, and related governance. This summary report should be understandable by both key and non-key stakeholders, so that it can be used as a tool in the inclusive stakeholder engagement process to gain feedback (see section 3.8 for further information on this).

Sharing the summary report and gaining feedback from both key and non-key stakeholders will serve the following main objectives when preparing the final NDC Roadmap document:

- Increase awareness of the elements of the NDC Roadmap and present the proposed mitigation actions (including needs for capacity building, technology transfer, and finance) and implementation plans. This facilitates stronger stakeholder engagement and transparency in the development of the NDC Roadmap, as well as future implementation and cooperation
- Further define potential mitigation actions and needs for capacity building, technology transfer, finance, and incentives
- Verify the national applicability of identified mitigation actions, and accuracy of related information used in the analysis
- Verify alignment to existing national policies and plans, and those under development, and ensure their accuracy in the final NDC Roadmap document
- Allow for the inclusion of overlooked elements, especially those related to gender inclusion and other social elements

It is important to document stakeholder feedback received as a part of the overall stakeholder engagement process (described in section 3.8), as well as how stakeholder engagement is captured in the draft NDC Roadmap.

6. STEP 4: PREPARATION OF THE NDC IMPLEMENTATION ROADMAP

Step 4 addresses the development of the NDC Roadmap as a standalone document, based on the results of the fundamental analysis (Step 3) and the feedback received from stakeholders during the inclusive stakeholder engagement process. Information assessed in the fundamental analysis provides the foundation for the NDC Roadmap document. Figure 9 shows a suggested outline and indicative process for preparing the NDC Roadmap document, and this is further explained in section 6.1.

NDC Implementation Roadmap	
Draft NDC Roadmap	
Country Background in the Context of Climate Change	
NDC Roadmap's Context Within the Country's NDC	
Stakeholder Engagement Process	
Sector X	Sector Y
Mitigation Actions	Mitigation Actions
Total GHG Mitigation Potential	Total GHG Mitigation Potential
Total Investment	Total Investment
Support Required (Technical Assistance/Capacity Building)	Support Required (Technical Assistance/Capacity Building)
Logical Framework	Logical Framework
Implementation Pathway	
Alignment to Sustainable Development Goals	
Governance Structure	
Measurement, Reporting, and Verification	
Financing Aspects	
Validation of the NDC Roadmap	
Final NDC Roadmap	

Figure 9 Outline and process of preparing the NDC Roadmap document

6.1 DRAFTING THE NDC ROADMAP – INTRODUCTION AND STRUCTURE

The purpose of the NDC Roadmap document is to inform both national and international stakeholders of the proposed actions to be taken by a country to achieve NDC targets, and the means of implementation needed to support those actions.

The draft NDC Roadmap document should only be developed after completing the fundamental analysis and gaining feedback from stakeholders, in order to avoid unnecessary changes late in the process and facilitate final government approval.

The document should be easily readable by a broad audience (both national and international) and should present the outcomes and decisions of the NDC Roadmap in a clear and concise manner, preferably with the use of visual aids (e.g., diagrams and flowcharts) and explanations. The document should not overburden the audience with detailed information since they can refer to the fundamental analysis report, if required.

The following structure is suggested for the draft NDC Roadmap. Each element is further described in the sub-sections below.

- A description of the country background in the context of climate change
- A description of the context of the NDC Roadmap within the country's NDC, including the sectors and targets covered under the official NDC, the objectives and scope of the NDC Roadmap, and the policies, plans, and strategies that the NDC Roadmap is aligned to
- A description of the stakeholder engagement process
- For each sector, a quantitative summary of the combined expected results of the mitigation actions, including information on enabling mechanisms, total investment, GHG mitigation potential, and other relevant support required for implementation
- For each sector, a high-level logical framework that includes the proposed mitigation actions, enabling mechanisms, and support required to implement the actions
- A realistic scenario or implementation plan for the short-, medium-, and long-term actions
- A description of how the NDC Roadmap can lead to positive environmental, social, gender, and economic impacts, by showing alignment to international, regional, and national development goals (e.g., direct and indirect linkages to SDGs)
- A description of the proposed governance structure and institutional arrangements for the implementation of the NDC Roadmap
- An outline of the basic structures and needs for MRV of the activities to be implemented under the NDC Roadmap, including evaluation mechanisms
- A description of the overall financial needs for implementing the NDC Roadmap, including the financing mechanisms and instruments that can meet financial needs, any gaps that may prevent successful implementation, and plans to address these gaps

Additional sections can be added if deemed necessary, as each NDC Roadmap will differ according to the needs of the specific country.



6.2 COUNTRY BACKGROUND IN THE CONTEXT OF CLIMATE CHANGE

This section in the NDC Roadmap document provides key information on the country's geographic, socio-economic, environmental, and climate change-related context. It discusses the potential impacts of climate change on the country, the country's role in climate change-related issues, and the comparative relationship to other countries. For example, this section can describe the country's vulnerabilities to climate change and its current resilience level, then compare this to other countries in the region. This section can also highlight the country's pre-2020 achievements in climate change mitigation and adaptation.

6.3 NDC ROADMAP CONTEXT WITHIN THE COUNTRY'S NDC

This section briefly describes the context of the NDC Roadmap within the country's NDC. This includes listing the sectors addressed by the NDC, and the mitigation targets and baseline defined under the NDC. The section explains how the NDC Roadmap will contribute to the NDC targets and to the goals of the Paris Agreement. In addition, this section highlights the goal and objectives of the NDC Roadmap, the scope of the NDC Roadmap, and the alignment of the NDC Roadmap to national policies, plans, and strategies.

6.4 DESCRIPTION OF THE STAKEHOLDER ENGAGEMENT PROCESS

This section briefly describes the stakeholder engagement process undertaken during the development of the NDC Roadmap. This description should include a list of the key and non-key stakeholders involved in the engagement process, and highlight the different types of stakeholders involved from government, private sector, development partners, associations, non-governmental organizations, civil society organizations, non-state actors, educational institutions, and other organizations. In addition, the section should describe the methods used to gain feedback from key and non-key stakeholders (e.g., committees, one-on-one meetings, workshops, and surveys), and the milestones in the NDC Roadmap development process at which stakeholder engagement was undertaken.

6.5 PRESENTATION OF SELECTED MITIGATION ACTIONS BY SECTOR

One of the main purposes of the NDC Roadmap document is to present the expected outcomes of the NDC Roadmap. It is recommended to start top-down, by first presenting the overall outcomes of the NDC Roadmap, followed by a more detailed description of the outcomes sub-divided by each sector.

The description of the overall outcomes of the NDC Roadmap should highlight each sector's combined expected mitigation contribution to the NDC targets, and overall expected investment costs. However in practice, the overall outcomes of the NDC Roadmap are derived from a bottom-up process in which the outcomes of each sector/sub-sector are identified first and then combined as overall outcomes.

To present the outcomes of each sector/sub-sector, key information on the mitigation actions gained from the fundamental analysis is combined. Individual interventions are combined into mitigation actions by type, and the outcomes are presented by timeframe, for example, as shown in Figure 10.

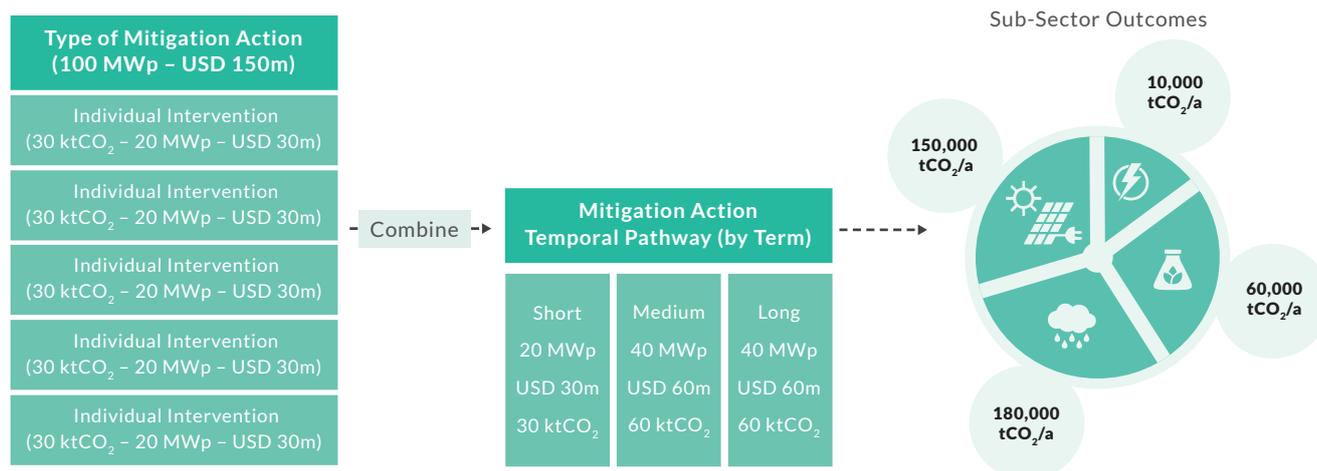


Figure 10 Combining individual interventions into mitigation actions by type and sub-sector outcomes – example from Fiji¹¹

Only the most relevant information for each combined mitigation action should be provided in a written description in order to keep the text clear and concise. However, a more detailed description could also be adopted which would result in a longer document. This written description can be divided into short-, medium-, and long-term actions within the relevant sector, with details of what will be implemented during each period, and what is required to ensure this implementation. The written description should include:

- For each time period (e.g., short-, medium-, and long-term), a brief description of the mitigation actions to be implemented
- The expected outcomes of the mitigation actions (e.g., capacity, annual GHG mitigation) within the time period
- Capacity building, technical assistance, and investment needs required for the implementation of the mitigation actions within the time period

¹¹ Adapted from: Ministry of Economy, Republic of Fiji, *Fiji NDC Implementation Roadmap 2017-2030 (2017)*. https://www.reinfofiji.com.fj/wp-content/uploads/2017/11/FIJI-NDC-IMPLEMENTATION-ROADMAP_LOWRES.pdf. ktCO₂ = kilotons of carbon dioxide; m = million; MWp = megawatt peak; PV = photovoltaic; tCO₂ = tons of carbon dioxide; and tCO₂/a = tons of carbon dioxide per annum.



A summary of all mitigation actions including total costs and GHG reductions should be included either at the start or end of each sector section. This will help provide clarity on the potential for each sector, the extent of its contribution to the NDC, and the support required (finance, technology, and capacity building) to achieve full implementation. A visual example is provided in Figure 11, and this can be complemented by descriptive text.

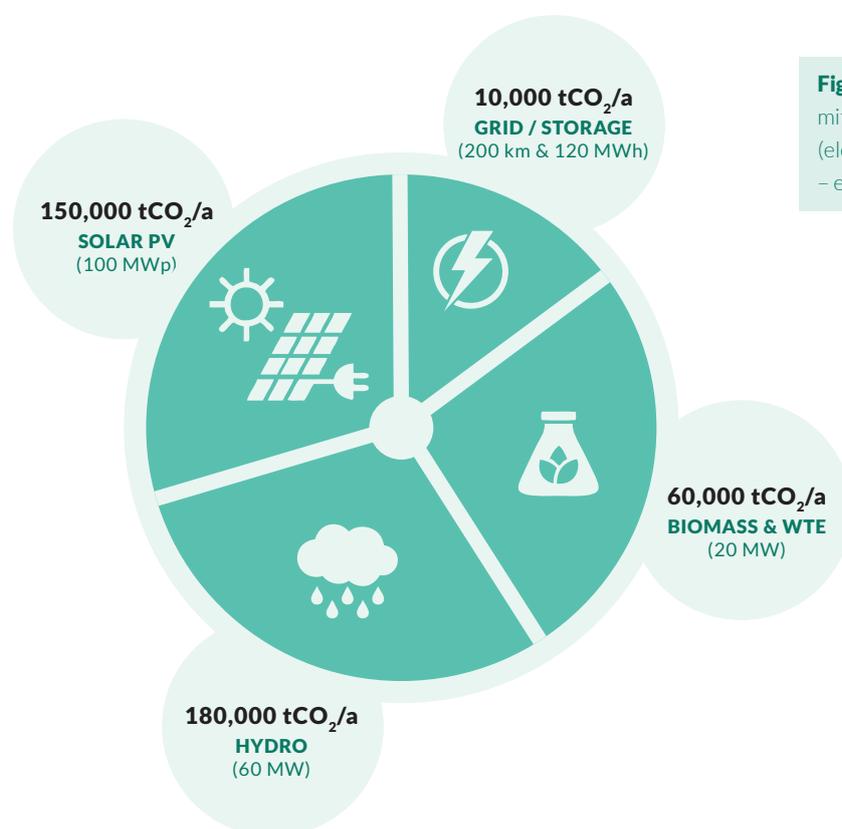


Figure 11 Diagram summarizing mitigation actions in one sector (electricity generation and transmission) – example from Fiji¹²

6.6 A SECTOR-SPECIFIC HIGH-LEVEL LOGICAL FRAMEWORK

To provide a framework for the implementation of the NDC Roadmap, it is helpful to develop a high-level logical framework or some other framework that ties activities to outcomes for each sector. This framework should include the mitigation actions that lead to direct GHG emissions reduction, and the enabling mechanisms and support needed to ensure implementation. The logical framework will also later assist in monitoring progress of the NDC Roadmap implementation.

The logical framework should define key outcomes, outputs, and activities within the implementing plan of each sector. Outcomes are the main qualitative and quantitative achievements sought within the sector under the NDC Roadmap. To realize the outcomes, different outputs must be achieved; each requiring the completion of one or more broad activities. This structure is depicted in Figure 12.

¹² Adapted from: Ministry of Economy, Republic of Fiji, *Fiji NDC Implementation Roadmap 2017-2030* (2017). https://www.reinforfiji.com.fj/wp-content/uploads/2017/11/FIJI-NDC-IMPLEMENTATION-ROADMAP_LOWRES.pdf. km = kilometers; MW = megawatt; MWh = megawatt hour; MWp = megawatt peak; PV = photovoltaic; tCO₂ = tons of carbon dioxide; tCO₂/a = tons of carbon dioxide per annum; and WTE = waste-to-energy.

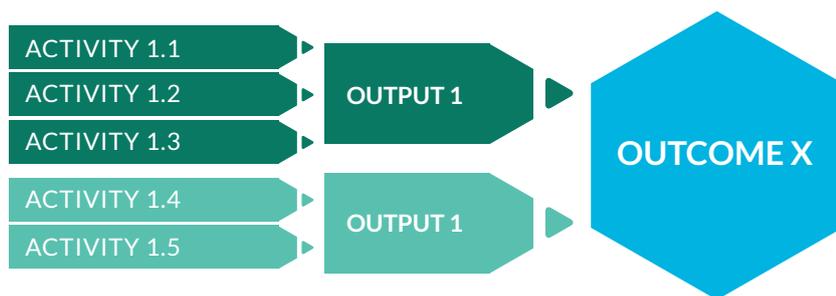


Figure 12 Elements of the logical framework

The high-level logical framework will help stakeholders identify where they fit into the implementation process and where they can contribute. For example, a bilateral development partner can identify a high-level activity (e.g., completion of eligibility criteria for the import of efficient vehicles) that matches a program and funding mandate for supporting export of green vehicles from its own country. Then that partner may develop and implement a project to fulfill the high-level activity of the NDC Roadmap. This process is depicted in Figure 13.

High-Level Logical Framework for the transport sub-sector in the NDC Roadmap	
Outcome A - GHG emissions are reduced through mitigation actions in the land transport sub-sector	
Output A.1 - Improved regulatory and planning environment for greater private sector participation in a more energy efficient land transport sector	
A.1.1	The completion of a more country specific comprehensive transport data assessment for fuel consumption and GHG emissions in land transport.
A.1.2	A comprehensive sub-sectoral technical and economic feasibility study(s) is completed for introducing Euro IV/VI fuel standard across the country.
A.1.4	The completion of eligibility criteria for imported efficient vehicles
A.1.5	A needs assessment / pre-feasibility study is completed for large scale vehicle scrappage facility(s)
A.1.7	At least one large scale vehicle scrappage facility is prepared for finance and the start of implementation.
A.1.8	The completion of a planning and economic impact study, defining incentives to encourage a more energy efficient land transport.

Figure 13 Applying the high-level logical framework of the NDC Roadmap to a low-level project logical framework – example from Fiji¹³

Low-Level Logical Framework for bilateral support to encourage export of green vehicles	
Output A.1 - Improved regulatory and planning environment for greater private sector participation in a more energy efficient land transport sector	
Activity A.1.4 - The completion of eligibility criteria for imported efficient vehicles	
A.1.4.1	Technical and economic feasibility study is completed on the market availability of efficient vehicles for import in country XXX.
A.1.4.2	Technical specification standards are developed for market available efficient vehicles.
A.1.4.3	Customs authorities are trained in the application and enforcement of efficient vehicles standards.

In addition, a high-level logical framework can be developed that highlights the actions and support needed to implement each of the “softer” components of the NDC Roadmap, such as the MRV system, facilitation of finance, and ensuring sustainable governance of implementation.

¹³ Adapted from: Ministry of Economy, Republic of Fiji, *Fiji NDC Implementation Roadmap 2017-2030* (2017). https://www.reinforfiji.com/fj/wp-content/uploads/2017/11/FIJI-NDC-IMPLEMENTATION-ROADMAP_LOWRES.pdf

6.7 DEPICTION OF THE IMPLEMENTATION PATHWAY

It is useful to include a visual multi-sector pathway that includes interlinkages between the sectors in the NDC Roadmap document. The pathway can be a time-based matrix showing the actions that will be implemented and when, allowing readers to see an overview of the entire NDC Roadmap (see Figure 14). The pathway matrix can include the following:

- Potential deployment time of the combined actions
- Capacities, numbers of units, and/or technology types to be implemented under each defined time period

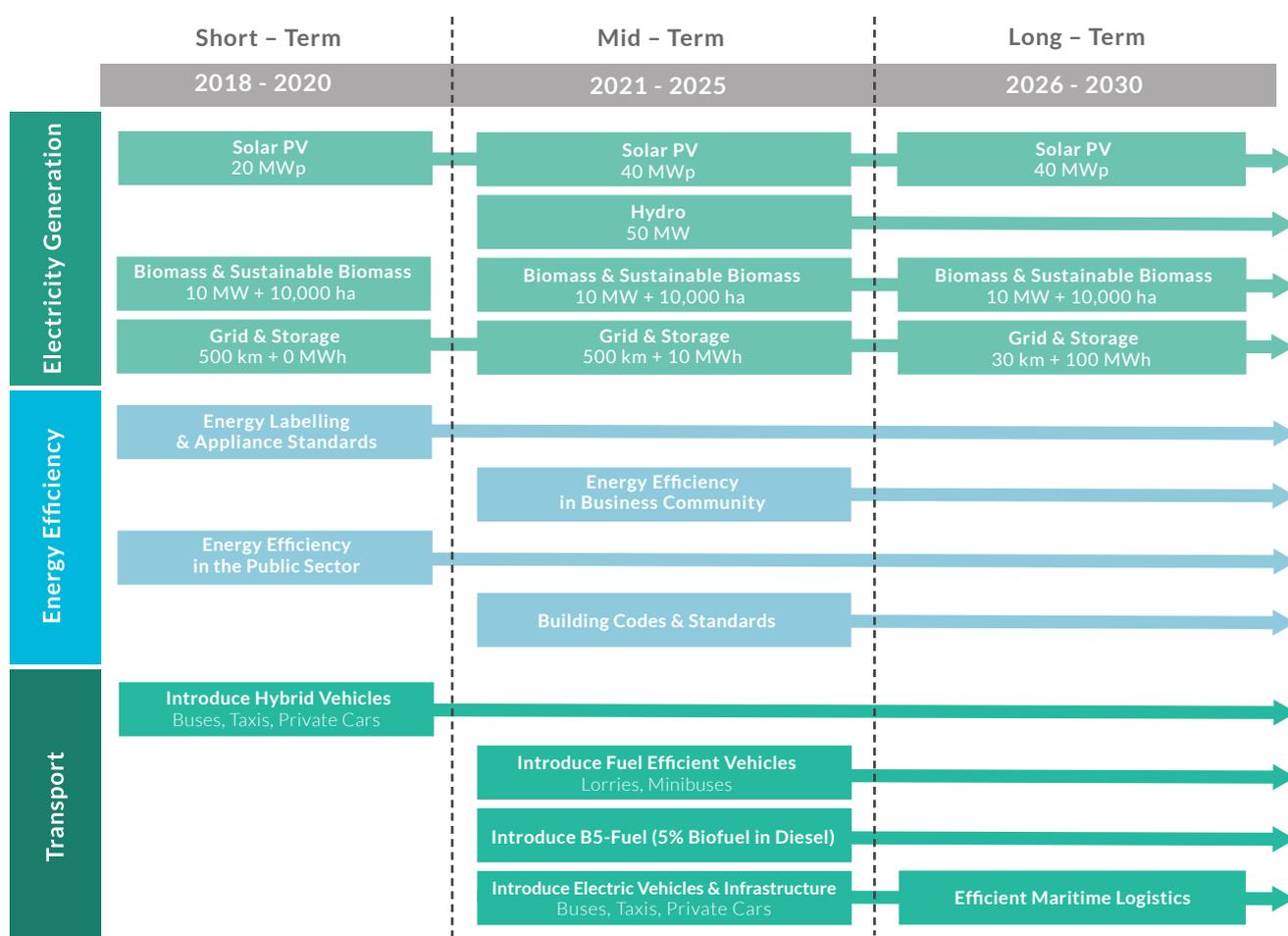


Figure 14 Depicting the implementation pathway – example from Fiji¹⁴

¹⁴ Adapted from: Ministry of Economy, Republic of Fiji, *Fiji NDC Implementation Roadmap 2017-2030 (2017)*. https://www.reinfofiji.com.fj/wp-content/uploads/2017/11/FIJI-NDC-IMPLEMENTATION-ROADMAP_LOWRES.pdf. ha = hectare; km = kilometer; MW = megawatt; MWh = megawatt hour; MWp = megawatt peak; and PV = photovoltaic.

6.8 ALIGNMENT WITH THE SUSTAINABLE DEVELOPMENT GOALS

Linking mitigation actions to SDGs is currently not required as a part of an NDC submission, but it is recommended that countries include this mapping in their NDC Roadmaps. This is because of the increasing integration between the SDGs and the UNFCCC process, as well as the growing trend by multilateral and development institutions to link the use of their funds to SDG impacts. SDG alignment is helpful for both national and sectoral implementation, as it is critical to bring together sustainable development and climate action. The connection between implementation of the NDC Roadmap and SDGs should be leveraged in an effective manner, including by considering efficiency and funding benefits.

SDG ¹⁶	Targets	Mitigation Actions						
		1	2	3	4	5	6	7
1 No Poverty								
2 Zero Hunger								
3 Good Health and Well-Being	6 & 9					✓	✓	✓
4 Quality Education	7						✓	
5 Gender Equality	5, A, B & C	✓	✓	✓	✓	✓	✓	✓
6 Clean Water and Sanitation	3 & A			✓		✓		
7 Affordable and Clean Energy	1, 2, 3, A & B	✓	✓	✓	✓	✓	✓	✓
8 Decent Work and Economic Growth	4, 9 & 10	✓	✓	✓	✓	✓		✓
9 Industry, Innovation, and Infrastructure	4 & 5			✓		✓	✓	✓
10 Reduced Inequalities								
11 Sustainable Cities and Communities	2, 5, 6	✓	✓	✓	✓	✓		✓
12 Responsible Consumption and Production	2, 5, 7, 8, A & B	✓	✓	✓	✓	✓	✓	✓
13 Climate Action	1,2,3,& B	✓	✓	✓	✓	✓	✓	✓
14 Life Below Water	1 & A							
15 Life on Land	1 & 2	✓	✓	✓	✓	✓		
16 Peace, Justice, and Strong Institutions								
17 Partnership for the Goals	1, 3, 7, 9, 14, 15, 16, & 17	✓	✓	✓	✓	✓	✓	✓

Table 2 Matrix linking mitigation actions with SDGs and SDG targets – example from Fiji¹⁵

¹⁵ Adapted from: Ministry of Economy, Republic of Fiji, *Fiji NDC Implementation Roadmap 2017-2030* (2017). https://www.reinfofiji.com.fj/wp-content/uploads/2017/11/FIJI-NDC-IMPLEMENTATION-ROADMAP_LOWRES.pdf



The fundamental analysis should have identified some positive (and maybe negative) environmental, social, gender, and economic impacts of the selected mitigation actions in the NDC Roadmap. These impacts can be evaluated further in the context of their direct and indirect linkages to the SDGs. The evaluation should be based on broadly-known impacts of the policy application, deployment of technology, environmental, gender and social impacts, and other co-benefits associated with different mitigation actions. The alignment of the mitigation actions to the SDGs and their targets will allow for greater access to financial resources, capacity building, and technology support.

Once the evaluation is completed, a matrix should be created highlighting the direct and indirect linkages of each mitigation action to the specific SDGs and SDG targets it impacts. Table 2 offers an example, and a qualitative description could also be included to provide additional information.

A more detailed quantitative and/or qualitative assessment of the environmental, social, gender, and economic impacts will likely be required during the actual NDC Roadmap implementation, and prior to execution of each mitigation action. Therefore, it is important to include the contribution of environmental, social, and economic impacts on the SDG targets in the MRV system.

6.9 GOVERNANCE STRUCTURE FOR IMPLEMENTATION

A governance structure for implementing the NDC Roadmap should be devised based on the results of the fundamental analysis and feedback received during the stakeholder engagement process. The governance structure should be presented in the NDC Roadmap document with the following elements:

- A description of each entity involved and its roles and responsibilities during the implementation of the NDC Roadmap
- A process diagram showing the defined entities and their pathways for reporting, coordination, support, and finance (see Figure 15)
- A description of the broad enabling elements (e.g., decrees and acts) and the awareness raising, capacity building and technical assistance required for successful implementation of the NDC Roadmap. This includes dissemination of information on the country's NDC, NDC Roadmap, and sector mitigation actions. This may include mobilizing financial resources to establish and operate a new entity or employ new staff for specific tasks, and/or capacity building for existing institutions, staff, or stakeholders

Implementing an NDC Roadmap requires constant coordination among all stakeholders involved, including the various public and private sector entities, as well as other stakeholders supporting the implementation. A single government unit, or 'champion', should be selected to coordinate implementation of the NDC Roadmap and ensure successful completion of all its components. Working in a collaborative manner is critical, not only to ensure successful implementation of the NDC Roadmap, but also to maintain the momentum of common purpose among stakeholders and encourage efficient deployment of resources between the entities.

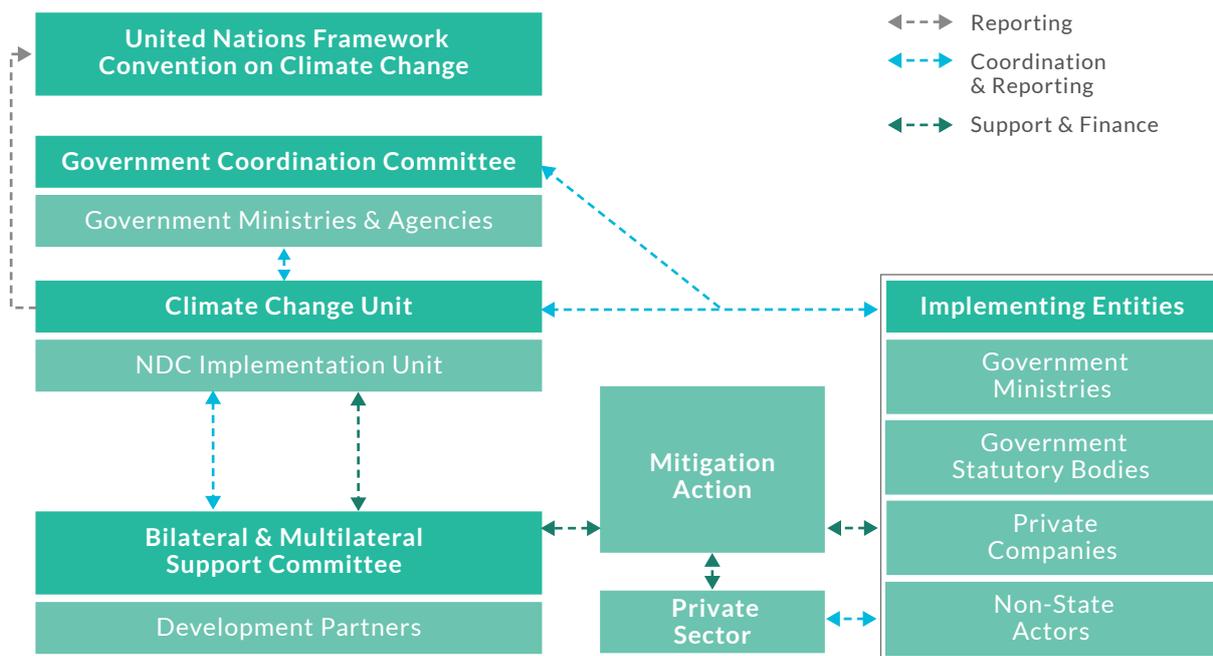


Figure 15 Governance structure for implementing the NDC Roadmap - example from Fiji¹⁶

RECOMMENDATIONS FOR SIDS

- ▶ Recognize SIDS' multiple-role context when developing the governance structure for implementation. SIDS by definition are small countries, where entities often have more than one specific role, and any one ministry, agency, utility, or company may implement actions in more than one sector. Care should be taken to avoid creating additional layers of bureaucracy, and instead to design an efficient, flexible governance structure.
- ▶ Carefully assess the capability of entities in the governance structure for implementation. SIDS often have limited capacity and resources in government entities and the private sector. Where there are gaps in capacity or resources, the need for additional capacity development or funding should be highlighted in the NDC Roadmap.

6.10 MEASUREMENT, REPORTING, AND VERIFICATION OF THE NDC ROADMAP

This section of the document explains the MRV system that will track progress toward achievement of the targets and outcomes of the NDC Roadmap. A functioning MRV system, especially one covering GHG emissions from sources and removals from sinks, is essential for linking the NDC targets with appropriate measures used to achieve them. This will be important for countries as they monitor progress towards their NDC targets, prepare biennial transparency reports under the Paris Agreement for submission to the UNFCCC Secretariat, and contribute to the global stocktake of progress of UNFCCC parties in implementing the Paris Agreement.

¹⁶ Adapted from: Ministry of Economy, Republic of Fiji, *Fiji NDC Implementation Roadmap 2017-2030 (2017)*. https://www.reinfofiji.com.fj/wp-content/uploads/2017/11/FIJI-NDC-IMPLEMENTATION-ROADMAP_LOWRES.pdf



For the mitigation component of the NDC, tracking can be done in the following three dimensions:

- i. **Progress** made toward implementation of mitigation actions and co-benefits achieved (e.g., SDGs and gender inclusion), including dissemination of information on the country's NDC, NDC Roadmap, and mitigation actions
- ii. **GHG emissions** reduction and the *ex-post* determination of emissions reduction achieved
- iii. **Implementation support** (e.g., capacity building, technical assistance, technology transfer, and finance) applied to achieving the targets and outcomes of the NDC Roadmap

These three dimensions of the MRV system are depicted in Figure 16.

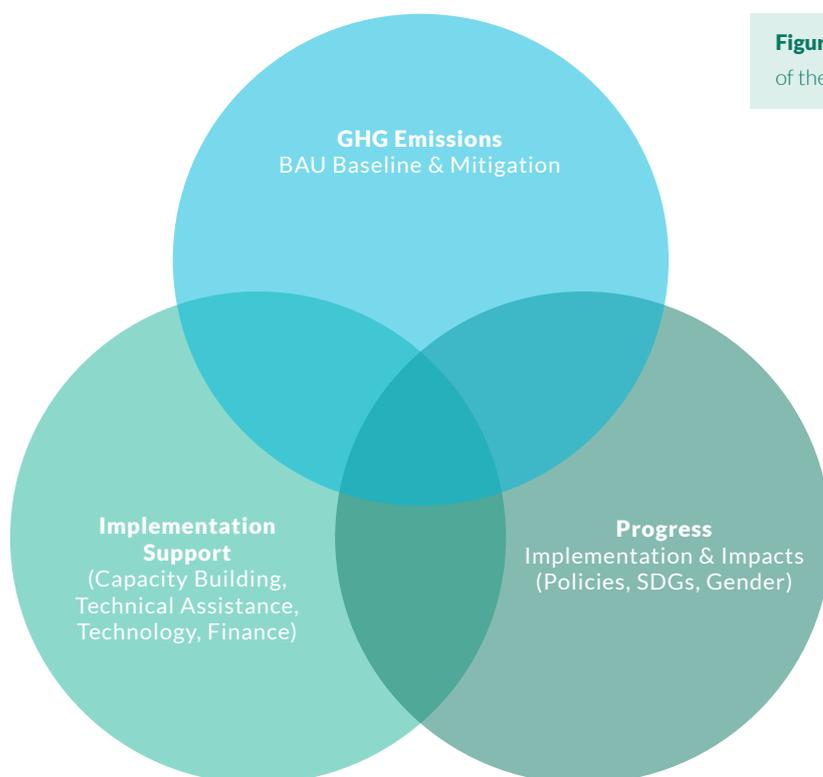


Figure 16 Three dimensions of the MRV system¹⁷

A robust MRV system will ensure transparency, accuracy, and comparability of GHG emissions data and other information. The system should:

- Strengthen and underpin national and sectoral GHG data quality
- Track progress and effectiveness of mitigation actions and policies
- Help identify downstream national and sectoral priorities

An outline of the general steps that can be taken to develop a robust MRV system is shown in Figure 17.

¹⁷ Adapted from: Ministry of Economy, Republic of Fiji, *Fiji NDC Implementation Roadmap 2017-2030* (2017). https://www.reinfofiji.com.fj/wp-content/uploads/2017/11/FIJI-NDC-IMPLEMENTATION-ROADMAP_LOWRES.pdf

A national-level MRV system will be highly complex, and most likely will require a top-level component that is linked to a parallel individual system for each sector. The MRV system for the NDC Roadmap will benefit from being aligned, and where possible integrated, with existing national data collection systems (e.g., under the bureau of statistics or the UNFCCC national communication process).

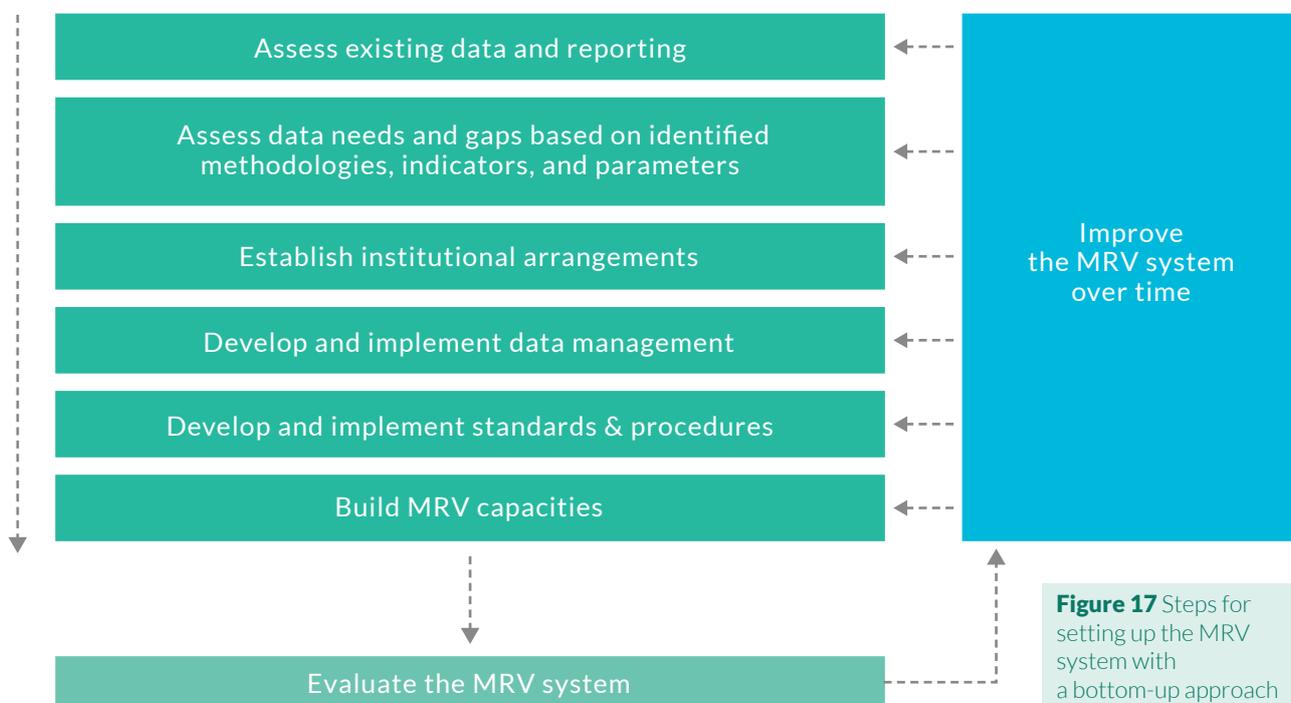


Figure 17 Steps for setting up the MRV system with a bottom-up approach

In addition to the mitigation actions, the MRV section under the NDC Roadmap can cover adaptation, if adaptation aspects have been included in the NDC goals. The NDC Roadmap can cover a review of existing MRV mechanisms that are in place to monitor the progress the country is making in the adaptation sphere. Based on the measures, aims, and objectives specified in the NDC, the NDC Roadmap can identify the additional support needed to enhance the MRV system for adaptation actions.

The NDC Roadmap section on MRV can also provide information on enabling mechanisms and other support (e.g., capacity building and technical assistance) that will be required to establish and execute the MRV system, as well track climate finance. It is important for the country to measure the incoming forms, means, and conditions of climate finance to correlate it to specific actions in the mitigation, adaptation, or capacity development spheres. This will further enable the country to measure and plan for additional resource requirements, as well as identify key areas that need support. The NDC Roadmap’s MRV section can also include details on how the country can enhance its existing climate finance MRV systems.

A robust MRV system can greatly assist in demonstrating the country’s ability to translate the resources it has committed and the support it is receiving into meaningful actions, to both national and international audiences.



RECOMMENDATIONS FOR SIDS

- ▶ Identify all implementing agencies and external entities that can provide the data needed for MRV in each sector, and involve them in designing the MRV system. Examples of such agencies include the customs authority, revenue/tax authority, and the bureau of statistics.
- ▶ Put in place a system to coordinate with high-level organizations, including ministries and divisions. Data needed for MRV is often routinely measured and monitored by ministries and divisions.
- ▶ Explore the various climate finance options available (e.g., the Capacity Building Initiative for Transparency, the Green Climate Fund, the Adaptation Fund), and link them to specific actions for setting-up and improving the MRV system.
- ▶ Find a balance between MRV transparency and effectiveness and MRV affordability and practicality. The requirements of an extensive MRV system may overburden the capabilities of various entities in SIDS. Standardized approaches and default values may be used in the MRV system to help alleviate this problem, where no better and reliable data is available and where it would be too expensive or impractical to collect it.
- ▶ Some useful data may also be found in online databases, such as the SPC Statistics Database for the Pacific.¹⁸

6.11 FINANCING THE NDC ROADMAP

In SIDS, a broad toolkit of financial instruments, incentives, and enabling mechanisms, as well as various capacity building, technical assistance, and technology transfer initiatives, will likely be required to implement the mitigation actions. The NDC Roadmap does not need to address every one of these, but it is expected that they will be further developed over time.

This section of the NDC Roadmap describes the overall financing needs for implementing the mitigation actions, and highlights identified potential financing instruments available. This can be based on the financial support needs identified in the fundamental analysis, and on the logical framework that includes the required enabling mechanisms for implementing the mitigation actions.

It may be useful to include in the NDC Roadmap the total financing needs separately for each sector over time, as depicted in Table 3.

¹⁸ <http://sdd.spc.int/en/resources/pacific-data-library>

Investment Needs (USD million)	Total	2020	2025	2030
Sector A	XXX	XXX	XXX	XXX
Sector B	XXX	XXX	XXX	XXX
Sub-Sector B1	XXX	XXX	XXX	XXX
Sector Investment Needs (USD)		XXX	XXX	XXX
Total Investment Needs (USD)				XXX

Table 3 Template for showing the estimated investment needs for NDC Roadmap implementation

This section on financing can also include an estimate of debt and equity needs based on an equity/debt ratio under normal conditions (e.g., 20-30% equity and 70-80% debt) and discusses whether different ratios are expected for different sectors with specific mitigation actions.

In addition, the section should include a description of financial instruments, incentives, and enabling mechanisms that are already in place in the country to support the sector(s) addressed by the NDC Roadmap. It is common for countries to have various tax incentives, direct and indirect subsidies, loan facilities, and small-grant programs that are relevant here.

The final step is to identify additional financial instruments, incentives, and enabling mechanisms that do not yet exist in the country, or are currently insufficient for the full-scale implementation of the NDC Roadmap. Some of these additional instruments can build on or be created in conjunction with existing programs. For example, the Green Climate Fund country programming process includes a listing of the country's project pipeline and financing needs that are aligned with NDC priorities. An example of a diagram showing existing (blue) and new (green) financing instruments is provided in Figure 18.

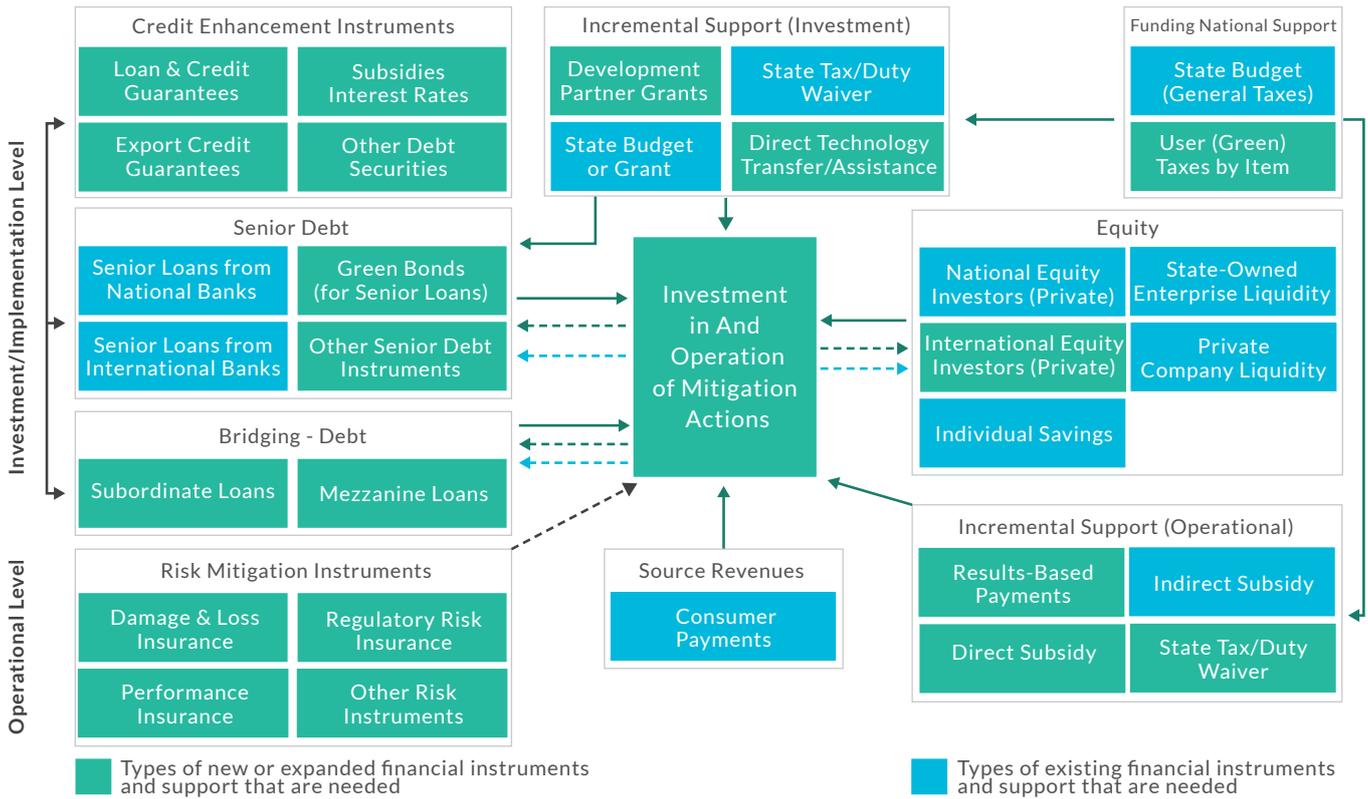


Figure 18 Financing instruments for NDC Roadmap implementation – example from Fiji¹⁹



¹⁹ Adapted from: Ministry of Economy, Republic of Fiji, Fiji NDC Implementation Roadmap 2017-2030 (2017). https://www.reinfofiji.com.fj/wp-content/uploads/2017/11/FIJI-NDC-IMPLEMENTATION-ROADMAP_LOWRES.pdf

RECOMMENDATIONS FOR SIDS

- ▶ Learn from SIDS that have successfully implemented financial instruments in different sectors. These successful practices can be expanded to increase sectoral impact and used to design instruments for other sectors. This same process can be used in a regional context to design and implement financial instruments for groups of SIDS. Examples include credit guarantees for private sector loans, currency risk instruments, disaster risk insurance, green bonds, and green taxation.
- ▶ Recognize the potential economic impact of new mitigation actions, especially in terms of affordability, and the incremental difference between the real cost of the actions and their affordability in terms of the public and economy.
- ▶ Note SIDS' advantages and disadvantages when it comes to funding opportunities for implementing NDC Roadmaps, as follows:
 - Advantages: SIDS-accessible funding opportunities are widely available (e.g., simplified approval process under the Green Climate Fund, and regional approach for a group of SIDS). Joint efforts and applications for several SIDS may be an option for funding (e.g., in the Pacific), as they face similar problems and have strong interrelationships. SIDS are recognized as highly vulnerable to climate change, which may in some cases increase the likelihood of funding (e.g., when linked to adaptation and climate resilience).
 - Disadvantages: SIDS may have limited resources to develop funding proposals and fulfill the prerequisites (e.g., preparatory work, feasibility studies, and data) of some climate funds or multilateral or bilateral partners. Due to lack of scale, SIDS projects often do not attract private financiers, but regional scale-up or programmatic approaches can help to bundle projects to address this issue.



7. STEP 5: VALIDATION AND FINALIZATION OF THE NDC IMPLEMENTATION ROADMAP

Once a draft NDC Roadmap is prepared, it should be shared with key stakeholders. Feedback on the document can be solicited by conducting one-on-one meetings or a validation workshop with the steering committee, or both. Wider stakeholder groups can also be consulted again at this stage for feedback. The feedback should focus on:

- Gaining final verification of input information used in the NDC Roadmap
- Receiving final comments and validation from key stakeholders on the results and conclusions reached in the draft NDC Roadmap (see below)
- Enabling final adjustments based on policy decisions

The feedback and inputs provided by key stakeholders should then be used to amend and adjust the information in the NDC Roadmap, and to prepare a final version of the document for approval by the government.

The validation meetings and/or workshop with the key stakeholders will strengthen the overall engagement process, and instill ownership. This ownership is essential to the successful implementation of the NDC Roadmap in the future.

The specific elements to address during the validation meetings or workshop include the following:

- Verify the information on the national background and context of climate change
- Verify the context of the country's NDC and its application in the NDC Roadmap
- Verify and reach consensus on the approach used to determine the emissions baseline of the NDC Roadmap
- Verify the context of the NDC and NDC Roadmap within the Paris Agreement
- Verify and reach consensus on the final goal and objectives of the NDC Roadmap
- Verify and reach consensus on the final scope of the NDC Roadmap (including sectors and sub-sectors)
- Verify alignment of the NDC Roadmap to national and sectoral policies, plans, and strategies
- Verify and receive feedback on whether the stakeholder engagement process used in NDC Roadmap development was sufficient (and identify areas for improvement if relevant)
- Verify and reach consensus on the implementation timeframe defined in the NDC Roadmap

- Verify and reach consensus on the mitigation actions included in each sector and sub-sector
- Verify and address any open information needs, accuracy concerns, or uncertainty issues for the mitigation actions included in each sector
- Verify and reach consensus on the identified capacity building and technical assistance needs of the mitigation actions (or sector-enabling actions) included in each sector
- Verify and reach consensus on the MRV system and processes to be followed
- Verify and reach consensus on the institutional roles and responsibilities for implementation of the NDC Roadmap
- Verify and reach consensus on financing needs of the NDC Roadmap



8. CONCLUSION

This guideline has described a general approach that any country can follow for developing an NDC Roadmap, along with specific considerations for SIDS. In particular, it has highlighted the importance of good governance structures around the development of the roadmap, continuous involvement of all stakeholders throughout the roadmap development process, and creation of specific outputs in order to inform all participants and gradually build the content that will be included in the final roadmap document. It is important to ensure clear documentation of the process used and decisions made, and to maintain strong engagement at the highest levels of government.

Because most SIDS do not have the resources to fully fund all mitigation actions needed to meet their NDC goals on their own, a key element to ensuring that an NDC Roadmap can be implemented successfully is to identify the financing needs required for each action, and for the overall roadmap. Likewise, it is crucial to include a plan for where this financing will come from. Another important part of the process is taking into account gender, social, and environmental considerations, identifying co-benefits and planning for the application of appropriate safeguards. Capacity building requirements must also be taken into account and built into the logical framework of the roadmap. After the roadmap is completed, countries should follow strong measuring and reporting procedures to ensure the mitigation actions listed in the roadmap are carried out as planned, and to update the document on a regular basis to ensure its validity and adaptability over time.

Taking the decision to develop an NDC Roadmap can bring a country numerous benefits. In addition to putting in place an important tool to assist the country in fulfilling its commitments under the Paris Agreement, having such a roadmap helps establish low carbon development plans in each target sector that will have co-benefits and can assist in meeting the SDGs. It can also help mobilize private and international financing for climate mitigation and adaptation projects.

In light of UNFCCC's recent special report "Global Warming of 1.5 °C"²⁰, it is increasingly crucial for all countries to be more aggressive in reducing their greenhouse gas emissions and to establish achievable pathways to meeting their emissions reductions goals without delay. SIDS in particular are especially vulnerable to the risks that climate change brings, and face potentially devastating consequences if the global temperature rise is not contained to below 1.5 degrees. The fact that many countries have already set targets for reducing their emissions is an important achievement, but there remains much work to be done. Unless these goals are actually met, they will do little to help abate the effects of climate change. For this reason, it is vital that countries continue this momentum by developing integrated, achievable roadmaps that clearly lay out the steps they will take to achieve their NDC commitments, and a financing plan to enable implementation of the planned actions.

²⁰Intergovernmental Panel on Climate Change, *Special Report: Global Warming of 1.5 °C* (2018) <https://www.ipcc.ch/report/sr15/>.

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