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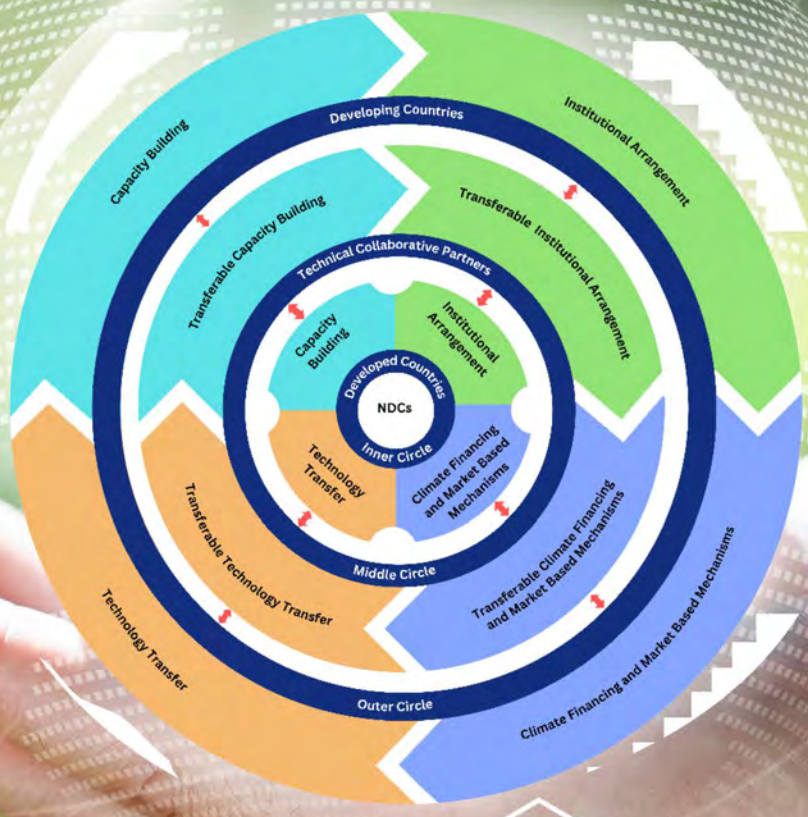

Framework for Assisting Developing Economies in Implementing Nationally Determined Contributions (FADE-IN)

Updates and recommendations from Africa, Asia and the Pacific Regions

This document, developed by Curtin University in collaboration with Durham University and the Asian Disaster Preparedness Center (ADPC), presents insights gathered from a series of national and regional dialogues on Nationally Determined Contributions (NDCs) in the Indo-Pacific, Africa, and the Middle East regions. Supported by the Australian Government through the Department of Foreign Affairs and Trade (DFAT) and the Department of Climate Change, Energy, the Environment and Water (DCCEEW) this initiative intends to assist developing countries to meet their Paris commitments through the development and implementation of NDCs.

Acknowledgements

We extend our sincere gratitude to all Country Representatives and Experts from Bangladesh, Cook Islands, Egypt, Federated States of Micronesia (FSM), Fiji, Indonesia, Kiribati, Malaysia, Nauru, Nepal, Nieu, Oman, Pakistan, Palau, PNG, Republic of Marshall Islands, Samoa, Solomon Islands, Sri Lanka, Thailand, Tonga, Tuvalu, Vanuatu and Vietnam for their invaluable participation and inputs. Special thanks to our colleagues at Curtin University, Durham University, and ADPC for their contributions to refining this report.

Disclaimer

The findings, interpretations, and conclusions expressed in this report do not necessarily represent the views of Curtin University, Durham University, or ADPC. The boundaries, colours, denominations, and other information depicted on maps do not imply any judgment concerning the legal status of any territory.

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Executive Summary

One of the key priorities of developed countries is to support developing countries to meet their Paris commitments through the development and implementation of Nationally Determined Contributions (NDCs). With the financial and technical support of the Australian Government's Department of Foreign Affairs and Trade (DFAT) and Department of Climate Change, Energy, the Environment and Water (DCCEEW), this initiative develops the **Framework for Assisting Developing Economies in Implementing NDCs (FADE-IN)** through a consultative approach aimed at providing targeted assistance to developing countries.

This report outlines the development process of the FADE-IN, its thematic priorities, engagement mechanism, implementation strategy, lessons learned and recommendations that will facilitate the NDCs in developing countries, especially in Africa, Asia, the Middle East and the Pacific region.

The FADE-IN is designed in line with developed countries' priorities under the United Nations Framework Convention on Climate Change (UNFCCC), including transparency of countries' commitments, market-based mechanisms and provision of support. FADE-IN is drafted and refined through a literature review, bilateral and multi-lateral policy analyses, and workshop consultations both at national and regional levels across 24 developing countries, encompassing diverse regions such as Africa, South and Southeast Asia, the Middle East and the Pacific. Key activities include:

- *Country-level workshops:* These were conducted in six selected countries by October 2022, with additional workshops held by June 2023. These workshops aimed to understand the current status of NDCs, identify market-based climate solutions and integrate these solutions into national economic planning.
- *Regional consultative meetings:* The first meeting was held in Bangkok by September 2022, focusing on sharing best practices and innovative solutions. The second meeting took place in Perth by October 2023, and further discussed market-based mechanisms and collaborative frameworks for NDC implementation.

These engagement activities facilitated comprehensive dialogues on developing the FADE-IN framework and allowed for the exchange of best practices and priorities among participating nations. Key outcomes of this initiative include:

- *Enhanced understanding:* The workshops and meetings provided a comprehensive understanding of the impact of climate change across various economic sectors in the participating countries.
- *Best practices and innovative solutions:* Identification and sharing of best practices for NDC implementation, including innovative market-based mechanisms, was achieved.
- *Strengthened collaboration:* Enhanced cooperation and knowledge exchange among stakeholders fostered a collaborative approach to climate action.
- *Development of FADE-IN:* The FADE-IN was developed with the intention of facilitating a comprehensive support mechanism providing valuable insights and actionable recommendations to assist developing countries in implementing their NDCs.

The report outlines several recommendations for meeting the Paris commitments:

- *Continuation of support and capacity building:* Ongoing technical and financial support is crucial for the sustained implementation of NDCs. Capacity-building initiatives should focus on enhancing local expertise in both administrative (e.g., institutional capacities) and technical (e.g., loss and damage assessment) skills.
- *Improvements to institutional arrangements:* Institutional development is required to mainstream NDCs through national legal frameworks and arrangements, and enhance policy coherence and coordination between ministries, departments and across diverse levels of governments and institutions.
- *Integration of climate financing and market-based mechanisms:* Encouraging the adoption of innovative market-based solutions can significantly aid in achieving NDC targets; estimating the cost of implementing NDCs with regard to climate adaptation and mitigation sectors; and strengthening national Climate Change Financing Frameworks to channel future climate financial flows and investments.
- *Facilitation of technology transfer:* Technology transfer should be encouraged in the areas of Greenhouse Gas Inventory, carbon pricing and market-based mechanisms.
- *Strengthening of monitoring and evaluation:* Developing robust monitoring and evaluation frameworks is important to track progress and ensure accountability. This includes strengthening and investing in monitoring, report and verification systems for proper monitoring and reporting of NDCs to the UNFCCC.
- *Enhancement of regional cooperation:* Promotion of regional platforms for knowledge sharing and collaboration is recommended to leverage collective expertise and resources.

Overall, the development of FADE-IN underscores the importance of collaborative efforts and strategic support in advancing global climate goals. The lessons learned and recommendations provided in this report can guide future initiatives aimed at mitigating climate change and enhancing resilience in developing countries.

Acronyms and Abbreviations

BTR	Biennial Transparency Report
BUR	Biennial Update Report
CCFF	Climate Change Financing Framework
CPEIR	Climate Public Expenditure Institutional Review
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DFAT	Department of Foreign Affairs and Trade
EV	Electric vehicle
FADE-IN	Framework for Assisting Developing Economies in Implementing NDCs
FSM	Federated States of Micronesia
GCF	Green Climate Fund
GHG	Greenhouse gas
IPCC	Intergovernmental Panel on Climate Change
LAPA	Local Adaptation Plans of Action
LEDS	Low-Emission Development Strategy
LT-LEDS	Long-Term Low-Emission Development Strategy
LULUCF	Land use, land use change, and forestry
MRV	Monitoring, reporting and verification
NAMA	Nationally Appropriate Mitigation Action
NAP	National Adaptation Plan
NDC	Nationally Determined Contribution
NEECA	National Energy Efficiency and Conservation Authority
PFM	Public Financial Management
PNG	Papua New Guinea
REDD+	Reducing Emissions from Deforestation and Forest Degradation
SDG	Sustainable Development Goal
UNFCCC	United Nations Framework Convention on Climate Change
VCM	Voluntary carbon market

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Team Leader
Curtin University and Durham University

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Chapter 1: Introduction

1.1 Background

The Paris Agreement is a global initiative whereby countries have pledged to reduce greenhouse gas (GHG) emissions and increase resilience to meet long-term temperature goals for our planet. In 2015, countries from around the world gathered at COP21 in Paris, France, to address the severe impacts of climate change. They committed to reducing overall GHG emissions worldwide and achieving carbon neutrality by mid-century.

As a legally binding international treaty, the Paris Agreement aims to limit global warming to well below 2°C—preferably to 1.5°C—compared with pre-industrial levels. It mandates economic and social transformation and operates on a five-year cycle of increasingly ambitious climate action. As part of the Part Agreement, 55 developed countries responsible for approximately 55% of the world's GHG emissions committed USD 100 billion in climate finance by 2020, with continued investment at this level until 2025.

Climate change is projected to impact large portions of the global population, especially the most vulnerable countries and communities (Smith *et al.*, 2001; United Nations Framework Convention on Climate Change [UNFCCC], 2001, 2015; Woetzel et al., 2020). The average global temperature during 2015–19 was the warmest of any equivalent period on record since 1880 (National Oceanic and Atmospheric Administration, 2019) and has been unequivocally attributed to human activity (Intergovernmental Panel on Climate Change [IPCC], 2021). Substantial cuts to current GHG emissions are required to limit further warming.

South and Southeast Asia are particularly vulnerable to climate change because of their rapid economic and population growth, which increases their susceptibility to climate shocks (Abeyta, 2010; Sarkar, 2018). South Asia, which hosts 33% of the world's poorest people, faces climate change issues related to its geography, economy and population patterns (Alam & Rabani, 2007; Asian Development Bank, 2010; Haque *et al.*, 2019; World Bank, 2017). Key risks for Asia include increased riverine, coastal and urban flooding, leading to widespread damage to infrastructure, livelihoods and settlements (medium confidence); increased risk of heat-related mortality (high confidence); and increased risk of drought-related water and food shortages causing malnutrition (high confidence) (Carabine *et al.*, 2014, p. 14).

In 2015, global representatives at COP21 adopted the Paris Agreement, which aims to keep the increase in global average temperature well below 2°C above pre-industrial levels, with efforts to limit the increase to 1.5°C (Paris Agreement, 2015, Article 2(1)). The Paris Agreement employs a 'bottom-up' approach, requiring countries to provide and implement Nationally Determined Contributions (NDCs) detailing their domestic mitigation measures (Paris Agreement, 2015, Article 4(2)). The long-term goals depend on a 'ratcheting up' of individual ambition over time, with countries required to submit updated NDCs to the UNFCCC.

NDCs can include quantifiable and non-quantifiable targets, strategies, plans, policies, measures and actions to mitigate and adapt to climate change. Targets can be unconditional or conditional, depending on international financing. The Paris Agreement requires each party's NDC to demonstrate progress beyond its previous NDC and reflect its highest possible ambition (Paris Agreement, 2015, Article 4(3)).

Developed countries such as Australia are required to support developing countries through financial resources, technology transfer and capacity-building actions to assist with mitigation and adaptation. This reflects the principle of common but differentiated responsibilities (Paris Agreement, 2015, Articles 9(1) and 11(3)). Developed countries have pledged to provide USD 100 billion of climate finance annually to support developing countries' climate objectives. While this finance mechanism initially focused on reducing emissions, there is now a growing emphasis on adaptation to climate change impacts.

Following the ratification of the Paris Agreement, 194 countries submitted their first intended NDCs and 143 have submitted updated or new NDCs (UNFCCC, 2021). Most updated NDCs strengthen the ambition to meet 2025 and 2030 targets; however, if fully implemented, current NDCs are estimated to lead to global warming of around 2.7°C above pre-industrial levels by the end of the century (UNFCCC, 2021). Current national policies, which often do not reflect NDC ambitions, are projected to result in warming of around 3.6°C unless swift action is taken (Stockwell *et al.*, 2021).

Despite this, the Sixth Assessment Report of the IPCC reveals that limiting global temperature rise to 1.5°C by the end of the century is still possible. This will require rapid, immediate and economy-wide GHG emissions reductions and the removal of substantial carbon from the atmosphere (IPCC, 2021). The most recent findings led 197 countries to adopt the Glasgow Climate Pact at COP26. This pact emphasises the importance of limiting warming to 1.5°C and encourages all countries to revisit, update and strengthen their 2030 targets to align with this goal. It also urges developed countries to scale up their provision of climate finance, technology transfer and capacity building for adaptation to support developing countries.

Project Objective

The objective of the project is to develop a framework for the Department of Foreign Affairs and Trade (DFAT) to support Australia's partner countries in meeting their Paris Agreement commitments through the development and implementation of NDCs. The framework is entitled the NDC Support Facility Framework.

Project Outcomes

The project aims to achieve the following three outcomes:

1. Understand the impact of climate change: Assess the impact of climate change across various economic sectors in 24 selected countries.
2. Integrate market-based climate solutions: Incorporate market-based climate change solutions (e.g., carbon pricing or cap-and-trade policies) into national economic development planning processes aligned with NDCs.
3. Establish a regional platform: Create a regional platform to transfer knowledge and share best practices for implementing Paris Agreement climate commitments.

Project Countries

The project encompasses 24 countries across multiple regions, each selected for its unique challenges and opportunities in implementing NDCs. In Africa, the focus is on Egypt, a country with a robust renewable energy agenda and integrated policy frameworks. South and Southeast Asia are represented by Bangladesh, Indonesia, Nepal, Malaysia, Pakistan, Sri Lanka, Thailand and Vietnam, where strategies range from community-based adaptation to renewable energy development and sustainable urban planning. The Middle East is represented by Oman, which is advancing through renewable energy projects. In the Pacific, the project spans Kiribati, Nauru, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu, Federated States of Micronesia (FSM), Fiji, Palau, Papua New Guinea (PNG), Cook Islands, Niue and the Republic of Marshall Islands, with a focus on climate-resilient infrastructure, renewable energy transition and ecosystem-based adaptation. These countries collectively aim to achieve enhanced climate resilience, sustainable development and significant reductions in GHG emissions, contributing to global efforts to address climate change.

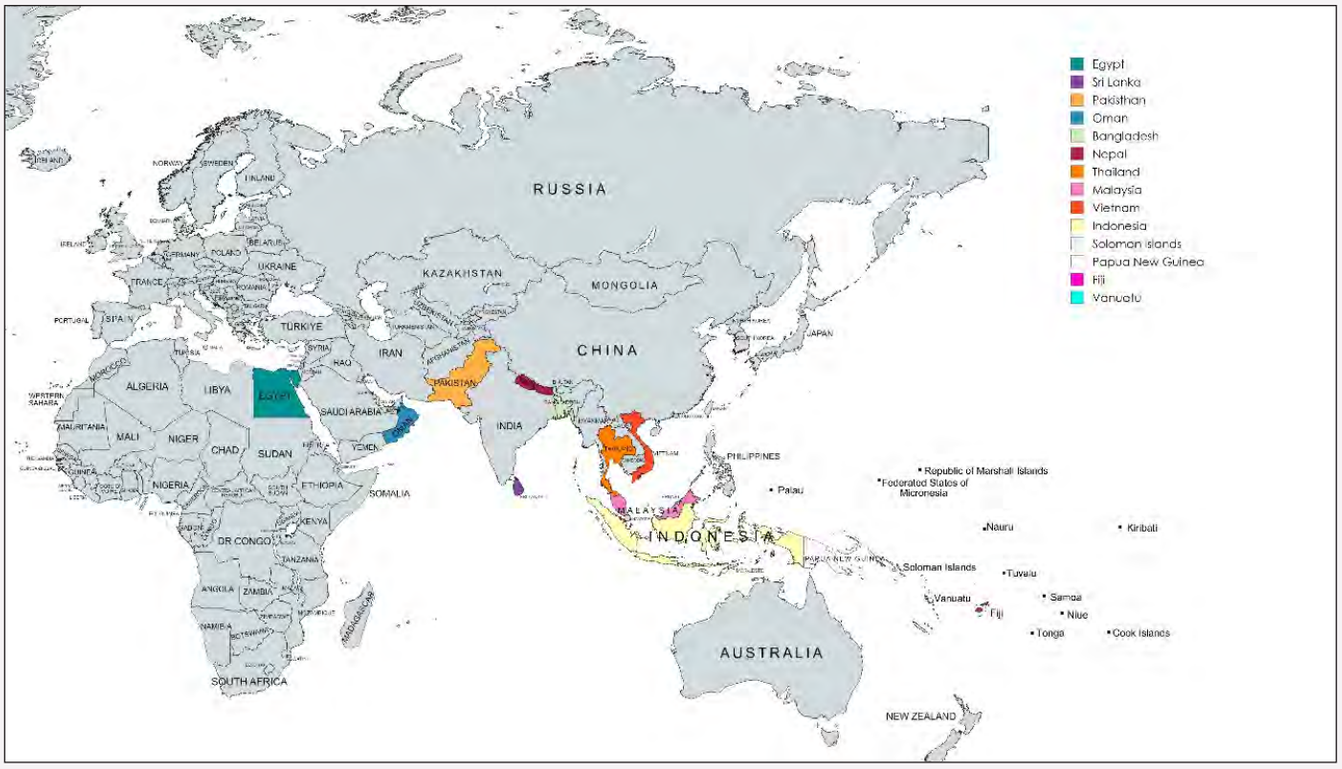


FIGURE 1:
PROJECT COUNTRIES

Project Milestones

The four key milestones for the project are:

1. Organise country-level workshops for each of the 24 selected countries.
2. Hold the first regional consultative meeting in Bangkok.
3. Collate data from 1 & 2 above and hold the second regional consultative meeting in Perth.
4. Finalise the DFAT's NDC Support Facility Framework.

Significance of the Project

The project will provide the Australian Government with a pathway to support developing countries in the Indo-Pacific region in effectively intensifying and implementing their NDCs and commitments under the Paris Agreement. This will lead to a reduction in global GHG emissions and increase the chances of limiting global warming to 1.5°C.

Additionally, the project will help the Australian Government fulfill its commitments under the Paris Agreement to support developing countries. It will also sustain Australia's interests in trade and investment opportunities with these Indo-Pacific countries by enhancing international cooperation and strengthening relationships.

Potential Benefits of the Project

The project will provide a range of benefits, including:

- enhancement of Australia's climate change action
- effective implementation of NDCs and Paris Agreement commitments by Indo-Pacific countries and Australia
- knowledge transfer and cooperation on best practices for implementing NDCs and Paris commitments
- reduction in GHG emissions
- mitigation of climate change vulnerabilities and increased adaptation to climate change impacts in Indo-Pacific countries
- reduction of climate change impacts on economic sectors in Indo-Pacific countries through market-based solutions
- strengthened relationships and partnerships between Indo-Pacific countries and Australia, increasing trade and investment opportunities
- protection of Australia's interests in trade and investment opportunities with Indo-Pacific countries.

1.2 About this Report

This report is dedicated to supporting countries in implementing their NDCs through funding and technical assistance from the Australian Government, specifically through the DFAT and the Department of Climate Change, Energy, the Environment and Water (DCCEEW), in collaboration with Curtin University, Australia. As part of this collaboration, several national and regional dialogues have been conducted.

This publication has been funded by the Australian Government through the DFAT. The views expressed within are the authors' alone and do not necessarily reflect the views of the Australian Government.

The focus countries (24) are Bangladesh, Cook Islands, Egypt, FSM, Fiji, Indonesia, Kiribati, Malaysia, Nauru, Nepal, Nieu, Oman, Pakistan, Palau, PNG, Republic of Marshall Islands, Samoa, Solomon Islands, Sri Lanka, Thailand, Tonga, Tuvalu, Vanuatu and Vietnam.

The participating countries requested additional support for NDC implementation. This document responds to these requests by addressing a number of priority topics included in the NDC Support Facility Framework: i) capacity building, ii) institutional arrangements, iii) climate financing and market-based mechanisms, and iv) technology transfer. It builds on previous experiences in implementing climate actions and captures key discussions from national and regional events. The document also draws on various knowledge resources, reflects the current implementation status and proposes options for implementing NDCs in the focus countries.

It is recognised that NDC implementation is inherently country driven, and this document provides an overview of critical issues in these focus countries while further strategising their NDC implementation. The document is not comprehensive in that some of the issues covered deserve more detailed guidance. However, it lays out a way forward for the focus countries and donors to continue supporting NDC implementation.

Chapter 2: Adopted Approach

Adopted Approach

The approach adopted for developing the NDC Support Facility Framework is characterised by a consultative, bottom-up methodology, integrating both national and regional levels of engagement. Use of this method ensured that the framework is shaped by the needs and insights of the participating countries, fostering a sense of ownership and collaboration.

National-level workshops: Ten national-level workshops were organised with representatives from the 23 countries. These workshops were pivotal in understanding the unique challenges and opportunities faced by each country in implementing their NDCs under the Paris Agreement. The 11 workshops were as follows:

- **Pacific Islands:** One workshop was held in Fiji covering 14 Pacific Island countries.
- **Other countries:** A workshop was conducted in each of Bangladesh, Egypt, Indonesia, Malaysia, Oman, Pakistan, Sri Lanka, Thailand, and Vietnam.

The participants at these workshops included stakeholders from governmental, non-governmental and academic sectors. The workshops featured presentations and group discussions aimed at:

- **Understanding the prevailing status of NDCs:** Assessing where each country stood in their journey towards meeting their Paris Agreement commitments.
- **Identifying innovative localised market-based climate change solutions:** Exploring solutions such as carbon pricing or cap-and-trade policies that could be tailored to local contexts.
- **Conducting training on estimating the impact of climate change across various economic sectors:** Enhancing the capacity of stakeholders to understand and quantify the effects of climate change on different sectors.
- **Selecting best practices for the implementation of NDCs:** Sharing successful strategies and approaches that could be adopted or adapted by other countries.

Following these workshops, Curtin University prepared a comprehensive report on the situation analysis of NDCs for Paris Commitments. The report chronicled the discussions, objectives and findings of the workshops and was submitted to the DFAT.

Regional consultative meetings: The regional consultative approach involved two major workshops:

- Bangkok Regional Consultative Meeting (May 2022)
- Perth Regional Consultative Meeting (October 2023)

The Bangkok Regional Consultative Meeting brought together representatives from eight Indo-Pacific countries. This meeting served as a regional platform for knowledge sharing and collaboration. The key activities included:

- **Presentations and facilitated group discussions:** These sessions aimed to identify commonalities and differences in achieving Paris commitments across the participating countries.
- **Discussion on innovative market-based climate change solutions:** Exploring new and effective market-based mechanisms for climate change mitigation.
- **Showcasing best practices for NDC implementation:** Highlighting successful strategies and practices from different countries.
- **Identifying data needs for understanding climate change impact:** Determining the data requirements for assessing the impacts of climate change.
- **Selecting methods for visualising climate change impacts across economic sectors:** Developing tools and methods to visualise and communicate the impacts of climate change effectively.

Curtin University facilitated the discussions and prepared a draft report summarising the key issues discussed. This report was intended to inform future discussions, reports and the NDC Support Facility Framework.

The Perth Regional Consultative Meeting marked the final stage of the project. Held on 18 and 19 October 2023, it gathered representatives from Indo-Pacific, Asian and Middle Eastern countries, as well as academic institutions and the Australian Government. The objectives were to summarise findings, share best practices and enhance regional cooperation. The key activities included:

- **Presentation of the key report:** 'Implementation of Nationally Determined Contributions (NDCs) in the Indo-Pacific, Asian, and Middle Eastern Countries'.
- **Individual country presentations:** Each country shared their experiences and progress.
- **Thematic discussions and presentations:** Focused on capacity building, technology transfer, climate finance and market-based mechanisms.
- **Field trips:** Visits to White Gum Valley, a self-sustainable community, and the Legacy Living Lab at Curtin University.
- **Networking sessions:** Facilitated interactions and exchanges among participants.

The outcomes achieved from the Perth meeting included:

- **A comprehensive understanding of the status of NDC implementation and climate change impacts:** Providing a clear picture of where each country stood and the challenges they faced.
- **Identification of best practices and innovative solutions:** Sharing successful strategies and new ideas to tackle climate change.
- **Enhanced cooperation and knowledge exchange:** Strengthening the network of stakeholders and fostering collaboration.
- **Recommendations for future collaboration and joint initiatives:** Laying out a roadmap for continued support and cooperation.

Framework Development

The insights and findings from both the national and regional workshops informed the development of the NDC Support Facility Framework. This framework, tailored to the needs of the participating countries, includes components such as:

- **Financial assistance:** Contributions to the Global Green Fund or provision of grants to support climate actions.
- **Capacity-building assistance:** Partnerships, education and training programmes to enhance local capacities.
- **Technological assistance:** Transfer of innovative clean energy technologies to help countries deliver their NDCs.

A key feature of the adopted approach was its bottom-up nature. Instead of directing countries on what to do, the project team listened to the needs and suggestions of the participating countries. This inclusive and participatory approach ensured that the framework was relevant and responsive to the actual needs of the countries involved.

The NDC Support Facility Framework, thus, emerged as a comprehensive and collaborative effort, aimed at supporting developing countries in the Indo-Pacific, Asian and Middle Eastern regions to effectively implement their NDCs under the Paris Agreement. This approach not only facilitated immediate actions but also established the foundations for long-term cooperation and climate resilience in the region. Figure 1 illustrates the journey that led to successful development of the framework.

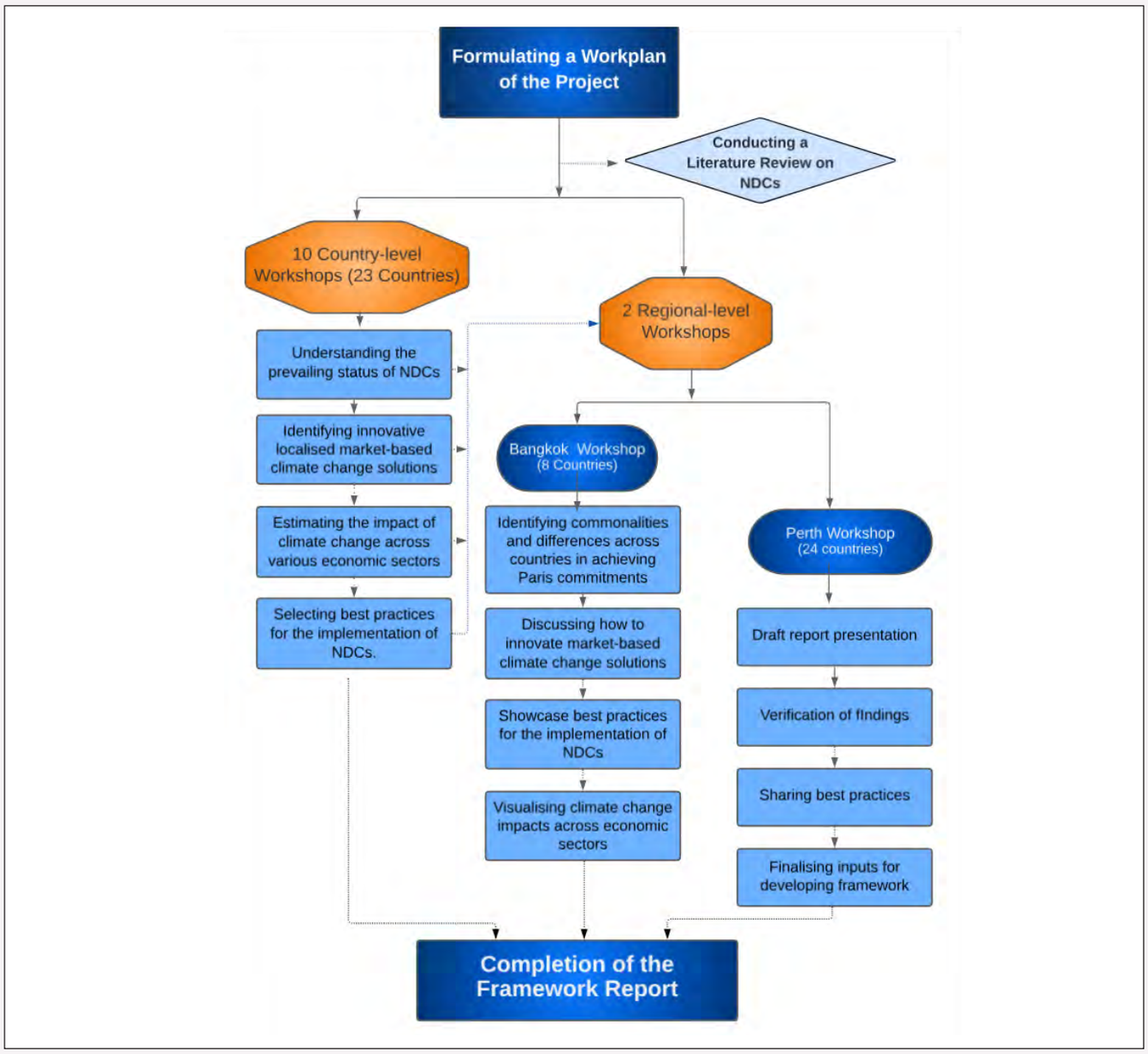


FIGURE 2:
OUR APPROACH

Chapter 3: Needs Analyses for NDCs

3.1 NDCs: Targets versus Implementations

Status of Decarbonisation and Policy Gaps

Fossil fuels (oil, coal and gas) remain dominant in the power generation sector of focus countries. The priority now is to accelerate low-emission economic development through renewable energy; transition to net-zero energy; transformation of transport and industrial systems into more sustainable modes of production; and adoption of sustainable land use and agricultural practices (Climate Transparency, 2022).

Since the adoption of the Paris Agreement and the release of the IPCC Special Report on Global Warming of 1.5°C, a growing number of countries has committed to net-zero emissions targets. Well-designed and ambitious net-zero targets can guide the implementation of Paris-aligned actions in the short and medium term, setting countries on track to achieve net-zero CO_2 and GHG emissions globally by 2050 (Net Zero Tracker, 2022). These targets not only cover 90% of the global economy but are also integrated into governments' economic development plans; corporate strategies; investors' portfolio targets; public-sector roadmaps; and the manifestos of regional governments and city councils.

COP27, known as the 'implementation COP', highlights the robustness of existing pledges and pressures cities, regions and companies that have yet to align with net-zero targets. Despite the proliferation of standard-setting and accountability mechanisms, many entities have yet to align their net-zero commitments with robust criteria.

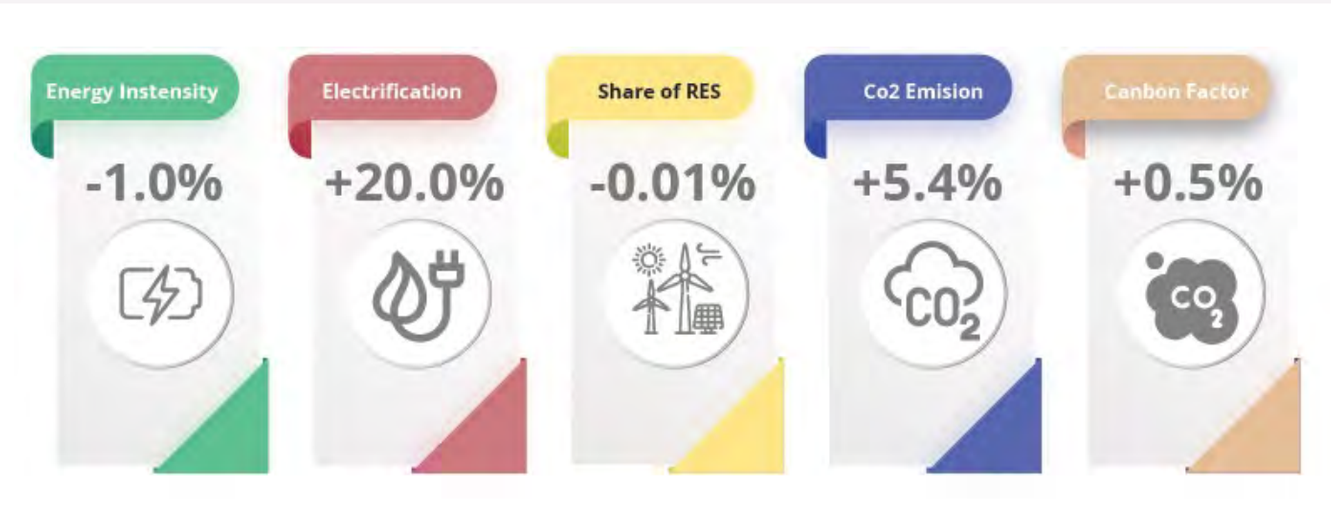


FIGURE 3:
WORLD DECARBONISATION INDICES IN 2021
Source: Adapted from Net Zero Tracker

Regarding carbon neutrality pledges, it was observed that some countries are in the policy document phase, others are in the declaration pledge phase, some are still proposing a date and others have not yet set any targets.

Challenges: Policy Gaps

While most developing and focal countries in this report have demonstrated the ability to formulate policies, they often lack records of successful implementation. To increase the credibility of their positions in the international climate community and achieve their ambitious pledges, these countries' governments need to develop robust implementation and monitoring mechanisms. This includes clearly defining the roles and responsibilities of different stakeholders and ensuring efficient coordination between state and non-state actors. Additionally, it is crucial to collaborate with universities to track NDC progress and enhance the capacities of relevant national stakeholders through research and development (Climate Transparency, 2022).

FIGURE 4:
STATUS OF CARBON NEUTRALITY PLEDGE OF FOCUS COUNTRIES

3.2 Addressing the Impact of Climate Change: An Appraisal of NDCs

This section provides an overview of the NDCs in each country, their implementation status, and an analysis of the differences between countries. It highlights the key priorities for each country to meet targets in both mitigation and adaptation sectors. Additionally, it emphasises the need to align climate and development priorities, focusing on national policy coherence, capacity building and country-specific plans and strategies.

One of the main pillars of the Paris Agreement is ensuring that financial flows are adequate and consistent to support developing countries in reaching their NDC targets. This section also aids in understanding each country's Climate Change Financing Framework (CCFF); how NDC costing is formulated; the robustness of the Climate Public Expenditure Institutional Review (CPEIR) and Public Financial Management (PFM) systems; and the sources of climate finance. These are key to developing a strong pipeline of bankable projects to unlock public and private climate finance in these countries.

Considerations for Developing Countries' NDCs

As shown in figure 4, all the selected 24 countries have submitted their first NDCs and targets. With the exception of a small number of Pacific countries, all since submitted new or updated NDCs in or after 2020. Of the project countries, all but Tonga, Pakistan, Samoa and Vanuatu have committed to unconditional quantifiable mitigation targets. All Indo-Pacific countries have committed to conditional quantifiable mitigation targets, most of which rely on international support in the form of technology transfer, capacity building and financial aid. The detailed salient features of the selected countries and regions are reported in Appendix 2 and Appendix 3. A brief summary is provided below.

Mitigation: The focus countries make various types of mitigation contribution, including GHG reductions, non-GHG policies and specific actions.

Targets: The types of target vary and may include base-year emissions, baseline scenario targets, intensity targets, trajectory targets or non-GHG targets such as renewable energy and forestry targets.

Conditionality: Almost all countries include conditionality in their NDCs (e.g., conditional upon international support), with some specifying which parts of their NDCs are conditional.

Greenhouse gas: The types of target also vary and may include base-year emissions, baseline scenario targets, intensity targets, trajectory targets, or non-GHG targets such as renewable energy and forestry targets.

Sectoral coverage: The energy; industrial processes and product use; agriculture; land use, land use change and forestry (LULUCF); and waste sectors are covered by the NDCs of all focus countries. However, some countries' NDCs do not consider LULUCF.

Inclusion of adaptation: Of the nine focus countries, eight have made commitments to adaptation, ranging from broad visions and goals to specific measures in various sectors.

Gender: The enhanced Gender Action Plan of the UNFCCC recommends advancing gender-responsive approaches in all climate actions. In line with the Paris Agreement, all countries consider and promote gender equality, women's empowerment and intergenerational equality in the planning and implementation of NDCs. Further, they consider appropriate mechanisms for vulnerable groups (children and elders) in the mainstreaming of climate actions (NDCs).

NDC Submissions

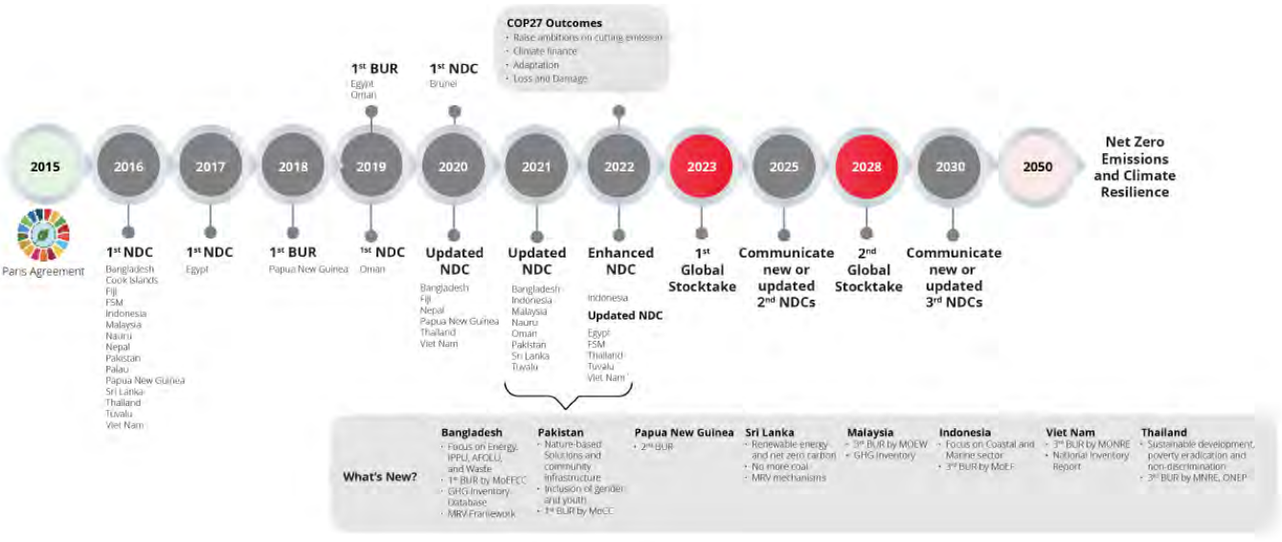


FIGURE 5:
NDC SUBMISSIONS

NDC Readiness Related to Policies and Strategies

Bangladesh

National-level readiness:

- Natural gas is considered a bridge fuel to help meet energy demands, but it is inadequate on its own to meet the goals of the Paris Agreement
- Energy transition planning needs to be more inclusive and investments in renewable energy needed
- NDC targets on adaptation not clear
- Emission reductions in transport sector (heavy duty vehicles) and building sectors need to be addressed

Monitoring, report, and verification (MRV) system:

- Initiated 1st Biennial Update Report (BUR)
- Requires immediate actions on MRV system development

Policies:

- National Policy on Climate Change
- Renewable Energy Policy

Key plans and strategies:

- NDC roadmap & long-term strategy, policy coherence
- Formulate National Adaptation Plan (NAP)
- Energy transformation
- Bangladesh Climate Change Strategy and Action Plan
- Country Investment Plan for Environment, Forestry and Climate Change

Egypt

National-level readiness:

- Targets and plans integrated into national strategies
- Several energy transition and efficiency projects initiated
- Interconnectivity of global agreements and local plans recognised

MRV system:

- Submitted 1st BUR in 2019
- Preparing fourth national communication to be submitted in 2024

Policies:

- Sustainable Development Strategy: Egypt's Vision 2030
- Long-Term Low-Emission Development Strategy 2050 (LT-LEDS)
- National Climate Change Strategy 2050
- National Water Resources Plan (2017–2037)

Key plans and strategies:

- Launched its first Sovereign Green Bonds
- Imposing the submission of Environmental, Social and Governance standard report on non-banking companies
- Sustainable agriculture and resilient food security

Indonesia

National-level readiness:

- Complex governance; mixed signals on net-zero targets
- Government policies do not support international commitments
- Current policies not aligned with net zero palm oil industry
- No formal strategy or body for economy-wide transition

MRV system:

- Submitted 3rd BUR in 2021
- Integrated National Transparency framework by National Registry System, National GHGs
- Inventory system, MRV system, SIS-REDD+ (Safeguard Information System Reducing Emissions from Deforestation and Forest Degradation), information systems on vulnerability

Policies:

- National Policy and Strategy on Solid Waste Management
- Green Energy Policy
- Indonesia REDD+ Strategy 2021–2030
- Secondary carbon market
- Long-Term Strategy for Low-Carbon Climate Resilience

Key plans and strategies:

- National Mid-Term Development Plan (2024–2029)
- Long-Term Low-Emission Development Strategy 2050
- National Energy Plan
- General Plan for National Energy

Malaysia

National-level readiness:

- Not on track to meet its NDC target under current policies, with emissions expected to increase 29% from 2015 levels
- Several policies support renewable uptake, including a feed-in-tariff and the Green Technology Financing Scheme; however, the latest Generation Development Plan (2021–2039) anticipates that fossil fuels will dominate the power supply for the foreseeable future

MRV system:

- Submitted 3rd BUR in 2020
- No Monitory & Evaluation mechanism or framework established for adaptation
- Formulating LT-LEDS

Policies:

- National Policy on Climate Change
- Forestry Policy
- The National Biofuel Policy

Key plans and strategies:

- National Energy Efficiency Action Plan (2016–2025)
- Twelfth Malaysia Plan (2021–2025)
- Power Sector Development Plan (2020–2038)
- Green Technology Master Plan (2017–2030)
- Low-Carbon Cities Masterplan
- Low-Carbon Mobility Blueprint
- Water Sector Transformation 2040

Nepal

National-level readiness:

- Energy mix v. emissions needs to be addressed to meet net-zero targets
- Investment in electric vehicles (EVs) and infrastructure to meet NDC targets
- Reduction in imports of petroleum
- NDC targets v. implementation not realistic

MRV system:

- Preparing MRV framework
- Published long-term strategy for net-zero emissions in 2021

Policies:

- Climate Change Policy
- National Energy Subsidy Policy

- Hydropower Development Policy

Key plans and strategies:

- Long-term strategy for net-zero emissions
- Low-Carbon Development Strategy
- REDD+ National Strategy
- Biomass Energy Strategy
- National Urban Development Strategy
- Forestry Sector Strategy
- National Sustainable Transport Strategy
- Agriculture Development Strategy
- Climate Finance Strategy

Oman

National-level readiness:

- Targets and plans integrated into the National Strategy
- Database yet to be prepared
- Requires mobilisation of finance
- Requires a comprehensive monitoring framework and systems

MRV system:

- Submitted 1st BUR in 2019
- Submitted Voluntary National Review
- Integrated Oman Vision 2040 and the National Energy Strategy

Policies:

- 2040 Vision Policy
- 2030 Carbon Control Target Plan
- Oman has a national net-zero program office acting as a central coordination body between all sectors to monitor and update emission reduction progress

Key plans and strategies:

- Alignment between NDC goals and NAP
- Shifting to low-carbon economy
- Low-emission sustainable development
- Electricity from renewable sources
- Mobilising private and public climate finance
- Economic diversification and fiscal sustainability

Pakistan

National-level readiness:

- Enhancement of renewable energy sources and its policies
- Requires formulating Long-Term Strategy for climate actions
- Capacity building: GHG inventory capacities, early-warning and forecasting system, loss and damage

MRV system:

- Submitted 1st BUR in 2022
- Developed GHG MRV system and national MRV system web platform database
- Plan to submit 1st Biennial Transparency Report (BTR) and national inventory reports before December 2024

Policies:

- Climate Change Policy
- National Power Policy
- National Transport Policy
- National Electric Vehicle Policy
- Alternative and Renewable Energy Policy
- National Forest Policy

Key plans and strategies:

- Pakistan's Vision 2025
- National Energy Efficiency and Conservation Authority (NEECA) Draft Strategic Plan (2020–2023)
- Ecosystem Restoration Initiative (2019–2030)
- Protected Areas Initiative (2020–2023)
- REDD+ Payments for Ecosystem Services (2020–2049)
- Ten Billion Tree Tsunami Program (2019–2023)

Sri Lanka

National-level readiness

- Requires support for adaptation and reducing losses and damages from climate-induced disasters
- Low-carbon development and resilience building by the transfer of appropriate, cost-effective and modern technology
- Capacity building, institutional development and strengthening
- Networking, partnerships and web-based tools

MRV system:

- Establish sectoral MRV mechanisms
- Support mitigation, adaptation, and loss and damage sectors

Policies:

- National Climate Change Policy
- National Energy Policy
- National Environmental Policy

Key plans and strategies:

- Long-Term Electricity Generation Expansion Plan (2018–2037)
- Sri Lanka Disaster Management Plan (2018–2030)
- Low-Carbon Development Strategy (Draft)

Thailand

National-level readiness:

- Projected not to reach its targets under current policies
- Deliver more on mitigation policies to reach climate targets
- Delays in decarbonisation efforts
- Positives: Drafting Climate Change Act; National Energy Plan; GHG Emission Strategy

MRV system:

- Submitted 3rd BUR in 2020
- Formulated LT-LEDS in 2021
- Revised Long-Term Low Greenhouse Gas Emission Development Strategy in 2022

Policies:

- Climate Change Master Plan
- National EV Roadmap
- Vehicles Emissions Standards

Key plans and strategies:

- 5-year National Economic and Social Development Plan
- Power Development Plan (2018–2037)
- Alternative Energy Development Plan (2018–2037)
- Energy Efficiency Development Plan (2015–2036)
- Thailand's Climate Change Master Plan (2015–2050)
- Mid-century, Long-Term Low Greenhouse

Vietnam

National-level readiness:

- Policies for transition to a low-carbon economy need to be implemented
- Need to focus on emissions reductions
- No actions or ambition for decarbonisation

- Additional policies and international support required to meet emissions levels
- Challenges in implementing GHG inventory, MRV system, Nationally Appropriate Mitigation Actions (NAMAs), GHG reduction technologies, accessing international financial sources

MRV system:

- Submitted 3rd BUR
- Potential for MRV systems for GHG reduction at the national and sectoral levels
- Require actions on loss and damage sector

Policies:

- Environment Protection Law
- Law on Natural Disaster Prevention and Control
- Law on Economical and Efficient Use of Energy
- Active Response to Climate Change, Improvement of Natural Resource Management and Environmental Protection
- Vietnam Green Growth
- National Climate Change

Key plans and strategies:

- Vietnam's Renewable Energy Development Strategy to 2030, with Vision to 2050
- NAP
- National Energy Development Strategy to 2030, with Vision to 2045
- National Climate Change Strategy
- National Green Growth Action Plan for the Transport Sector (2016–2030)

The Pacific Island Countries

Pacific Island countries are lagging behind the Asian, African and Middle Eastern countries engaged in this project. Most of these countries have not submitted any BURs. With some exceptions, they do not have a functional MRV system. Of the Pacific Island countries, PNG is the most advanced in terms of national-level readiness, having submitted its BUR in 2022 and established an operational and robust MRV system. Despite these challenges, there are commonalities among the key plans and strategies across the Pacific Island countries, such as prioritising renewable energy, enhancing climate resilience and integrating climate change into national development plans.

National-level readiness: In general, the Pacific Island countries have shown varying degrees of progress in their NDC readiness. For example, the Cook Islands has submitted a NAMA but lacks a concrete plan and holistic methods for implementation. Loss and damage are not adequately factored into its policy and planning processes. Similarly, the FSM aligns its efforts with the Sustainable Development Goals (SDGs) but lacks a comprehensive MRV system and has not yet submitted a BUR. Fiji has made significant strides by committing to enacting comprehensive climate legislation, establishing an NDC implementation roadmap and launching a NAP. Gender responsiveness is also articulated in is National Climate Change Policy, indicating a more inclusive approach to climate action. Nauru has integrated climate action with its National Sustainable Development Strategy and is committed to building effective partnerships. However, like many other Pacific Island countries, it has not established an MRV system or submitted a BUR. PNG stands out as a relatively advanced country in the region, having mainstreamed climate change in its development priorities and adopted gender responsive and human rights-based approaches in planning and implementation. Although it requires more financial and technological support, PNG submitted its second BUR in 2022 and has an operational MRV system. Tuvalu has integrated climate change into its national planning and policies, committed to reducing reliance on fossil fuel imports and implemented a decarbonisation strategy. Despite these efforts, Tuvalu has not established an MRV system or submitted a BUR.

MRV systems: The MRV systems in the Pacific Island countries are generally underdeveloped. For instance, the Cook Islands and FSM have plans to submit their first BTRs and national inventory reports before December 2024, but no MRV systems are currently established. Fiji is making progress in developing its MRV system, but it has not yet been completed. Nauru and Tuvalu also lack established MRV systems and have not submitted BURs. PNG, however, has established a robust MRV system and submitted its second BUR in 2022, setting an example for other countries in the region.

Policies: Despite the challenges, Pacific Island countries have developed several key policies and strategies to address climate change. The Cook Islands have implemented the Joint National Disaster Risk Management and Climate Change Adaptation Plan and the Climate and Disaster Compatible Development Policy. FSM has enacted the Integrated Disaster Risk Management and Climate Change Policy (2013) and the Climate Change Act (2014). Fiji has introduced the Climate Change Bill and the Low Emissions Development Strategy (2018-2050). Nauru has passed the Environmental Management and Climate Change Bill and the National Biofuel Policy. PNG has outlined its vision in the PNG Vision 2050 and the Climate Compatible Development Management Policy, alongside the REDD+ Finance and Investment Plan. Tuvalu has developed the National Strategic Action Plan for Climate Change and Disaster Risk Management (2012-2016) and the National Climate Change Policy (2021-2030).

Key plans and strategies: Common themes in the key plans and strategies across the Pacific Island countries include a strong focus on renewable energy, enhancing climate resilience and integrating climate change into national development plans. For example, the Cook Islands prioritises renewable energy and low-carbon transport, while FSM focuses on increasing electricity access and climate-proofing transport modes. Fiji emphasises resilient public infrastructure and climate-resilient housing, and Nauru plans to construct a climate-resilient port facility and improve public health through climate education. PNG aims to integrate renewable energy into the national grid, reduce deforestation and increase forest area, while Tuvalu focuses on electricity from renewable energy sources and improving maritime infrastructure on outer islands.

The readiness of Pacific Island countries to implement their NDCs varies significantly. While countries like PNG are making notable progress with established MRV systems and comprehensive policies, many others are still in the early stages of development. Common strategies across the region highlight a commitment to renewable energy and climate resilience, but more work is

needed to establish robust MRV systems and submit the required BURs. Collaborative efforts and shared experiences will be crucial in advancing the region's overall readiness and effective implementation of NDCs.

Key Priorities

During national and regional dialogues, countries highlighted key priorities in both mitigation and adaptation sectors. The most prominent gaps identified were in capacity, technology and financial support—crucial elements for the successful implementation of NDCs. Given that the focus countries are all developing nations, it is important to note that most aim to balance their socio-economic development with their pathway to a low-carbon society.

National development plans and climate change policies are pivotal in reducing emissions. Identifying enabling policies and incentives for renewable energy, energy efficiency, green industry, transportation, infrastructure and waste management is considered essential for reducing GHG emissions and meeting NDC targets.

Most countries prioritised agriculture, livestock and fisheries as key sectors for climate mitigation and adaptation, while also ensuring food security. Additionally, the protection of forests, biodiversity, watershed areas, and vulnerable terrestrial and marine ecosystems are central priorities in the updated NDCs of the focus countries.

For climate change adaptation, the availability of reliable climate data at sub-national and provincial levels is crucial for identifying vulnerabilities and preventing climate-related disasters. Countries emphasised the need to strengthen capacities for monitoring climate change, accessing climate finance, increasing awareness, maintaining GHG inventories, and improving water security and wastewater treatment technologies to enhance resilience to climate change and response measures. In the updated NDCs of some countries, both short- and long-term adaptation priorities are outlined in strategies and plans based on prevailing climate change conditions.

Policy Coherence

The UNFCCC post-COP26 report mentioned that many Parties highlighted policy coherence and synergies between their mitigation measures and development priorities in their new NDC submissions. This improvement is evident when comparing new and updated NDC submissions to previous ones. The percentage of Parties emphasising policy coherence and synergies has increased from 50% to 69%.

Although most countries in the region have laws or legal provisions to support climate action, reviewing laws related to emissions reduction targets is essential. Countries have varied experience of integrating climate change into national development plans, and many are still lagging in their ability to monitor and verify emissions levels (United Nations Economic and Social Commission for Asia and the Pacific, 2020a).

In the South and Southeast Asia regions, several challenges hinder policy coherence, including inconsistent policies in national energy sectors, financial subsidies for fossil fuels, limited access to renewable energy sources, and technological capacity shortfalls. Addressing these issues requires multiple converging initiatives in the region. Figure 5 and Figure 6 highlight key laws and policies aimed at meeting climate targets and contributing to NDCs.

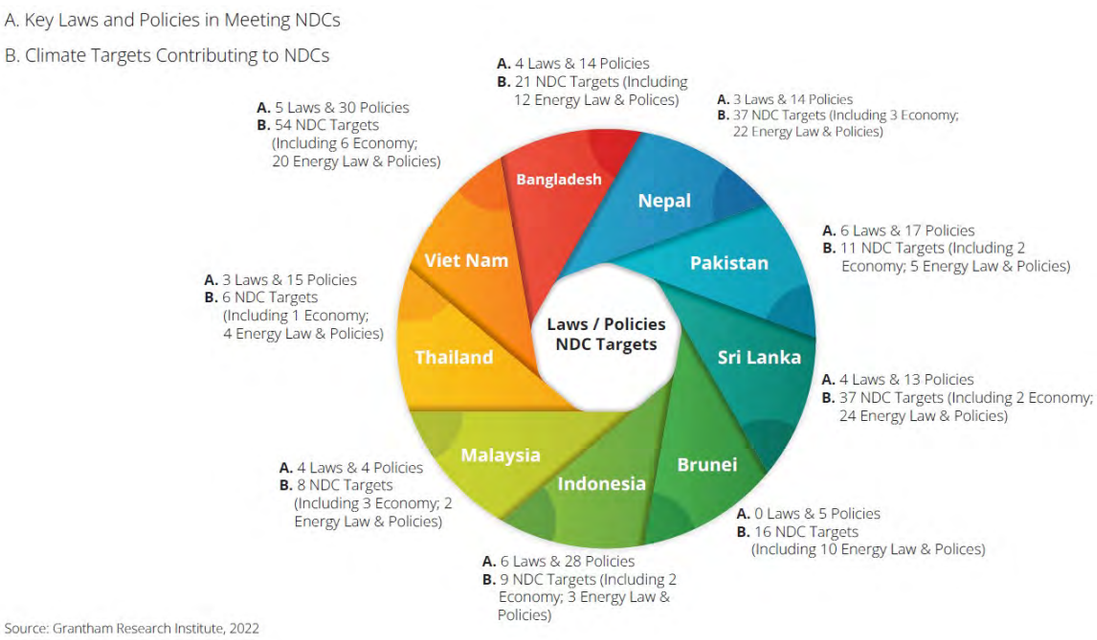


FIGURE 6:
LAWS/POLICIES AND NDC TARGETS OF COUNTRIES IN SOUTH AND SOUTHEAST ASIA

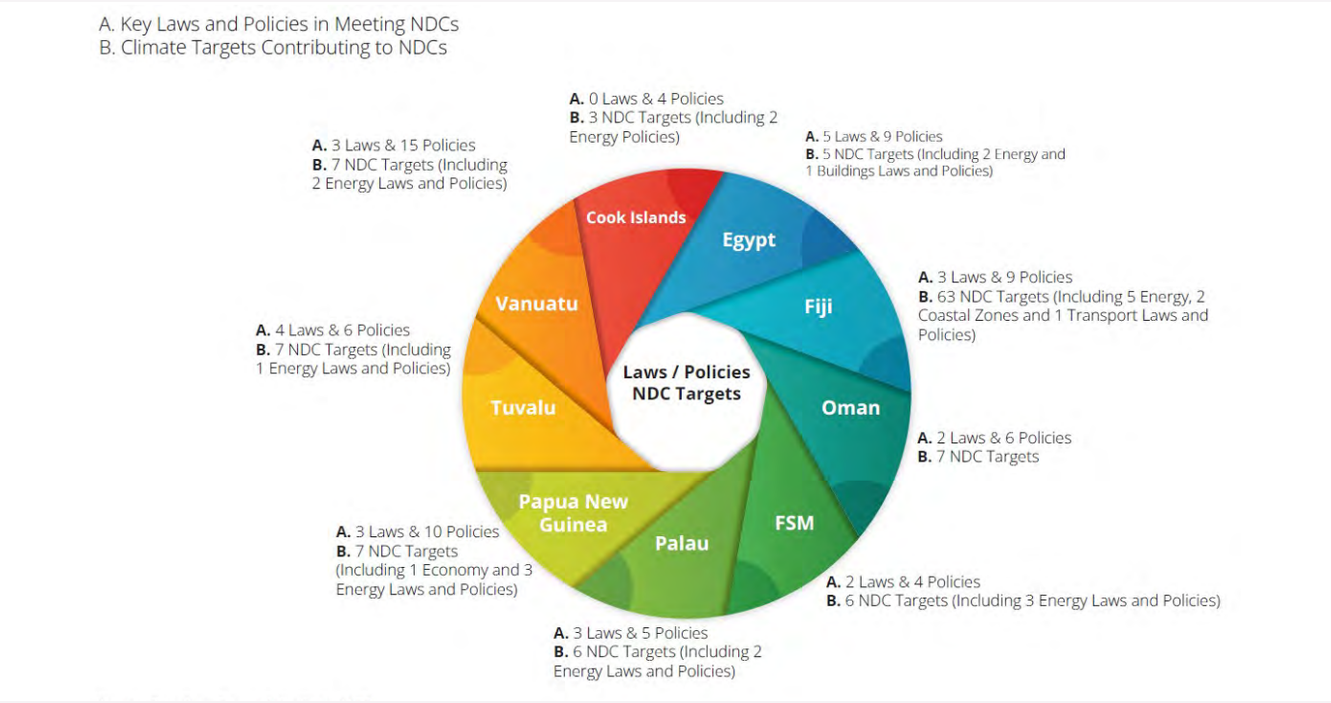


FIGURE 7:
LAWS/POLICIES AND NDC TARGETS OF COUNTRIES IN AFRICA, MIDDLE EAST AND PACIFIC ISLANDS

Capacity Building

All focus countries identified the need for and continue to build their capacities for successful NDC implementation when it comes to mitigation and adaptation targets. Capacity building within relevant organisations, line ministries, public and private sectors, and from national to local levels is crucial to successfully implement the NDCs. A series of national workshops and regional dialogues helped draw out the gaps and required support in the implementation of NDCs. These include capacity building for policy implementation, GHG inventory, MRV mechanism and financial proposal development.

Climate Financing

There is an urgent need to increase investment flows into developing countries and emerging markets to meet the NDC targets and Paris commitments. Although significant volumes of climate finance have been pledged by governments, these public and private funds are not being invested in projects as expected. The climate finance ecosystem is complex, and there is a shortage of quality climate projects that are financially, economically and technically feasible (CFI, 2021). Additionally, countries need to develop strong pipelines and bankable projects to unlock public and private funding earmarked for green climate initiatives. Stronger alignment with international frameworks and standards, such as the NDC, Sendai Framework and SDGs should encourage better access to climate finance.

The first step is to map the governance architectures of climate finance that are directly or indirectly aligned with NDC goals. Only a handful of countries has established sound national tracking and reporting systems. The CCFF is central to mainstreaming climate finance into planning and budgeting processes. The CCFF is a national document that identifies priority climate action-related activities and resource allocation processes, along with an improved PFM system for effective climate financing. It also formulates a robust climate finance strategy from both domestic and international sources.

Along with the CCFF, the CPEIR is a relevant database that showcases public, private, domestic and international climate finance flows to countries. The Paris Agreement highlights the importance of understanding financial flows, which requires transparent climate finance reporting. Effective NDC implementation and the achievement of the Paris Agreement goals depend on the mobilisation of climate finance.

The CCFF acts as a principal instrument to facilitate climate finance integration into national planning and budgeting processes. It enhances a government's capacity to mobilise, manage and channel climate projects and streamline investments by integrating national policies and strategies related to climate finance.

Chapter 4: A Framework for Developed Nations to Support Developing Countries' NDC Implementation

4.1 FADE-IN: The Framework

The **Framework for Assisting Developing Economies in Implementing NDCs (FADE-IN)** is developed through a consultative approach aimed at providing targeted assistance to developing countries involving extensive stakeholder engagement across various regions. FADE-IN is designed in line with developing countries' priorities and the UNFCCC, including transparency of countries' commitments, market-based mechanisms and provision of support.

FADE-IN is drafted and refined through a literature review; bilateral and multi-lateral policy analyses; and workshop consultations at both national and regional levels across 24 developing countries, encompassing diverse regions such as Africa, South and Southeast Asia, the Middle East and the Pacific. We also organised a regional workshop in each of Bangkok and Perth, bringing together representatives from selected countries. These workshops facilitated comprehensive dialogues on developing the FADE-IN framework and allowed for the exchange of best practices and priorities among participating nations. National and regional dialogues were instrumental in identifying the main priorities and needs of the focus countries, providing insights into the specific challenges and opportunities each country faces in implementing their NDCs.

4.2 Thematic Priorities

The FADE-IN identifies four thematic priorities for collaboration to meet the Paris commitments through facilitating effective implementation of NDCs (Figure 7):

1. **Capacity building:** Capacity building is the first thematic priority for FADE-IN implementation. It includes training programs, knowledge sharing and technical support to facilitate the NDC implementation process. It seeks to enhance the capacities of institutions and human resources at all levels, covering all aspects of climate change, particularly in formulating policy, mitigation and adaptation actions; implementing transparency and market-based mechanisms; and accessing climate finance.
2. **Institutional arrangements:** Enhancing institutional arrangements is the second thematic priority for FADE-IN. Improving organisational structures and processes is required for effective NDC implementation. This involves establishing clear roles and responsibilities, enhancing coordination among institutions, and ensuring effective governance within and across relevant stakeholders such as government organs, academia, non-government agencies, think tanks and civil societies.

3. **Climate financing and market-based mechanisms:** Mainstreaming climate financing and market-based mechanisms is the third thematic priority area for FADE-IN. In the context of Article 6 of the Paris Agreement, international market-based cooperation provides access to financial resources for addressing GHG emissions; sustainable development; and achieving NDCs and a LT-LEDS. Mobilising financial resources and leveraging market-based mechanisms are indispensable to implement FADE-IN. This includes developing innovative financing solutions, accessing climate funds and implementing carbon pricing mechanisms, among others.

4. **Technology transfer:** Facilitating the adoption and diffusion of climate technologies is the final priority for FADE-IN implementation. This involves supporting the transfer of innovative technologies, fostering research and development, and adapting technologies to local contexts. In general, the implementation of conditional targets relies on climate adaptation technology and mitigation-related technology transfer. International support for technology development (e.g., renewable energies, early warning systems and energy-efficient practices) and transfer to developing countries—especially for mitigating carbon emissions—is vital to fully implement climate commitments.

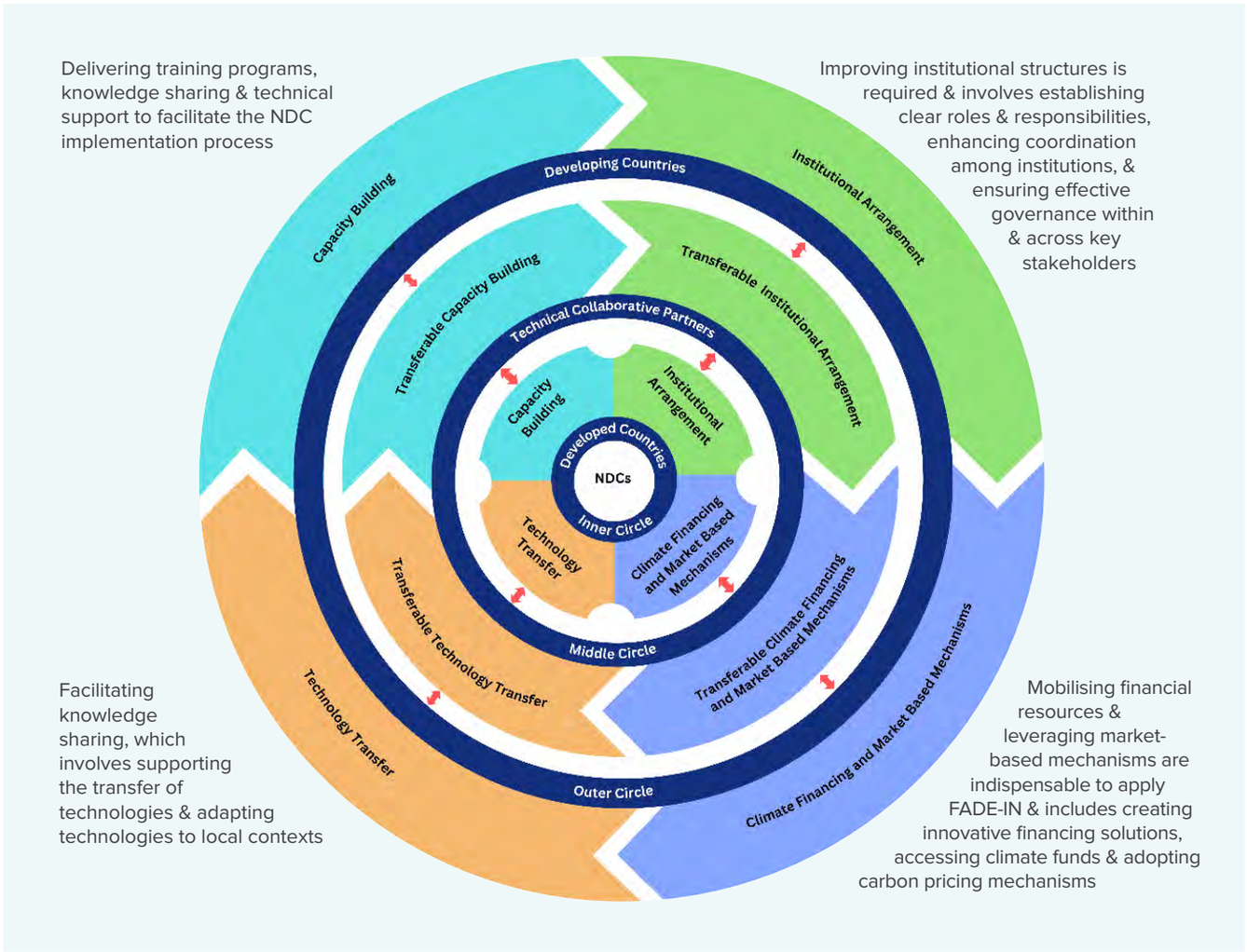


FIGURE 8:
FRAMEWORK FOR ASSISTING DEVELOPING ECONOMIES IN IMPLEMENTING NDCS (FADE-IN)

4.3 Engagement Mechanism

The engagement mechanism of FADE-IN involves three parties: developed countries (e.g., Australia), technical collaborative partners and developing countries (as shown in the inner, middle and outer circles in Figure 7, respectively).

1. **Developed countries:** Countries such as Australia play a pivotal role in providing support. For example, the Australian Government, through agencies like the DCCEEW and the DFAT, is committed to collaborating with developing countries to offer expertise and resources in the four thematic priority areas.
2. **Technical collaborative partners:** Universities, international organisations and other collaborative partners are instrumental in identifying and delivering support. They will act as a platform between developed and developing countries to assess and define their contributions in terms of capacity building, institutional support, climate financing and technology transfer. Their involvement in FADE-IN will not only support developing countries but also inform developed countries to implement their respective NDCs by identifying best practices, providing training programs, commissioning institutional supports, leveraging market-based instruments and facilitating knowledge sharing in both directions.
3. **Developing countries:** These countries are the primary recipients of support. They will engage with both developed countries and collaborative partners to implement the FADE-IN effectively. The focus will be on leveraging the assistance provided to enhance their NDC implementation efforts.

4.4 Implementation Strategy

The implementation of the FADE-IN framework involves six key steps:

1. **Identification of technical collaborative partners:** Developed countries will identify appropriate collaborative partners (e.g., Curtin-Durham-ADPC Consortium) that possess both technical expertise on thematic priority areas and logistical capabilities for FADE-IN interventions in developing countries.
2. **Assessment of needs:** Collaborative partners and developed countries will conduct comprehensive needs assessments to identify specific requirements and gaps in capacity building, institutional arrangements, finance and technology in developing countries.
3. **Identification of contributions:** Developed countries will collaborate with technical partners to determine specific contributions they can offer in each priority area. This may include financial resources, technical expertise, technology and any other transferable resources.
4. **Development of action plans:** Under the overall guidance of developed and developing countries, collaborative partners will develop detailed action plans. These plans will outline objectives, activities, timelines and responsible parties to address identified needs, gaps and targeted contributions. Stakeholder mapping will be conducted and key stakeholders—including government agencies, community organisations and private sector partners—will be engaged to foster a participatory approach. This ensures that the framework effectively addresses local needs and priorities in each priority area.
5. **Execution of support delivery:** Based on identified needs and contributions, collaborative partners will work directly with developing countries to provide targeted support. This may involve capacity-building workshops, technology transfer initiatives and financial assistance. Additionally, technical collaborative partners will inform developed countries by documenting best practices in developing countries, which may help enhance the implementation of NDCs in developed countries.
6. **Monitoring and evaluation:** A robust monitoring and evaluation system will be established to track progress, assess the impact of interventions and ensure accountability. This system will facilitate continuous improvement and adaptation of the framework based on feedback and changing circumstances.

These six implementation steps of FADE-IN aim to provide a structured and adaptive approach to support developing countries in their efforts to implement their NDCs effectively. Through collaborative efforts and targeted support, FADE-IN seeks to enable developing countries to achieve their climate goals while empowering developed countries to contribute meaningfully to global climate objectives.

Chapter 5: Lessons Learned

We have adopted a consultative approach to develop a framework for developed countries, such as Australia, to support developing nations in implementing their NDCs. Our documentation includes insights from Africa, South and Southeast Asia, the Middle East and Pacific regions. In table 2 below, we present the lessons learned by highlighting best practices in capacity building, technology transfer, climate finance and market-based mechanisms.

TABLE 1:
BEST PRACTICES IN ADDRESSING NDCS

Country	Best Practices
Bangladesh	**Capacity building** • Conducted extensive community-based training programmes, such as the Comprehensive Disaster Management Programme, which focuses on building resilience through local adaptation plans and participatory approaches. **Institutional arrangements** • Conducted thorough assessments to understand the impact of clean energy policies on sustainable development. • Implemented Local Adaptation Plans of Action (LAPA) that empower local communities, exemplified by the Bangladesh Climate Change Resilience Fund. **Climate financing and market-based mechanisms** • Leveraged international climate finance to support adaptation and mitigation efforts, particularly in coastal areas prone to flooding and sea-level rise. Further, it has issued green bonds to finance renewable energy and other climate-friendly projects. • While Bangladesh has not yet established a national market-based mechanism for reducing carbon emissions, various initiatives and pilot projects (e.g., voluntary carbon markets [VCMs], feed-in tariffs and other incentives) are paving the way for future developments in this area. **Technology transfer** • Technology transfer initiatives have included the introduction of climate-resilient crop varieties and solar irrigation systems, enhancing agricultural productivity and resilience. • Through microfinance programmes, Bangladesh has successfully distributed solar home systems to rural households, significantly enhancing energy access and reducing reliance on fossil fuels. • Introduced climate-resilient crop varieties and solar irrigation systems, supported by programmes like the Climate-Smart Agriculture initiative.
Egypt	**Capacity building** • Conducted extensive training programmes for government officials, established climate change units in various ministries and developed climate action plans that ensure coordinated efforts across sectors. • Conducted extensive training programmes for government officials through the Egyptian Environmental Affairs Agency and the establishment of climate change units across various ministries. **Institutional arrangements** • Developed comprehensive climate action plans, such as Egypt Vision 2030, ensuring coordinated efforts across sectors. **Climate financing and market-based mechanisms** • Secured climate finance to support large-scale renewable energy projects, such as Benban Solar Park, through funding from the Green Climate Fund (GCF) and other international sources. • Egypt's VCM, developed during 2022–2023, is set to open in 2024 once the Financial Regulatory Authority approves the trading rules issued by the Egyptian Stock Exchange and the settlement rules released by clearing house Taswyaat. **Technology transfer** • Adopted advanced irrigation technologies to improve water use efficiency in agriculture, supported by partnerships with international organisations.

TABLE 1: (continued)

BEST PRACTICES IN ADDRESSING NDCS

Country	Best Practices
Indonesia	**Capacity building** • Integration of climate change into national and local planning processes with comprehensive training for local governments, such as the Indonesia Climate Change Trust Fund. **Institutional arrangements** • Integrated climate change into national and local planning processes, supported by the National Action Plan on Climate Change Adaptation. • Enhanced coordination among institutions has been crucial for the successful development of a LEDS and NAMAs. • Development of low-carbon pathways towards sustainability, exemplified by the experience of Bogor City. **Climate finance and market-based mechanisms** • Implemented market-based mechanisms, such as carbon pricing and a hybrid 'cap-tax-and-trade' system, to incentivise emissions reductions and promote sustainable development. • Indonesia's robust public climate finance system has significantly contributed to the fight against climate change by supporting various mitigation and adaptation projects. • Implementation of a carbon pricing mechanism, exemplified by the Forest Carbon Partnership Facility to incentivise emissions reductions. **Technology transfer** • Indonesia's Forest Moratorium has played a key role in reducing deforestation rates and promoting sustainable forest management practices. • Implementation of large-scale solar and wind farms, like the Sidrap Wind Farm, through international partnerships.
Malaysia	**Capacity building** • Emphasis on capacity building in the private sector through initiatives like the Malaysian Green Technology Corporation (GreenTech Malaysia) to foster innovation and support the development of green technologies. **Institutional arrangements** • Integration of climate change considerations into national development strategies and sectoral policies, supported by the National Policy on Climate Change. **Climate financing and market-based mechanisms** • Attracted private investments in renewable energy through innovative financing mechanisms, such as green bonds and public–private partnerships. • Use of green bonds, such as the Sukuk Green Bond, and public–private partnerships to attract private investment in renewable energy. • Introduced a feed-in tariff system to promote renewable energy generation, attracting private investment and increasing the share of renewables in the energy mix. **Technology transfer** • Waste management technologies: Adoption of advanced waste management technologies, like the SMART Waste Management System, to reduce GHG emissions.
Nepal	**Capacity building** • Supported by the LAPA, Nepal's capacity-building programmes focus on improving community resilience through participatory approaches in climate adaptation planning, particularly in rural and mountainous areas prone to climate-induced disasters. **Institutional arrangements** • Utilised participatory approaches to engage communities in climate adaptation planning, exemplified by the Community-Based Flood and Glacial Lake Outburst Risk Reduction Project. **Climate financing and market-based mechanisms** • Established a framework, similar to the CCFF, to streamline access to international climate funds. Already accessed climate finance to support community-based adaptation projects, improving disaster resilience in vulnerable regions through funding from the GCF and other sources. • Explored market-based mechanisms to support its forestry and renewable energy sectors, promoting sustainable land use and clean energy development. **Technology transfer** • Benefited from technology transfer in renewable energy, particularly in the development of small-scale hydropower projects that provide clean energy to remote areas.

TABLE 1: (continued)

BEST PRACTICES IN ADDRESSING NDCS

Country	Best Practices
Oman	**Capacity building** • Built institutional capacity to integrate climate change considerations into its national development plans and policies, ensuring a sustainable approach to growth. **Institutional arrangements** • In line with Vision 2040, integrated climate change considerations into national development plans and policies, exemplified by the establishment of the National Committee for Climate Change. **Climate financing and market-based mechanisms** • Accessed climate finance to support renewable energy and water management projects, attracting investment by international financial institutions. • Explored carbon trading schemes to promote sustainable practices in its industrial sector, encouraging emissions reductions through market-based incentives. **Technology transfer** • Focused on enhancing its renewable energy capacity through collaborations with European countries, adopting advanced solar and wind technologies (e.g., the Dhofar Wind Power Project).
Pakistan	**Capacity building** • Held training sessions for government officials and policymakers on climate change mitigation and adaptation strategies, improving their capacity to manage and implement NDC-related actions. • Supported the development of national GHG inventories and emissions reporting systems to provide accurate data for NDC tracking and reporting. **Institutional arrangements** • Enhanced its institutional capacity by establishing dedicated climate change departments at both federal and provincial levels, ensuring a coordinated response to climate challenges, supported by the Pakistan Climate Change Act 2017. **Climate financing and market-based mechanisms** • Established a CCFF to streamline access to international climate funds, ensuring efficient allocation to high-impact projects. • Developed VCMs to support emissions reductions; for example the Pakistan Clean Development Mechanism. • Renewable energy solutions for Punjab's industrial sector, exemplified by the NAMA approach in Sialkot City. **Technology transfer** • Implemented energy-efficient technologies in the industrial sector, supported by initiatives such as the NEECA. • Renewable energy solutions for Punjab's industrial sector evaluated using the NAMA approach, promoting energy efficiency and emissions reductions. • The 1000 MW Quaid-e-Azam Solar Park in Pakistan stands as a testament to the successful implementation of large-scale solar projects.
Sri Lanka	**Capacity building** • Building capacity in the agricultural sector through training and extension services to help farmers adapt to climate conditions, supported by the Climate-Smart Agriculture Project. **Institutional arrangements** • Developed a robust climate policy framework, including the National Climate Change Policy, to guide national and local climate actions. **Climate financing and market-based mechanisms** • Implemented mechanisms to promote energy efficiency and renewable energy, such as the Sustainable Energy Authority's programmes. • Secured climate finance to support coastal protection and disaster risk reduction initiatives, leveraging funds from international donors and financial institutions. **Technology transfer** • Adopted advanced coastal protection technologies, such as the construction of seawalls and groynes, to enhance resilience. • Integrated urban agriculture and forestry into climate change action plans.

TABLE 1: (continued)

BEST PRACTICES IN ADDRESSING NDCS

Country	Best Practices
Thailand	**Capacity building** • Educational programs and workshops to increase awareness and capacity among policymakers, stakeholders and the public, supported by the Thailand Greenhouse Gas Management Organization. • Catalysing sustainable tourism in Chiang Mai showcases Thailand's efforts to integrate climate considerations into tourism development. **Institutional arrangements** • Used the Asia-Pacific Integrated Model for policymaking, promoting low-carbon growth and sustainable development. • Developed integrated climate strategies that align with national development goals, such as the Thailand Climate Change Master Plan 2015–2050. **Climate financing and market-based mechanisms** • Developed public–private partnerships to mobilise climate finance for sustainable development projects, encouraging private sector participation in climate action. • Developed a market to offset emissions and encourage low-carbon technologies, exemplified by the Thailand Voluntary Emission Reduction Program. **Technology transfer** • Developed and adopted smart agriculture technologies, such as precision farming and automated irrigation systems. • Pioneered renewable energy options, and integrated waste management and renewable energy planning. • Effectively integrated waste management and renewable energy planning, enhancing sustainability.
Vietnam	**Capacity building** • Strengthened capacity for climate change research and policy formulation through international cooperation, supported by the Vietnam Climate Innovation Center. • Training on loss and damage assessment due to the adverse effects of climate change. • Training on MRV to address the effectiveness, transparency and accountability of adaptation and mitigation strategies. **Institutional arrangements** • Established climate research centres, such as the Institute of Meteorology, Hydrology and Climate Change, to support evidence-based policymaking. • LULUCF in Vietnam plays a critical role in the country's efforts to manage GHG emissions and support its climate goals. **Climate financing and market-based mechanisms** • Set to establish its carbon market by 2025, • Introduced mechanisms to support renewable energy and emissions reduction targets, such as a feed-in tariff for solar power. **Technology transfer** • Implemented technology transfer projects in renewable energy, particularly in wind and solar power, through partnerships with developed countries. • Adopted advanced renewable energy technologies through partnerships, exemplified by the Vietnam Renewable Energy Development Project.

TABLE 1: (continued)

BEST PRACTICES IN ADDRESSING NDCS

Country	Best Practices
The Pacific Island countries	**Capacity building** • Prioritised capacity building in community-based adaptation, engaging local populations in resilience initiatives. These efforts include regional training workshops and knowledge exchange programmes, such as the Pacific Adaptation to Climate Change project, to enhance regional cooperation. **Institutional arrangements** • Strengthened regional coordination through the Secretariat of the Pacific Community for climate action through frameworks like the Framework for Resilient Development in the Pacific. **Climate financing and market-based mechanisms** • Enhanced access to international climate finance through initiatives like the GCF to support climate resilience projects. • Implemented ambitious targets for 100% renewable energy to enhance energy security and reduce emissions. • Focused on market-based mechanisms to support climate resilience efforts, including carbon offset projects that promote reforestation, conservation and sustainable land use practices. **Technology transfer** • Benefited from technology transfer in areas such as renewable energy (solar and wind power), water management (desalination technology) and disaster risk management. These technologies have been crucial in enhancing the resilience of these vulnerable islands to climate change impacts.

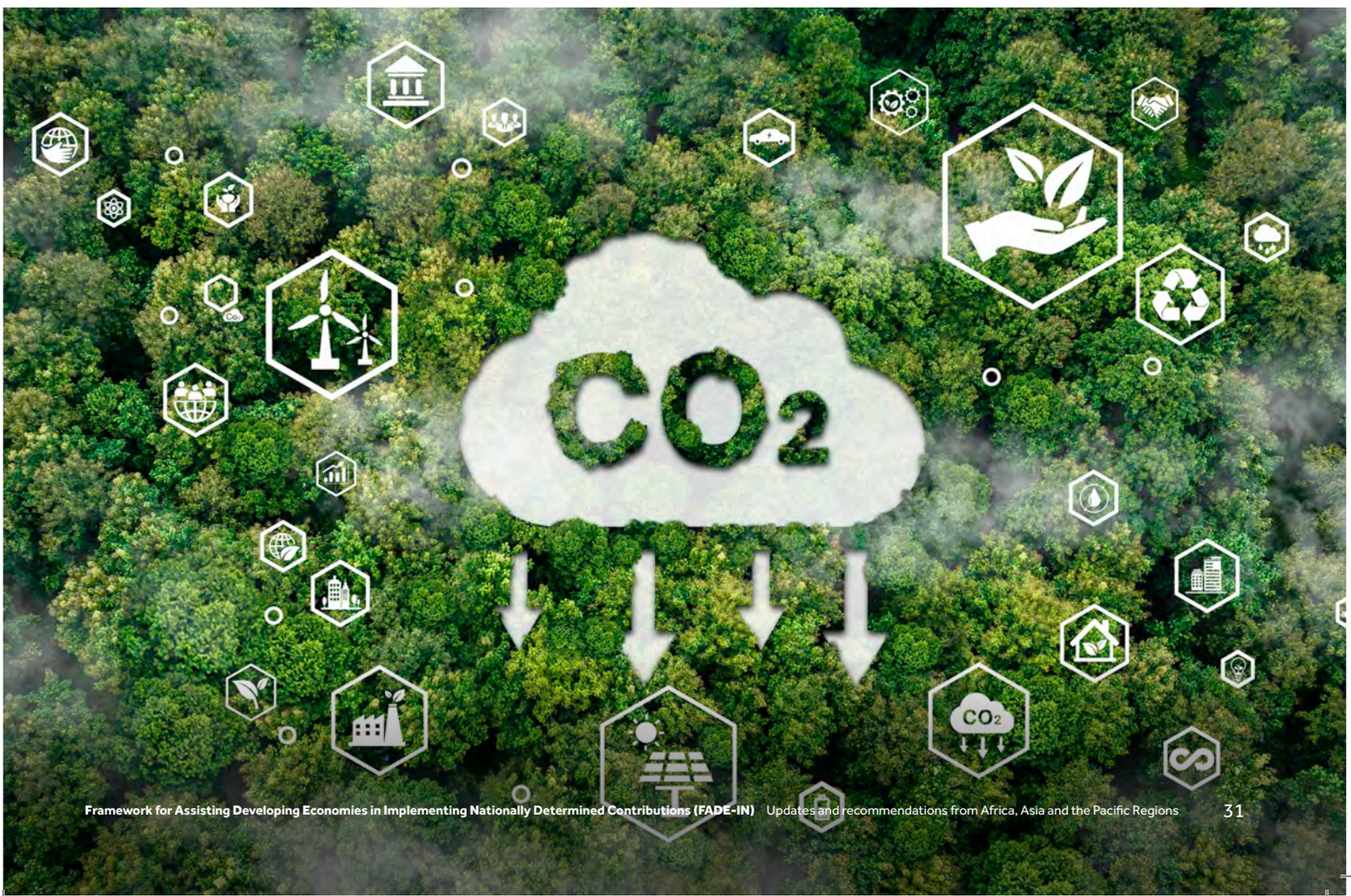
The lessons learned from these countries provide valuable insights into the effective implementation of NDCs. By leveraging capacity building, institutional arrangements, climate financing, market-based mechanisms and technology transfer, these countries demonstrate valuable models for achieving NDC targets and enhancing climate resilience.

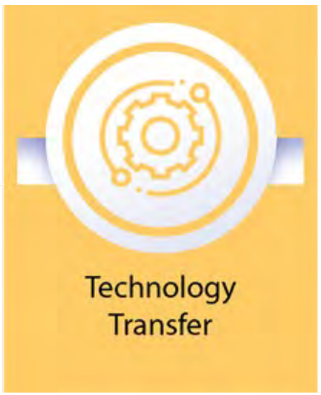
Chapter 6: Recommendations

This document outlines key enablers for setting up a practical FADE-IN mechanism to assess and evaluate focus countries' readiness (institutional and governance) to achieve climate policies and targets as per the Paris Agreement and Glasgow Pact. The facility framework now proposes a common basis on which to compare climate actions as well as identify gaps and opportunities for improving and developing updated NDCs. The outcomes of this framework aim to support national institutions, build capacities, increase awareness and attract climate financing to meet each country's net-zero targets. Implementing the FADE-IN will involve sharing key elements of this review through a regional knowledge sharing platform and validating current gaps in NDC implementation from a country perspective.

6.1 Key Takeaways

- **Continued support and capacity building:** Ongoing technical and financial support is crucial for the sustained implementation of NDCs. Capacity-building initiatives should focus on enhancing local expertise in both administrative (e.g., institutional capacities) and technical (e.g., loss and damage assessment) skills.
- **Improving institutional arrangements:** Strengthening institutional development to mainstream NDCs through national legal frameworks and arrangements; enhancing policy coherence and coordination between ministries, departments and across diverse levels of governments and institutions.
- **Integration of climate financing and market-based mechanisms:** Encouraging the adoption of innovative market-based solutions can significantly aid in achieving NDC targets; estimating the cost of implementing NDCs with regard to climate adaptation and mitigation sectors; and strengthening national CCFFs to channelise future climate financial flows and investments.
- **Facilitating technology transfers:** Encouraging technology transfers in GHG inventory, carbon pricing and market-based mechanisms.
- **Strengthened monitoring and evaluation:** Developing robust monitoring and evaluation frameworks to track progress and ensure accountability. This includes strengthening and investing in MRV systems for proper monitoring and reporting of NDCs to UNFCCC.
- **Enhanced regional cooperation:** Promoting regional platforms for knowledge sharing and collaboration to leverage collective expertise and resources.





Bangladesh

- Develop MRV system process and individual and technical capacity building for preparing GHG inventory
- Establish and incentivise collaborating carbon research facilities including economists and climate scientists

- Formulate policies and regulations to address NDC commitments and targets
- Improve coordination between various ministries of the government for monitoring, tracking, reporting and ownership

- Mobilise domestic public and private sectors and external funding sources for emission reduction projects
- Incentivise market-based and non-market-based mechanisms and market research

- Plan natural gas distribution and promote low-carbon technologies for phasing out of non-renewable energy
- Scale up renewable energy including solar power and hydrogen fuel

Egypt

- Initiate specialised training programs for carbon research, data collection, analysis and reporting
- Promote understanding of climate change and proactive engagement of various national and sub-national level stakeholders

- Integrate climate change and sustainable development issues into national policy framework
- Plan strategic cooperation with national-level government and non-government stakeholders

- Identify primary obstacles to securing consistent internal and external financial support to scale up projects and initiatives
- Establish collaborating market research facilities and facilitate networking between industry stakeholders and donor agencies

- Increase awareness about economic and environmental sustainability of innovative low-carbon technologies
- Promote the adoption of innovations that avoid production of non-recyclable hazardous waste

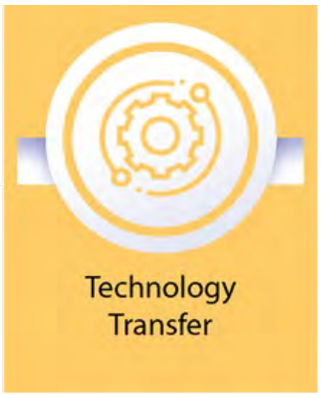
Indonesia

- Ensure robust MRV
- Integrate local knowledge and traditions in climate adaptation with evidence-based research

- Ensure policy alignment and integrate NDCs into national priorities and public programmes
- Prioritise renewable energy projects in national programs

- Improve internal and external partnerships and encourage blended finance from public-private partnerships
- Scale up mitigation and adaptation solutions

- Identify sectors that need to prioritise low-carbon technology adoption
- Facilitate cost-effective new technology with social and environmental co-benefits



Malaysia

- Establish mechanisms to ensure correct data collection and robust monitoring
- Support climatologists to downscale climate change impacts from global to regional scales

- Improve policy coherence and ownership at national level as a priority
- Translate federal targets to local levels

- Encourage financial instruments from private and public partnerships and use VCM approaches
- Focus on green investments to receive global climate change facility funding

- Scale up solar energy network
- Encourage the use of EVs

Oman

- Plan and implement MRV processes and establish mechanisms of data collection
- Build capacity to perform risk assessments of vulnerable sectors and evaluate them on a vulnerability scale

- Formulate clear and targeted sector-wise policies aligned with NDC commitments
- Build consistent cooperation platforms between academia, industry, government and non-profits to develop innovative technologies

- Foster domestic and international partnerships prioritising emission reduction projects
- Facilitate market and technological research to explore viable and competitive market and non-market-based mechanisms

- Initiate and promote pilot and scale-up carbon capturing projects for various targeted sectors
- Formulate socially inclusive and need-based low-carbon technology planning and encourage community engagement in such planning

Pakistan

- Establish MRV systems to update GHG inventories and build individual and technical capacities to streamline and standardise data
- Generate awareness programmes for various levels of stakeholder

- Align national NDC policy formulation with international frameworks
- Establish a national steering mechanism to involve civil society in stocktaking and climate change discourse

- Channel sector-specific emission reduction projects in coordination with various government ministries
- Identify potential private sectors and external sources and explore their green financing opportunities

- Identify sector-wise need to phase in renewable energy/ low-carbon technology
- Foster civil society engagement in planning and implementation of renewable energy project planning

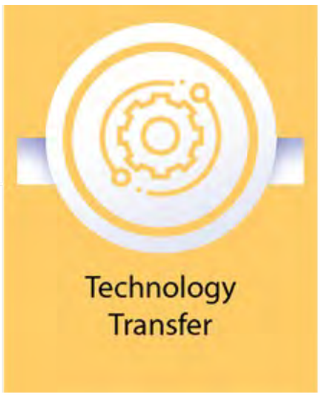
Sri Lanka

- Promote capacity building for data collection, processing and assessments, and research and documentation
- Monitor and ensure assessments of loss and damages

- Ensure policy coherence aligned with NDC commitments and achieve targets involving relevant stakeholders
- Localise the implementation of NDC-committed policies through participatory planning processes

- Establish collaborating domestic and international climate finance facilities and facilitate networking between industry and civil society stakeholders and donor agencies
- Promote a VCM

- Incentivise energy-efficient technology; e.g., geothermal energy, climate-smart agriculture, e-mobility
- Promote gender and socially inclusive green/ clean innovation community projects



Thailand

- Increase and ensure technical support in sectors to integrate mitigation and adaptation actions and establish a public communication platform to inform of loss and damage estimates
- Promote knowledge exchange and information sharing through a collaborative platform between various ministries of the government and other stakeholders

- Formulate appropriate demand policies and legal frameworks to support climate actions
- Facilitate enhanced coordination between various ministries of the government and between public and private sectors and define clearly their respective roles and responsibilities

- Foster and facilitate public and private sector financing through international sources and a Global Climate Fund for targeted and need-wise sectors
- Develop and facilitate carbon trading mechanisms

- Develop infrastructure for renewable energy/low-carbon technology; e.g., solar power, EVs
- Incentivise use of renewable energy/low-carbon technology at the community level

Vietnam

- Develop MRV system and prepare to map the potentiality of renewable energy across the country
- Ensure credible methodologies for accurate loss and damage impact assessments by providing climate research facilities

- Plan a coordinated mechanism for various ministries of the government in strategic NDC-committed planning
- Develop platforms for participatory decision making, implementation of public and private stakeholders

- Develop assistance for monitoring financial expenses on climate change issues and plan financing requirements and sources for targeted and need-based sectors
- Support emission trading systems and develop a carbon market

- Develop mitigation and adaptation, forecasting and early warning systems
- Promote and incentivise solar systems, hydrogen energy and carbon capture technology

The Pacific Island Countries

- Establish mechanisms of data collection and monitoring (Nauru, Tuvalu, Fiji, FSM, Cook Islands, Palau)
- Prepare sector-wise GHG inventories and set up and update their emission reduction targets accordingly (the Pacific Island countries)

- Adopt strategic planning and update emission reduction targeting framework and policies aligned with NDC commitments and implementation (Tuvalu, PNG, Cook Islands)
- Establish platforms for participatory decision making for private and public stakeholders (the Pacific Island countries)

- Build strategic partnerships and improve networking between stakeholders at the national level (Nauru, FSM, Palau)
- Strengthen financial and technological support for market-based and non-market mechanisms (PNG, Fiji, FSM, Palau)

- Plan sector-wise adoption of renewable energy/low carbon technology (the Pacific Island countries)
- Identify the financial and technical support systems needed for the adoption of renewable energy/low carbon technology (the Pacific Island countries)

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Appendix 1: National and Regional Level Activity

Country Level Workshop: Bangladesh

Implementation of Nationally Determined Contributions in Bangladesh: Updates, Issues and Options

Date and Venue	10 March 2022, Hotel Amari, Gulshan Road, Dhaka, Bangladesh
Platform	Hybrid (face-to-face and online)
Key Speakers	• Mr. Mohammad Abdur Rouf Country Representative, ADPC • Professor Therese Jefferson, Head, School of Accounting, Economics and Finance, Curtin University, Australia • Mr Richard Neumann Director, Department of Foreign Affairs and Trade (DFAT), Australian Government • Dr Ainun Nishat Professor Emeritus and Advisor, Centre for Climate Change and Environmental Research (C3ER), BRAC University • Mr. Malik Fida A Khan Executive Director, Center for Environmental and Geographic Information Services (CEGIS), Ministry of Water Resources • Dr. Asaduzzaman Ex Research Director, Bangladesh Institute of Development Studies • Mr. Dharitri Kumar Sarkar Deputy Secretary, Ministry of Environment, Forest and Climate Change, Government of Bangladesh • Professor Dr. A. S. M. Maksud Kamal Pro-Vice Chancellor (Academic) University of Dhaka • Mr Mirza Shawkat Ali Director, Department of Environment, Ministry of Environment & Forests, Government of Bangladesh • Mr. Sanjay Kumar Bhowmik Additional Secretary, Ministry of Environment, Forest and Climate Change, Government of Bangladesh
Key Discussion Points and Recommendations	• *Implementation and monitoring:* Planned mitigation actions, GHG inventory database, and need robust monitoring, reporting, and verification to align national and sub-national commitments and capacity building on mitigation. • *Collaboration:* Mainstream NDC commitments and targets, scale up climate finance by mobilizing domestic public and private sectors and external funding sources, endorse emission reduction projects, and coordination between economists and climate scientists for knowledge sharing and learning. • *Renewable Energy:* Actions for renewable energy, waste emissions and coal phase-out, hydrogen fuel, balance coal fire with renewable energy. • *Priorities and requirements:* Focus on emission pathways, develop MRV system, efficient irrigation technology, soil carbon research, forest inventory, market-based and non-market based mechanisms with a free market approach. • *Partnerships:* Improve monitoring, tracking, reporting, and ownership from various ministries of the government, and need capacity building to achieve net zero and NDC targets. • *Policy Coherence:* policies and regulations to address NDC commitments and targets by establishing advisory committees and working groups for NDC implementation.
Participating Stakeholders	NDC study team of United Nations Development Programme (UNDP), Asian Disaster Preparedness Center (ADPC), Curtin University, Australia, Department of Foreign Affairs and Trade (DFAT), Australian Government, Centre for Climate Change and Environmental Research (C3ER), BRAC University, Center for Environmental and Geographic Information Services (CEGIS), Ministry of Water Resources, Government of Bangladesh, Bangladesh Institute of Development Studies, Ministry of Environment, Forest and Climate Change, Government of Bangladesh, University of Dhaka, International Centre for Climate Change and Development (ICCCAD), Power Division, Bangladesh, Infrastructure Development Company Limited (IDCOL), Urban Planner, Narayanganj City Corporation, Department of Agricultural Extension, Ministry of Agriculture, Government of Bangladesh, Ministry of Planning, Government of Bangladesh, Ministry of Finance, Government of Bangladesh, Palli Karma-Sahayak Foundation (PKSF), Least Developed Countries Universities Consortium for Climate Change (LUCCC), Climate Resilient Local Infrastructure Centre (CReLIC), Local Government Engineering Department (LGED), Government of Bangladesh, Flood Forecasting and Warning Center (FFWC), Bangladesh Water Development Board (BWDB), Water Resources Planning and Organization (WARPO), National Resilience Programme (NRP), Ministry of Fisheries and Livestock, Government of Bangladesh, Asian Development Bank (ADB), Food and Agriculture Organization of the United Nations (FAO), Sustainable And Renewable Energy Development Authority (SREDA).

Country Level Workshop: Pakistan

Implementation of Nationally Determined Contributions in Indonesia: Updates, Issues and Options

Date and Venue	Thursday, 17th March 2022, Noor Mahal Hall - The Marriott, Islamabad, Pakistan
Platform	Hybrid (face-to-face and online)
Key Speakers	• Mr. Muhammad Irfan Tariq, Director General, (Environment & Climate Change/,UNFCCC & NDC National Focal Point-Pakistan), Ministry of Climate Change, Government of Pakistan • Dr. Sardar Mohazzam, Managing Director, National Energy Efficiency & Conservation Authority, Power Division, Government of Pakistan • Mr. Ahmed Kamal, Chief Engineering Advisor/ Chairman, Federal Flood Commission, Government of Pakistan. • Ms. Aisha Khan, Chief Executive, Civil Society Coalitions for Climate Change (CSCCC). • Mr. Bilal Anwar, Chief Executive Officer, National Disaster Risk Management Fund (NDRMF). • Dr. Habib Rahman, Department of Economics, Curtin University • Mr. Israel Jegillos, Senior Project Manager, Asian Disaster Preparedness Center
Key Discussion Points and Recommendations	• *Establishment of Robust MRV Systems:* Implement strong Measurement, Reporting, and Verification systems to enhance GHG inventory accuracy, emission trend analysis, and mitigation strategy development. This will also assist in defining sectoral adaptation priorities and prioritizing policy actions. • *Strengthening Capacities for Climate Finance:* Boost abilities to access climate finance, particularly in the mitigation sector, while continuing to prioritize adaptation. Update public sector climate expenditure to align with national development priorities and policy implementations. • *Formulation of NDC Implementation Plan:* Over the next eight years, Pakistan should develop an NDC Implementation Plan that aligns with the Sustainable Development Goals (SDGs), reviews NDC analysis, and prioritizes necessary policies and measures to meet new NDC commitments. • *Costing and Financing NDC Implementation:* Accurately cost mitigation and adaptation options within NDCs. Develop sectoral strategies to finance these initiatives and scale climate finance, preparing a detailed plan to achieve net zero targets with the support of international climate finance. • *Operationalizing a National Climate Fund:* Fully reinforce and operationalize the dedicated climate change fund under the National Disaster Risk Management Fund (DRFM), addressing existing funding gaps as a priority. • *Engagement of Corporate Sector in Climate Action:* Promote the involvement of the corporate sector in advancing the climate agenda, particularly in mobilizing climate finance and supporting mitigation actions. • *Strengthening Institutional Capacities:* Following the commitment to the NDC and Paris Agreement, enhance institutional capacities at both federal and provincial levels, highlighting the significant role of civil society organizations. • *Establishing a National Steering Mechanism:* Create a national mechanism integrating provincial efforts and civil society to regularly review performance against NDC commitments, assess institutional capacities, and engage stakeholders in the implementation process. • *Initiating Multi-Stakeholder Engagement:* Begin a multi-stakeholder process to align government projects with NDC targets, led by the Ministry of Climate Change. Increase efforts to raise awareness and support the implementation of these commitments. • *Enhanced Collaboration with ADPC:* Strengthen cooperation with the Asian Disaster Preparedness Center (ADPC) to build scientific evidence, develop capacities, and fortify institutional support to meet Pakistan's NDC targets, possibly through ADPC's representation on NDC Implementation Committees organized by the Ministry of Climate Change.
Participating Stakeholders	Ministry of Climate Change, Global Change Impact Studies Center,10 Billion Tree Tsunami, National Energy Efficiency & Conservation Authority, National Electric Power Regulatory Authority, Federal Flood Commission, Ministry of Foreign Affairs, Pakistan Meteorological Department, Pakistan Council of Renewable Energy Technologies (PCRET), National Disaster Risk Management Fund, National Agricultural Research Centre, Pakistan Institute for Development Economics, Sustainable Development Policy Institute, United Nations Development Programme, United Nations Industrial Development Organization (UNIDO), United Nations Children's Fund, GIZ , FCDO, JS Bank, HBL, Civil Society Coalitions for Climate Change, Pakistan Committee of the Red Cross (ICRC), WaterAid, Mubashir/ Syed Suleiman, Oxfam, National Transport Research Center, Ministry of Climate Change and Environmental Coordination, Fauji Fertilizer Company Limited, Ministry of Water Resources, Australian Embassy, CSCCC

Country Level Workshop: Indonesia

Implementation of Nationally Determined Contributions in Indonesia: Updates, Issues and Options

Date and Venue	Tuesday, 31 May 2022, University of Indonesia, Depok, Indonesia
Platform	Hybrid (face-to-face and online)
Key Speakers	• Dr. Budiawan, Vice Dean for Education, Research and Student Affairs of FMIPA Universitas Indonesia • Ms. Marsha Sudar, Second Secretary (Economics), Australian Embassy, Jakarta • Professor Linley Lord, Pro Vice-Chancellor and President, Curtin University (CU), Singapore • Professor Jatna Supriatna, Research Centre for Climate Change, Universitas Indonesia (RCCC-UI) • Ms. Sri Tantri Arundhati, Director of Climate Change Adaptation, Kementerian Lingkungan Hidup dan Kehutanan (KLHK) (Ministry of Environment and Forestry) • Dr. Ir. Udrekh SE, Director of Disaster Risk Mapping and Evaluation, National Agency for Disaster Management (BNPB)
Key Speakers	• Professor Dr. Budi Haryanto, Chairman, RCCC-UI • Dr. Alin Halimatussadiah, LPEM UI • Professor Dr. Suratman, Faculty of Geography, Universitas Gadjah Mada • Dr. Joko Pamungkas, Vice Coordinator, Indonesia One Health University Network (INDOHUN) • Dr. Habib Rahman, Department of Economics, Curtin University • Mr. Israel Jegillos, Senior Project Manager, Asian Disaster Preparedness Center
Key Discussion Points and Recommendations	• *Implementation Strategy:* Ensure robust monitoring, reporting, and verification to align national and sub-national commitments. • *Collaboration:* Achieve NDC targets by 2030 through partnerships and blended finance from public, private, and PPPs to scale mitigation and adaptation solutions. • *Renewable Energy:* Prioritize renewable energy projects and integrate climate and development goals into national programs. • *Entry Points:* Focus on disaster resilience, health and nutrition, and fostering a viable local economy to support NDC implementation. • *Local Wisdom:* Utilize local knowledge and traditions in climate adaptation as part of research, development, and innovation. • *Partnerships:* Foster research, capacity building, and technical support among universities, local governments, and practitioners to achieve net zero and NDC targets. • *Policy Coherence:* Ensure policy alignment and awareness from sub-national to national levels, integrating NDCs into national priorities and public programs.
Participating Stakeholders	Asian Disaster Preparedness Center (ADPC), Australian Embassy, Bogor Agricultural University, Center for Islamic Studies, Curtin University, Fiscal Policy Agency, Indonesia Business Council for Sustainable Development, Indonesia One Health University Network (INDOHUN), Indonesian Environment Fund (BPDLH), IPB University, Ministry of Energy and Mineral Resources, Ministry of Environment and Forestry, Ministry of Finance, National Agency for Disaster Management (BNPB), National Disaster Mitigation Agency (BNPB), National Research and Innovation Agency, New, Renewable Energy, and Energy Conservation, Ministry of Permian Global, PricewaterhouseCoopers (PwC), Research Center for Climate Change Universitas Indonesia (RCCC-UI), Sustainable District Association (LTKL), Universitas Andalas, Universitas Hasanuddin, Universitas Indonesia, Universitas Jember, Universitas Nasional, Universitas Pattimura, Universitas Pembangunan Nasional Veteran Jakarta, Universitas Sultan Ageng Tirtayasa, WRI Indonesia, Yayasan Mitra Hijau.

Country Level Workshop: Thailand

Implementation of Nationally Determined Contributions in Thailand: Updates, Issues and Options

Date and Venue	24 June 2022, Grande Centre Point Terminal 21 Hotel, Bangkok
Platform	Face-to-face
Key Speakers	• Ms. Pannawadee Somboon, Senior Project Manager, ADPC • Mr. Hans Guttman, Executive Director, ADPC • Mr. Keegan Robertson, Curtin University, Australia • Ms. Anita Margaret Wise, Second Secretary Politic/Economic Division, Australian Embassy, Thailand • Ms. Nareerat Panmanee, Director of CCMC, ONEP • Mr. Nawraj Pradhan, Climate Finance Specialist, ADPC • Mr. Teerapong Laopongpith, Director of Policy and Strategy Section, ONEP • Ms. Pannapa Na Nan, Director of International Cooperation Division, DDPM
Key Speakers	• Dr. Wonchalerm Chalodhorn, Chair of Working Group - Thai Cement Manufacturers Association (TCMA) • Mr. Ole Henriksen, Project Director, GIZ • Ms. Chompunut Songkhao, Environmental Official, ONEP
Key Discussion Points and Recommendations	• Mitigation and adaptation priorities at national and sub-national levels. • Focus on disaster and Climate Change. • Best practices and technological innovations for climate resilience- Industry Practice on Cement clinker Substitution and Thai Rice Nationally Appropriate Mitigation Actions. • Focus on capacity building (training) in economic sectors to successfully implement NDCs
Participating Stakeholders	Australian Embassy, Office of Transport and Traffic Policy and Planning (OTP), Department of Environment, Bangkok Metropolitan Administration (DOE- BMA), Office of Agricultural Economics (OAE), Department of Marine and Coastal Resources (DMCR), Department of Industrial Works (DIW), Strategy and Planning Division, Pollution Control Department (PCD), Department of Alternative Energy Development and Efficiency (DEDE), Department of Disaster Prevention and Mitigation (DDPM), Thai Cement Manufacturers Association (TCMA), GIZ Thailand, Curtin University Australia, Asia Pacific and Eastern Europe NDC Partnership, Asian Disaster and Preparedness Centre (ADPC), United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), Department of National Parks, Wildlife and Plant Conservation (DNPWC), Royal Forest Department (RFD), Office of the National Water Resources (ONWR), Department of Agriculture (DOA), Thai-German Climate Programme (TGCP).

Country Level Workshop: Fiji

Developing a framework for facilitating NDCs for Paris commitments in the Indo-Pacific countries

Date and Venue	31st August – 1st September 2022, Grand Pacific Hotel, Suva, Fiji
Platform	Hybrid (face-to-face and online)
Key Speakers	• Dr. Felix Chan, Curtin University • Dr. Habib Rahman, Department of Economics, Curtin University • Ms Iris Cordelia Rotzoll, Project Manager, Regional Pacific NDC Hub • Ms Anne-Claire Goarant, Project manager, Climate Change and Environmental Sustainability Programme • Debra Sungi Papua New Guinea, Acting General Manager – MRV & NC Division from Ministry of Environment, Conservation and Climate Change • Joanna Latasi, Tuvalu, Third National Communication Assistant • Ranjila Singh, Fiji, Mitigation Specialist, Climate Change and International Cooperation Division • Natasha Nakasone, FSM, Department of Environment, Climate Change and Emergency Management
Key Discussion Points and Recommendations	• *Enhanced Support Structures:* Strengthen financial and technical support mechanisms to improve capacity building and resource allocation across sectors. • *Data Collection and Monitoring:* Establish and refine data collection and monitoring frameworks to provide accurate and actionable information for policy and decision-making. • *Implementation of MRV Systems:* Plan and execute Monitoring, Reporting, and Verification (MRV) processes to ensure compliance and efficiency in environmental reporting and management. • *Targeted Emission Goals:* Set specific emission reduction targets for the agricultural sub-sector to align with broader environmental objectives and sustainable practices. • *Policy Formulation and Updates:* Develop and update policies to support sustainable management practices, ensuring they are aligned with current data and targets. • *Renewable Energy Initiatives:* Establish clear renewable energy targets and integrate these into national and sectoral plans to promote sustainable energy use.
Participating Stakeholders	GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit), The Pacific Community/NDC Pacific Hub, The Secretariat of the Pacific Regional Environment Programme (SPREP), Global Green Growth Institute, United Nations Economic and Social Commission for Asia and the Pacific, NDC Partnership, KliK Foundation, International Renewable Energy Agency, UNDP.

Country Level Workshop: Malaysia

Implementation of Nationally Determined Contributions in Malaysia: Updates, Issues and Options

Date and Venue	8 September 2022, Kuala Lumpur, Malaysia
Platform	Hybrid (face-to-face and online)
Key Speakers	• Prof. Dato' Dr. Abdul Mua'ti@Zamri Ahmad, Director Centre For Corporate Strategy and Relations Universiti Putra Malaysia • Professor Andreas Zins, Dean of Faculty of Business Curtin University, Australia • Mr. Aslam Perwaiz, Deputy Executive Director Asian Disaster Preparedness Center (ADPC) • HE Dr Justin Lee, High Commissioner Australian High Commission Kuala Lumpur, Malaysia • Mr. Irfan Maqbool, Director Risk Governance Department Asian Disaster Preparedness Center (ADPC) • Noor Hisham Abdul Ghani, Research Officer Water Resources and Climate Change Research Centre National Water Research Institute of Malaysia (NAHRIM) • Ms. Nur Zuriany Zaki, Malaysian Green Technology and Climate Change Corporation (MGTC) • Dr. Grace Hooi Yean Lee, Head of Department Economics School of Business Monash University, Malaysia Campus • Dr. Azmizam Bin Abd. Rashid, Deputy Chief Executive URBANICE Malaysia • Ms. Melawani Othman, Researcher Penang Green Council • Ir. Noraziah Binti Muda, Head Renewable Energy and Green Technology Unit TNB Research Sdn. Bhd. • Ms. Serena Amatya, Project Officer Risk Governance Department, Asian Disaster Preparedness Centre (ADPC)
Key Discussion Points and Recommendations	• Implementation status of NDCs in Malaysia: key challenges and identification of capacity needs for implementing NDCs in Malaysia. • Significance of market-based and non-market-based mechanisms and technological innovations for climate resilience. • Identification of low-hanging potential innovations or green technologies. • Estimate the impact of climate change across economic sectors in capacity building
Participating Stakeholders	Ministry of Environment and Water, Ministry of Natural Resources and Environmental Sustainability of Malaysia, Ministry of Science, Technology and Innovation, Policy & Strategic Planning Division, Ministry of Agriculture and Food Industries, Malaysia Green Technology and Climate Change Corporation (MGTC), Ministry of International Trade and Industry, Ministry of Finance, Environment & Natural Resources Economic Division, Economic Planning Unit, Forest Research Institute Malaysia, Forestry Training Division, Forest Department Peninsular Malaysia, Agrobiodiversity & Environment Research Center, Malaysia Agriculture Research and Development Institute, Ministry of Energy and Natural Resources, Sustainable Energy Development Authority, Malaysia, Institute of Energy Policy and Research, Universiti Tenaga Nasional, Monash University Malaysia, Australian High Commission, Kuala Lumpur, Curtin University, Malaysia, Universiti Putra Malaysia

Regional Workshop: Thailand

Regional Dialogue: successes and challenges in implementation of Paris climate commitments

Date and Venue	29-30 September 2022, Sukhumvit Hall, Grande Centre Point Hotel Terminal 21, Bangkok, Thailand
Platform	Face-to-face
Key Speakers	• Mr. Hans Guttman Executive Director, ADPC • Prof. Min Teah, Dean of Research, Faculty of Business and Law, Curtin University (CU), Australia • Mr. Shayne McKenna First Secretary, Australian Embassy, Thailand • Dr. Phirun Saiyasitpanich Secretary-General of Office of Natural Resources and Environmental Policy and Planning (ONEP), Thailand • Mr. Irfan Maqbool Director, Risk Governance, ADPC • Mr. Nawraj Pradhan Regional Lead - Climate Finance Specialist • Ms. Ploypallin Sundarajumpaka Country Engagement Specialist, NDC Partnership • Professor Michael Naef Head of Department of Economics, Durham University, UK • Prof. Habib Rahman Director, Centre for Research in Applied Economics (CRAE), Curtin University • Mr. Israel Jegillos Senior Project Manager, Climate Policy and Planning Specialist, CARE for South Asia, ADPC • Dr. Kamal Ahmed Institutional Lead, Risk Financing and Insurance, ADPC
Key Discussion Points and Recommendations	• *Country-level overview (target, focus, and gaps) of NDC Implementation and best practices: Bangladesh, Indonesia, Pakistan, Brunei Darussalam, Malaysia, Sri Lanka, Thailand, Viet Nam.* • *Focused areas and practices: mitigation, adaptation and resilience, food, water, energy, crop agriculture and efficient irrigation, forest, renewable energy (solar), industry, waste, transport, corporate, IT and administration, GHG measurement, reporting and verification, international affairs, governance, policy, planning and coordination, carbon pricing, weather stations, early warning systems, energy efficiency, tourism, public health.* • *Capacity Building Support: develop proper MRV systems and national GHG inventory, distribute knowledge: through education and capacity-building programs, technological advancement, nature-based solutions, social and economic impact assessments, technical support.* • *Potential Market-based Solutions: Cases of Australian Carbon Credit Units (ACCU), the Safeguard Mechanism, and the Indo-Pacific Offsets Scheme (IPCOS).* • *Climate Finance Efficiency: make financial flows more results-oriented and explore innovative and green finance with scalability, additionality, complementarity, and sustainability, accelerate green climate finance, climate finance investment opportunities for Bangladesh, India, and Pakistan.* • *Comprehensive Risk Management: evaluate loss and damage associated with climate change impacts, extreme weather events, and slow onset events, assist developing countries by enhancing knowledge and understanding, and encourage community-level adaptation measures and innovative solutions.* • *Public-Private Partnerships, Regional Cooperation, and Global Assistance: establish operational relationships between financial institutions and public and private stakeholders.* • *Proposed Support Facility Framework for NDC Implementation under four themes: capacity building, technology transfer, climate finance, and market-based mechanisms.*
Participating Stakeholders	Australian Embassy, Thailand, ***Curtin University***, Durham University, ***Asian Disaster and Preparedness Centre***, Ministry of Environment, Sri Lanka, University of Peradeniya, Sri Lanka, Ministry of Planning Development & Special Initiatives (MoPDSI), Pakistan, Civil Society Coalition for Climate Change (CSCCC), Pakistan, BRAC University, Bangladesh, Ministry of Development, Brunei Darussalam, Institute of Sustainable Earth and Resources (ISER), Universiti Putra Malaysia, Ministry of Natural Resources and Environment of Viet Nam, Institute of Strategy and Policy of Natural Resources and Environment (ISPONRE), Office of Natural Resources and Environmental Policy and Planning (ONEP), Thailand, Thai Rice NAMA, GIZ, Thailand, Asia Pacific and Eastern Europe, NDC Partnership, Thailand, Thai-German Climate Programme, Water (TGCP), Thammasat University, Thailand.

Country Level Workshop: Sri Lanka

Implementation of the Nationally Determined Contributions in Sri Lanka: Updates, Issues and Options

Date and Venue	Wednesday, 26th October 2022, Waters Edge, Battaramulla, Colombo, Sri Lanka
Platform	Hybrid (face-to-face and online)
Key Speakers	• Dr. Anil Jasinghe, Secretary of the Ministry of Environment, Sri Lanka • Ms. Amanda Jewell, Deputy High Commissioner, Australian High • Commission in Colombo, Sri Lanka • Professor Therese Jefferson, Head of School, School of Accounting, Economics and Finance, Curtin University, Australia • Dr. Senaka Basnayake, Director, Climate Resilience, Asian Disaster Preparedness Center (ADPC) • v. Dr. R.D.S. Jayathunga, Additional Secretary, Ministry of Environment, Sri Lanka • Professor Buddhi Marambe, Faculty of Agriculture, University of Peradeniya, Sri Lanka • Prof. Niranjalie Ratnayake, President, Institute of Environmental Professionals Sri Lanka • Ms Kumudini Vidyalankara, Director, Climate Change Secretariat, Ministry of Environment
Key Discussion Points and Recommendations	• *Accelerated Transformation for 2030 and 2050 Targets:* Sri Lanka's NDCs necessitate rapid transformation and substantial investments to meet the set targets for 2030 and to pave the way for net zero by 2050. • *Strengthening Policies and Regulations:* Implement strong policies and regulations to fulfill NDC commitments effectively, involving relevant stakeholders and adapting strategies to local contexts. • *Enhancing Data Management Capabilities:* Improve capacity for data management and integrate robust Monitoring, Reporting, and Verification (MRV) systems across all NDC sectors, supported by the development of SMART indicators. • *Focusing on Gender Responsiveness and Social Inclusion:* Update activities to increase gender responsiveness in NDC planning and implementation, and develop Key Performance Indicators (KPIs) for social inclusion within related activities and sub-activities. • *Seeking International Support for NDC Implementation:* Sri Lanka requires assistance from the global community in accessing climate finance, transferring technology, and building capacities to support implementation across six mitigation sectors and nine adaptation sectors, crucial for achieving conditional NDCs.z
Participating Stakeholders	Ministry of Climate Change (MoCC), Ministry of Climate (MoC), GIZ, Global Change Impact Studies Center (GCISC), 10 Billion Tree Tsunami, National Energy Efficiency & Conservation Authority (NEECA), National Electric Power Regulatory Authority (NEPRA), Federal Flood Commission, Ministry of Foreign Affairs, Pakistan Meteorological Department, Pakistan Council of Renewable Energy Technologies (PCRET), National Disaster Risk Management Fund (NDRMF), National Transport Research Center, Climate, Energy & Water Research Institute (CEWRI), National Agricultural Research Centre, Pakistan Institute for Development Economics, Sustainable Development Policy Institute (SDPI), United Nations Development Programme (UNDP), United Nations Children's Fund (UNICEF), Foreign, Commonwealth & Development Office (FCDO), JS Bank, Habib Bank Limited (HBL), International Union for Conservation of Nature (IUCN), Civil Society Coalitions for Climate Change (CSCCC), Pakistan Committee of the Red Cross (ICRC), Help in Need, National Humanitarian Network (NHN), National Transport Research Center (NTRC), Australian Embassy, World Wildlife Fund (WWF), SAARC Energy Center, National University of Sciences and Technology (NUST), Asian Disaster Preparedness Center (ADPC).

Country Level Workshop: Egypt

Civil Society and Business Engagement in Egypt's National Determine Contributions "NDC" Implementation in light of Egypt's Climate Change Strategy 2050

Challenges and Opportunities

Date and Venue	Monday, 20th February 2023, Grand Nile Tower Hotel, Cairo, Arab Republic of Egypt
Platform	Face-to-face
Key Speakers	• Dr Eng. Elsayed Sabry Mansour, CEO - ECCSCO, • Professor Ruhul Salim, Director of the Centre for Research in Applied Economics at Curtin University, • Professor Michael Naef, Durham University, • H.E. Axel Wabenhorst, Australian Ambassador • H.E. Mohamed El-gammal, Minister Plenipotentiary, Deputy Director, Climate, Environment and Sustainable Development Dept., MOFA - COP27 Presidency • Dr. Eng. Dahlia Sabry, Climate Change Consultant • Eng. Saber Osman, Chairman – EC4SDF • Eng. Lydia Elewa, Manager, CCCD, EEAA
Key Discussion Points and Recommendations	• *Funding Challenges:* Address the primary obstacle for civil society organizations by securing consistent financial support to scale up projects and initiatives effectively. • *Capacity Building for Proposal Writing:* Enhance skills in writing compelling proposals and conducting feasibility studies through targeted training programs, ensuring civil society organizations are well-prepared to attract donor investments. • *Strengthening Connections:* Establish robust links between researchers, proposal writers, and donors to streamline access to funding and ensure alignment with donor expectations. • *Effective Reporting on Carbon Emissions:* Develop comprehensive training for civil society on accurately collecting data, calculating, and reporting carbon emissions reductions to meet international standards. • *Climate Awareness and Education:* Promote understanding and proactive engagement with climate change issues among civil society and the private sector through ongoing educational efforts. • *Incorporating Climate Change in Academia:* Integrate climate change topics broadly within university curricula, including the introduction of specialized diplomas and master's degrees focused on climate action and sustainability. • *Policy Integration:* Advocate for the inclusion of a climate change section in project application forms by the Ministry of Planning to ensure all projects are assessed within a climate-conscious framework. • *Technology and Environmental Impact:* Increase awareness of the environmental impacts of new technologies and promote the adoption of innovations that avoid producing non-recyclable hazardous waste.
Participating Stakeholders	Asian Disaster Preparedness Center (ADPC), Australian Embassy, Ministry of Environment - MoEnv, Egyptian Environmental Affairs Agency – EEAA, MoEnv, Ministry of Electricity and Renewable Energy, New and Renewable Energy Authority - NREA, Ministry of Transportation, GIZ - Joint Committee for Energy Efficiency - JCEE. Regional Center for Renewable Energy and Energy Efficiency (RCREEE), International Transportation Workers Foundation - ITF. Transport for Cairo, Ministry of Health and Population, National Research Center, Ministry of Agriculture and Land Reclamation, Ain Shams University, Cairo University ,Urban Planning Authority, Ministry of Water Resources and Irrigation, Water Association, Ministry of Finance, Ministry of Planning, Central Bank of Egypt, FinBi - Finance & Banking Consultants International, UN Habit, UNDP, FAO, WHO, UNESCO, JICA, SEKEM and Helipolice University, Information and Decision Support Centre – IDSC, Cabinet of Ministries, Earth's Climate for Sustainable Development Foundation – EC4SDF, Durham University, IBM.

Country Level Workshop: Oman

Implementation of Nationally Determined Contributions in the Sultanate of Oman

Developing a framework for facilitating NDCs for Paris commitments in the Indo-Pacific countries

Date and Venue	**Wednesday, 15th February 2023, Crown Plaza Muscat-Qurum, Muscat, Oman**
Platform	Face-to-face
Key Speakers	• Ms. Khawla Al-Zakwani, Director General of Economic Policies and Programs at the Ministry of Economy • Sofia Conelly – First Secretary, Ambassy of Australia • Professor Michael Naef, Head of Department of Economics – Durham University • Dr. Habib Rahman, Associate Professor at Durham University and Curtin University • Dr. Khalil Al-Hanashi Snr. Energy Renewal Advisor- PDO • Ms. Maryam Al-Hashmi Director of the Department of Policies and Strategies for Electricity and Energy Efficiency • Eng. Juman AL Saqlawi Head of Decarbonisation OQ • Mohammed Al-Shuayli, Climate Change & Sustainability Manager -Petroleum Development Oman (PDO) • Maha Al Bulushi, Climate Affairs Department, Environment Authority • Ibrahim Al-Ajmi, Supervisor of Climate Affairs, Environment Authority
Key Discussion Points and Recommendations	• *Technology's Role in GHG Reduction:* Despite Oman's current limitations in technology to significantly cut emissions, there is notable progress through flagship projects focused on sustainable environmental solutions. • *Sustainable Water Management Initiatives:* Highlighting the Nimr and Rima Water Treatment Plants, Oman showcases the world's largest treatment wetland and an eco-friendly plant transforming water into resources that support verdant environments in arid areas. • *Future Technology and Emissions:* Acknowledging the challenge that not all emissions can be avoided by 2050, Oman explores innovative solutions to bridge this gap. • *Vision 2040 and Green Energy Projects:* Oman sets ambitious goals to reduce oil and gas dependency through Vision 2040, with over 900 green energy projects aimed at achieving net zero by 2050. • *Market and Technological Challenges:* Facing hurdles in market and tech readiness, Oman emphasizes the importance of integrating social impacts and human-focused strategies in moving towards net zero. • *Importance of Carbon Capture Technologies:* Continued investment in carbon capture technologies as a promising avenue for reducing carbon footprints. Al-Hajar Mountains carbon capturing is a promising solution. • *Capacity Building and Infrastructure Enhancement:* Oman seeks support to build capacities and enhance infrastructure risk assessments, addressing key government concerns such as biodiversity and water quality. • *International Cooperation for Decarbonization:* Stressing that no single country can achieve decarbonization alone, Oman advocates for international collaboration, particularly highlighting potential cooperation opportunities with Australia. • *Standardizing Emission Estimates:* Oman requires assistance in improving the consistency and methodology of quantifying emissions, ensuring accurate and reliable data for environmental strategies.
Participating Stakeholders	Ministry of Economy, Durham University, Curtin University, Ambassy of Australia, Petroleum Development Oman, Ministry of Energy and Minerals, OQ, Environment Authority, Oman Vision 2040, Ministry of Agriculture, Fisheries Wealth and Water Resources, Ministry of Finance, Recycling Services LLC, SOHAR Port and Freezone, Ministry of Commerce and Industry and Investment Promotion, Public Establishment For Industrial Estates – Madayn, Ministry of Housing and Urban Planning, Sultan Qaboos University, KleanTech Environmental Solutions, General Secretariat to the Cabinet.

Country Level Workshop: Vietnam

Vietnam Nationally Determined Contributions

Implementation: Challenges and Opportunities

Date and Venue	Wednesday, 12th April 2023, Hilton Garden Inn Hotel, Hanoi, Vietnam
Platform	Face-to-face
Key Speakers	• Professor Michael Naef, Durham University Business School • Professor Ruhul Salim, Curtin University • Mr. Benjamin Davis, First Secretary (Economic), Australian Embassy, Ha Noi • Dr. Nguyen Trung Thang, Deputy Director General, Institute of Strategy, Policy on Natural Resources and Environment (ISPONRE) • Dr. Nguyen Sy Linh, Head, Climate Change Division, Institute of Strategy, Policy on Natural Resources and Environment (ISPONRE) • Dr. Habib Rahman, Curtin University • Mr. Hoang Van Tam, Deputy Head, Climate Change and Green Growth Office, Department of Energy Efficiency and Sustainable Development, Ministry of Industry and Trade (MOIT) • Le Hoang Anh, Department of Science, Technology and Environment, Ministry of Agriculture and Rural Development (MARD) • Chu Thi Thanh Huong, Deputy Head, Division of GHG Emission Reduction and Ozone Layer Protection, Department of Climate Change, Ministry of Natural Resources and Environment (MONRE) • Nguyen Phuong Nam, Climate Expert, CEO of KLINOVA Climate Innovation • Dr. Lien Duong, Curtin University
Key Discussion Points and Recommendations	• *Highlighting Market-based Solutions:* Investigates available options for implementing market-based approaches to climate action. • Facilitating Loss and Damage Assessments: Emphasizes compliance with COP 27 agreements and the need for credible, internationally recognized methodologies for climate impact assessments. • *Documenting Best Practices:* Focuses on identifying and documenting best practices to inform policy development and create pragmatic, non-binding frameworks for discussion in Canberra. • *Climate Impact Observations:* Reports significant changes in climate patterns, including increased temperatures, rainfall, and the frequency of severe weather events, which are impacting various sectors. • *Policy and Strategic Actions:* Discusses the legal and strategic measures Vietnam has implemented, including updates to environmental laws and national action plans focused on comprehensive climate response. • *Challenges and International Cooperation:* Highlights the ongoing challenges in resource allocation, the importance of international support, and the cooperative efforts needed to meet Vietnam's climate commitments effectively.
Participating Stakeholders	Australian Embassy in Vietnam; Institute of Strategy, Policy on Natural Resources and Environment (ISPONRE); Ministry of Natural Resources and Environment (MONRE); Ministry of Industry and Trade; Ministry of Transport; Ministry of Construction; Ministry of Agriculture and Rural Development; State Bank of Vietnam; Ministry of Finance; Ministry of Planning and Investment; KLINOVA Climate Innovation Consulting and Services; Clime Capital; Energy and Environment Consultancy Joint Stock Company (VNEEC); Hanoi Green Environmental and Construction Investment Consulting Joint Stock Company; National Economics University; Hanoi University of Science and Technology; Hanoi University of Natural Resources and Environment; Curtin University; Durham University.

Regional Level Workshop: Perth

Vietnam Nationally Determined Contributions

Implementation: Challenges and Opportunities

Date and Venue	18th - 19th October 2023, Novotel Perth Langley Hotel, Perth, WA , Australia
Platform	Face-to-face
Key Speakers	• Professor Michael Naef - Head of the Department of Economics – Durham University • Mr. Irfan Maqbool - Director - Asian Disaster Preparedness Center, Bangkok - Thailand • Ms. Catherine Rees - Director of Climate Diplomacy and Strategy Section - Department of Foreign Affairs and Trade (DFAT) • Hon. Reece Raymond Whitby MLA - Minister for Environment; Climate Action – Western Australia • Associate Professor Habib Rahman – Curtin University and Durham University • Dr. Muammer Wali - Curtin University • Professor Ruhul Salim - Curtin University • Ms. Christine Conway - NDC Partnership
Key Discussion Points and Recommendations	• *Fiscal Policy and Trade-Based Initiatives for Decarbonization:* Emphasize fiscal and trade policies aimed at reducing carbon emissions to support broad decarbonization efforts effectively. • *Monetary Initiatives for Renewable Investments:* Detail initiatives where central banks are investing in renewable technologies such as solar panels to promote sustainable economic growth. • *Enhancing Carbon Markets for Cost Efficiency:* Highlight the advantages of engaging in carbon markets, which are less capital-intensive and offer scalable and sustainable models for cross-country implementation. • *Implementation of MRV Systems for Data Management:* Stress the importance of integrating robust Monitoring, Reporting, and Verification (MRV) systems across all sectors involved in Nationally Determined Contributions (NDCs), enhancing data accuracy and utility. • *National and International Alignment on Climate Finance:* Advocate for aligning national campaigns and communication strategies with international climate finance and market-based solutions to ensure cohesive and effective climate action. • *Sectoral and Ecosystem Data Improvement:* Address the need for a standardized accounting framework to improve the quality of data on carbon footprints and emissions, supporting better policy decisions and climate action strategies. • *Development of Local and International MRV Frameworks:* Discuss the efforts in countries like Vietnam, Egypt, and Thailand to develop local-level MRV systems that include the private sector in climate action and carbon market initiatives. • *Regional Collaboration for a Carbon Market:* Explore the potential for establishing a regional carbon market within the Egypt and African Block, aiming to enhance regional cooperation and effective climate action. • *Strategic Funding for Nepal's Climate Goals:* Discuss the critical financial needs, such as the estimated $7.3 billion required for Nepal to meet its climate targets, emphasizing the importance of international support and capacity building. • *Future Workshop Agendas on Regulatory Needs:* Focus on establishing regulations for carbon trading and engaging the private sector more effectively in future climate action efforts.
Participating Stakeholders	Ministry of Economy (Oman); Institute of National Planning (Egypt); University of Dhaka (Bangladesh); International Centre for Climate Change and Development (ICCCAD) (Bangladesh); American International University Bangladesh (Bangladesh); Jahangirnagar University (Bangladesh); Bangladesh Institute of International and Strategic Studies (BIISS) (Bangladesh); Ministry of Climate Change (Pakistan); Ministry of Climate Change and Environmental Coordination (Pakistan); Ministry for Planning, Development and Special Initiatives (Pakistan); Ministry of Natural Resources and Environment (Thailand); Department of Climate Change and Environment (Thailand); Ministry of Environment and Forestry (Indonesia); Research Centre for Climate Change (Indonesia); Ministry of Forests and Environment (Nepal); Ministry of Environment (Sri Lanka); Ministry of Natural Resources, Environment and Climate Change (Malaysia); Disaster Preparedness and Prevention Center (DPPC) (Malaysia); Asian Disaster Preparedness Cneter; NDC Global Partnership; Durham University (UK); Institute of Strategy Policy of Natural Resources and Environment (Vietnam); Department of International Cooperation, MONRE (Vietnam); Department of Climate Change (DCC) – Ministry of Natural Resources and Environment (MONRE) (Vietnam); Pacific Community (SPC); Curtin University (Australia); Durham University (UK).

Appendix 2: NDCs - Conditional and Unconditional Targets

Country		Quantifiable targets
Bangladesh	**NDC Submissions:** First NDC 2019; updated 2020 and 2021 **Net-zero target:** 2050 (targets under discussion) **Long term strategy:** No **GDP per capita (2019)** - USD 1,856 (ranked 138th globally) **Population (2019)** - 163,046,161 (1.04% annual growth) **Share of Global GHG Emissions:** 0.45% **Mitigation Contribution Type:** GHG target (2030) **Target Type:** Baseline scenario target **Sectors covered:** Energy, AFOLU, and waste **Adaptation:** Yes **Adaptation sectors:** Sustainable ecosystem and livelihood, disaster management, agriculture and food security, water resources management, surface water use, and rainwater harvesting	**Unconditional Mitigation Target** • Reduction of 27.56 Mt CO_2e (6.73%) of GHG emissions below BAU levels in 2030 in energy, AFOLU, and waste sectors **Conditional Mitigation Target** • Reduction of 61.9 Mt CO_2e (15.12%) of GHG emissions below BAU levels in 2030 in power, transport, and industry sectors • Conditions: technical and financial support from the global community
Indonesia	**NDC Submissions:** First NDC 2016; updated 2021 **Net-zero target:** 2060 (In policy document) **Long term strategy:** Long-term strategy for Low Carbon and Climate Resilience 2050 **GDP per capita (2019)** - USD 4,136 (ranked 110th globally) **Population (2019)** - 270,625,568 (1.1% annual growth) **Share of Global GHG Emissions:** 3.48% **Mitigation Contribution Type:** GHG target (2030) and non-GHG target **Target Type:** Baseline scenario target **Sectors covered:** Energy, waste, industrial processes and product use, and AFOLU **Adaptation:** Yes	**Unconditional NDC Target** • GHG emissions will be reduced by 29% against the BAU scenario by 2030 **Conditional Mitigation Target** • Increase to 41% GHG emission reduction by 2030 • Conditions: international support for finance, technology transfer and development, and capacity building
Malaysia	**NDC Submissions:** First NDC 2016; updated 2021 **Net-zero target:** 2050 (In policy document) **Long term strategy:** No **GDP per capita (2019)** - USD 11,414 (ranked 61st globally) **Population (2019)** - 31,949,777 (1.33% annual growth) **Share of Global GHG Emissions:** 0.79% **Mitigation Contribution Type:** GHG target (2030) **Target Type:** Intensity target **Sectors covered:** Energy, industrial processes and product use, waste, agriculture, and LULUCF **Adaptation:** Yes **Adaptation sectors:** water, coastal, disaster risk management, and agriculture	**Unconditional Mitigation Target** • 45% reduction in economy-wise carbon intensity (against GDP) by 2030 compared to 2005 levels (incl. LULUCF), of which 35% are unconditional • 11% GHG emissions above 2015 by 2030 (excl. LULUCF) **Conditional Mitigation Target** None
Pakistan	**NDC Submissions:** First NDC 2016; updated 2021 **Net-zero target:** 2050 (targets under discussion) **Long term strategy:** No **GDP per capita (2019)** - USD 1,285 (ranked 152nd globally) **Population (2019)** - 216,565,318 (2.03% annual growth) **Share of Global GHG Emissions:** 0.90% **Mitigation Contribution Type:** GHG target (2030) **Target Type:** Baseline scenario target **Sectors covered:** Energy, industrial process, agriculture, LULUCF, and waste **Adaptation:** Yes	**Unconditional Mitigation Target** • 15% reduction in GHG emissions by 2030 compared to BAU levels **Conditional Mitigation Target** • 35% reduction in GHG emissions by 2030 compared to BAU levels • Conditions: international financial support (USD $101 billion required for energy transition alone)

Country		Quantifiable targets
Sri Lanka	**NDC Submissions:** First NDC 2016; updated 2021 **Net-zero target:** 2060 (In policy document) **Long term strategy:** No **GDP per capita (2019)** - USD 3,853 (ranked 114th globally) **Population (2019)** - 21,803,000 (0.61% annual growth) **Share of Global GHG Emissions:** 0.08% **Mitigation Contribution Type:** GHG target (2030) and non-GHG target **Target Type:** Baseline Scenario target **Sectors covered:** Power (electricity generation), transport, industry, waste, forestry, and agriculture **Adaptation:** Yes **Adaptation sectors:** Agriculture, fisheries, marine, settlement, tourism, and recreation	**Unconditional Mitigation Target** • 4% reduction of GHG emissions compared to BAU in 2021-2030 from Power, transport, industry, waste, forestry, and agriculture • Carbon neutrality by 2060 • 32% increase in forest cover by 2030 **Conditional Mitigation Target** • Additional 10.5% reduction in GHG emissions from BAU level in 2021-2030 • Conditions: external support including financing, technology transfer and capacity building
Thailand	**NDC Submissions:** First NDC 2016; updated 2020 **Net-zero target:** 2050 (In policy document) **Long term strategy:** Mid-century, Long-term Low Greenhouse Gas Emission Development Strategy **GDP per capita (2019)** - USD 7,807 (ranked 78th globally) **Population (2019)** - 69,625,582 (0.28% annual growth) **Share of Global GHG Emissions:** 0.88% Mitigation **Contribution Type:** GHG target (2030) **Target Type:** Baseline scenario target **Sectors covered:** Economy-wide (excluding land use, land-use change, and forestry) **Adaptation:** Yes **Adaptation sectors:** water, health, settlements, tourism, natural resources management, agriculture and food security	**Unconditional Mitigation Target** • 20% reduction in GHG emissions compared to BAU levels by 2030 **Conditional Mitigation Target** • Increase contribution to 25% reduction of GHG emissions compared to BAU by 2030 • Conditions: adequate technology development and transfer, financial resources, and capacity-building support
Nauru	**NDC Submissions:** First NDC 2015, updated 2021 **GDP per capita:** USD 10,983.22 (2020) **Population:** 10,834 (2020) **Net-zero Target:** 2050 **Long-term Strategy:** No **Share of Global GHG Emissions:** 0.0002% (2016) **Mitigation Contribution Type:** GHG and energy target (2030) **Target Type:** Baseline Scenario target **Sectors covered:** Energy, Agriculture, AFOLU **Adaptation:** Yes **Adaptation sectors:** productive lands & coast, healthy & productive people, water security, food security, energy security, healthy environment, good governance, and loss and damage	**Unconditional Mitigation Target** None **Conditional Mitigation Target** • 50% renewable energy by 2030, 30% energy savings • Net zero emissions by 2050 • Conditions: international financial, technical and capacity building support
Samoa	**NDC Submissions:** First NDC 2015, updated 2021 **GDP per capita:** USD 3,630 (2020) **Population:** 200,334 (2020) **Long-term Strategy:** None submitted **Share of Global GHG Emissions:** 0.0006% (2016) **Mitigation Contribution Type:** GHG target (2030) **Target Type:** Base year target 2007 **Sectors covered:** Energy, AFOLU, and waste **Adaptation:** Yes **Adaptation sectors:** Marine, and AFOLU	**Unconditional Mitigation Target** None **Conditional Mitigation Target** • 26% reduction in GHG emissions by 2030 compared to 2007 levels (or by 91 Gg CO_2e compared to the new reference year once the GHG emissions inventory is updated) • Conditions: external financial support

Country		Quantifiable targets
Tonga	**NDC Submissions:** First NDC 2015, Second NDC 2020 **GDP per capita:** USD 4,903.01 (2020) **Population:** 105,697 (2020) **Long-term Strategy:** None submitted **Share of Global GHG Emissions:** 0.00% (2016) **Mitigation Contribution Type:** GHG target (2030) **Target Type:** Base year target 2006 **Sectors covered:** Energy, AFOLU, waste **Adaptation:** Yes **Adaptation sectors:** public infrastructure, buildings, coastal protection, and agriculture	**Unconditional Mitigation Target** None **Conditional Mitigation Target** • 13% reduction in GHG emissions from the energy sector by 2030 compared to 2006 • 70% renewable electricity by 2030 and 9% reduction in line losses • Establish a forest inventory as a prerequisite to identify GHG emission target for 2025 and plant one million trees by 2023 • Expand formal waste collection system as a prerequisite to identify GHG emission target for 2025 • Conditions: external financing, public acceptance and technical capacity
Solomon Islands	**NDC Submissions:** First NDC 2015, updated 2021 **GDP per capita:** USD 2,258.40 (2020) **Population:** 686,878 (2020) **Long-term Strategy:** None submitted **Net-zero target:** 2050 **Share of Global GHG Emissions:** 0.01% (2016) **Mitigation Contribution Type:** GHG target (2030) **Target Type:** Baseline Scenario target **Sectors covered:** Energy, Agriculture, AFOLU **Adaptation:** Yes **Intention to use market-based mechanisms:** Yes	**Unconditional Mitigation Target** • 14% reduction in greenhouse gas emissions from the 2015 BAU level by 2025 • 33% reduction in greenhouse gas emissions from the 2015 BAU level by 2030 **Conditional Mitigation Target** • Further 27% reduction in GHG emissions from a BAU level by 2025 • Further 45% reduction in GHG emissions from a BAU level by 2030 • Net zero emissions by 2050 • Conditions: internal assistance to access financial climate change financing, capacity building and technology resources
Tuvalu	**NDC Submissions:** First NDC 2015 **GDP per capita:** USD 4,143.11 (2020) **Population:** 11,792 (2020) **Long-term Strategy:** None submitted **Share of Global GHG Emissions:** 0.0006% (2016) **Mitigation Contribution Type:** GHG target (2025) **Target Type:** Base year, 2010 **Sectors covered:** Energy, agriculture, and waste **Adaptation:** Yes **Intention to use Market-based mechanisms:** No	**Unconditional Mitigation Target** • 100% reduction in GHG emissions from the electricity sector by 2025 – almost zero emissions by 2025 • 60% reduction in GHG from the entire energy sector below 2010 levels by 2025 **Conditional NDC Target** • Additional reductions in GHG emissions in other sectors, including agriculture and waste • Conditions: necessary finance and technology
Vanuatu	**NDC Submissions:** First NDC 2015, updated 2020 **GDP per capita:** USD 2,782.98 (2020) **Population:** 307,150 (2020) **Share of Global GHG Emissions:** 0.0006% (2016) **Mitigation Contribution Type:** GHG target (2030) **Target Type:** Base year target 2010 **Sectors covered:** Energy, Agriculture, AFOLU, and waste **Adaptation:** Yes **Adaptation sectors:** Water and AFOLU	**Unconditional Mitigation Target** None **Conditional Mitigation Target** Among other things: • 100% renewable energy by 2030 • 10% improvement in transport (land and marine) efficiency by 2030 • 20% bio-diesel (bio-fuel) blending in diesel by 2030 • Conditions: international support - external financing and increase in human and technological capacity

Country		Quantifiable targets
Egypt	**NDC Submissions:** First NDC 2017, updated 2022 and 2023 **GDP per capita:** USD 3,569.21 (2021) **Population:** 104,260,000 (2021) **Share of Global GHG Emissions:** 0.63% (2021) **Mitigation Contribution Type:** GHG target (2030) **Target Type:** N/A **GHG Target:** Egypt commits to reducing its electricity emissions by 37%, its oil and gas emissions by 65%, and its transport emissions by 7% by 2030 relative to BAU. **Sectors covered:** Energy (and sub-sectors); Agriculture; Waste; Industrial Processes; Oil and Natural Gas **Adaptation:** Yes **Adaptation sectors:** Food and Nutrition Security, Water, Nature-based Solutions, Disaster Risk Management, Human Health	**Unconditional Mitigation Target** None **Conditional Mitigation Target** None
Nepal	**NDC Submissions:** First NDC 2016, Second NDC 2020 **Quantified Long-Term Emissions Goal:** Net-zero emissions by 2045 **Net-Zero Target Year:** 2045 **GDP per capita:** USD 1,147.47 (2021) **Population:** 29,670,000 (2021) **Share of Global GHG Emissions:** 0.10% (2021) **Mitigation Contribution Type:** GHG target (2030) **Target Type:** Non-GHG target and actions **Sectors covered:** Various sectors mentioned for its mitigation and adaptation actions, such as energy, transportation, forestry, etc. **Adaptation:** Yes **Adaptation sectors:** Financing Adaptation, Disaster Risk Management, Human Health, Locally Led Adaptation, Food and Nutrition Security, Water	**Unconditional Mitigation Target** None **Conditional Mitigation Target** None
Vietnam	**NDC Submissions:** First NDC 2016, Revised First NDC 2022 **Quantified Long-Term Emissions Goal:** Net-zero emissions by 2045 **Net-Zero Target Year:** 2050 **GDP per capita:** USD 3,526.27 (2021) **Population:** 98,170,000 (2021) **Share of Global GHG Emissions:** 0.96% (2021) **Mitigation Contribution Type:** GHG target **Target Type:** Baseline scenario target **Sectors covered:** Various sectors mentioned for its mitigation and adaptation actions, such as energy, transportation, forestry, etc. **Adaptation:** Yes **Adaptation sectors:** Food and Nutrition Security, Water, Infrastructure, Nature-based Solutions, Cities and Urban Areas, Disaster Risk Management, Financing Adaptation, Human Health, Nature-based Solutions, Locally Led Adaptation, Cities and Urban Areas	**Unconditional Mitigation Target** • Estimated costs of unconditional part: 21,741.2 million USD • Target level of emissions: 781.6 $MtCO_2e$ • Vietnam commits to reducing its emissions by 15.8% by 2030 compared to BAU. **Conditional Mitigation Target** • Estimated costs of conditional part: 65,093.4 million USD • Target level of emissions: 524.2 $MtCO_2e$

Country		Quantifiable targets
Oman	**NDC Submissions:** First NDC 2019, Second NDC 2021, 2023 **Quantified Long-Term Emissions Goal:** Net-zero emissions by 2050 **Net-Zero Target Year:** 2045 **GDP per capita:** USD 14,485.39 (2021) **Population:** 5,220,000 (2021) **Share of Global GHG Emissions:** 0.20% (2021) **Mitigation Contribution Type:** GHG target (2030) **Target Type:** N/A **Sectors covered:** Power; Oil & Gas; Industry; Transport; Other sectors collectively contribute to less than 5% of emissions and include Agriculture, LULUCF, waste, and Hydrogen. **Adaptation:** Yes **Adaptation sectors:** Cities and Urban Areas, Infrastructure	**Unconditional Mitigation Target** • Oman commits to a reduction of 7% unconditional by 2030 relative to BAU, with total GHG emissions, capped at 84.25 Mt CO_2e in 2030 **Conditional Mitigation Target** • Oman commits to a reduction of 14% unconditional by 2030 relative to BAU, with total GHG emissions, capped at 84.25 Mt CO_2e in 2030
Micronesia	**NDC Submissions:** First NDC 2016, Second NDC 2021, 2023 **Quantified Long-Term Emissions Goal:** N/A **Net-Zero Target Year:** 2045 **GDP per capita:** USD 3,542.97 (2021) **Population:** 120,000 (2021) **GHG Target:** By 2030, reduce carbon dioxide emissions from electricity generation by more than 65% below 2000 levels **Share of Global GHG Emissions:** 0.00% (2021) **Mitigation Contribution Type:** GHG target and non-GHG target **Target Type:** Base year target **Sectors covered:** Energy sector: electricity generation and transport subsectors **Adaptation:** No **Adaptation sectors:** None	**Unconditional Mitigation Target** • Emission reductions expected from the unconditional INDC are expected to be 28% below emissions in year 2000, at a level of 108,000 tCO_2e approximately • Unconditional part of mitigation target = -28% **Conditional Mitigation Target** • Emission reductions expected from the conditional INDC are expected to be 35% below emissions in year 2000 projections, at a level of 94,000 tCO_2e approximately. • Conditional part of mitigation target = additional -7%
Fiji	**NDC Submissions:** First NDC 2016, Revised First NDC 2020 **GDP per capita:** USD 5,102.84 (2021) **Population:** 900,000 (2021) **Share of Global GHG Emissions:** 0.00% (2021) **Mitigation Contribution Type:** GHG target and non-GHG target (2030) **Target Type:** Baseline scenario target **Quantified Long-Term Emissions Goal:** Net-zero emissions by 2050 **Net-Zero Target Year:** 2050 **GHG Target:** "To reduce 30% of BAU CO_2 emissions from the energy sector by 2030" **Sectors covered:** Energy; including Electricity Generation and Transmission, Demand-Side Energy Efficiency, and Transport (Land and Maritime) **Adaptation:** Yes **Adaptation sectors:** N/A	**Unconditional Mitigation Target** • To reduce 30% of BAU CO_2 emissions from the energy sector by 2030. "Of the 30% reduction of BAU baseline CO_2 emissions, 10% will be achieved 'unconditionally' using available resources in the country **Conditional Mitigation Target** • To reduce 30% of BAU CO2 emissions from the energy sector by 2030. "Of the 30% reduction of BAU baseline CO_2 emissions, 20% achieved 'conditionally' using available resources in the country
Palau	**NDC Submissions:** First NDC 2016 **GDP per capita:** USD 14,243.86 (2021) **Population:** 20,000 (2021) **Share of Global GHG Emissions:** 0.00% (2021) **Mitigation Contribution Type:** GHG target and non-GHG target **Target type:** Base year target **GHG Target:** 22% reduction in GHG emissions from energy sector 2025 compared to 2005 **Sectors covered:** N/A **Adaptation:** No **Adaptation sectors:** N/A	**Unconditional Mitigation Target** None **Conditional Mitigation Target** None

Country		Quantifiable targets
Papua New Guinea	**NDC Submissions:** First NDC 2016, Second NDC 2020 **GDP per capita:** USD 2,757.01 (2021) **Population:** 9,120,000 (2021) **Share of Global GHG Emissions:** 0.11% (2021) **Non GHG target: Energy Industries:** "Increasing from 30% (2015) to 78% the level of installed capacity for on grid electricity generation that is produced by renewables;" LULUCF: "a 25% reduction in both the area of annual deforestation and annual degradation against 2015 levels (equating to a reduction in annual deforestation of 8,300 ha or annual degradation of 43,300ha) as well as an increase in the area of forest planted." **Mitigation Contribution Type:** GHG target and non-GHG target **Net-Zero Target Year:** 2050 **Sectors covered:** "This Enhanced NDC Focuses on targets and actions within these two sectors specifically the LULUCF sub-sector and Energy Industries sub-sectors, while also noting opportunities for action within the transport sub-sector and a commitment to enhance ambition in the way that PNG collects and manages data within them and across all emitting sectors to allow for further refinement and enhancement of ambition within future updates." **GHG target type:** Multiple target types **GHG Tagert:** Papua New Guinea commits a carbon neutrality target within the energy industries sub-sector by 2030, and a 10,000 Gg CO_2 eq reduction target in annual emission from deforestation and forest degradation compared to 2015 level by 2030. **Adaptation:** Yes **Adaptation sectors:** agriculture, health, infrastructure, Disaster Risk Management, and transport	**Unconditional Mitigation Target** None **Conditional Mitigation Target** None
Cook Islands	**NDC Submissions:** First NDC 2016 **GDP per capita:** N/A **Population:** N/A **Share of Global GHG Emissions:** 0.00% (2021) **Mitigation Contribution Type:** GHG target and non-GHG target **Target type:** Base year target **Net-Zero Target Year:** N/A **GHG Tagert:** Period for defining contribution (outcomes): 2020, 2025 **Sectors covered:** Electricity **Adaptation:** Yes **Adaptation sectors:** Agriculture, Coastal zone, LULUCF: Forestry, Tourism, Urban, Water	**Unconditional Mitigation Target** • GHG target: 38% reduction by 2020 (unconditional) **Conditional Mitigation Target** • GHG target: 81% reduction by 2020 (conditional)

Country		Quantifiable targets
Niue	**NDC Submissions:** First NDC 2016 **GDP per capita:** N/A **Population:** N/A **Share of Global GHG Emissions:** 0.00% (2021) **GHG Tagert:** 38% reduction by 2020 (unconditional) and 81% reduction by 2030 (conditional) in GHG emission from electricity generation compared to 2006 **Mitigation Contribution Type:** Non-GHG target only **Target type:** Base year target **Net-Zero Target Year:** N/A **Sectors covered:** Electricity **Adaptation:** Yes **Adaptation sectors:** Agriculture, Coastal zone, LULUCF: Forestry, Tourism, Urban, Water	**Unconditional Mitigation Target** None **Conditional Mitigation Target** None
Republic of Marshall Islands	**NDC Submissions:** First NDC 2016, Second NDC 2018 **GDP per capita:** USD 4,129.85 (2021) **Population:** 60,000 (2021) **Share of Global GHG Emissions:** 0.00% (2021) **Mitigation Contribution Type:** GHG target(2030) **Target type:** Base year target ("Absolute economy-wide emission reduction target (excluding LULUCF)") **Quantified Long-Term Emissions Goal:** Net-zero emissions by no later than 2050 **Net-Zero Target Year:** 2050 **GHG Target:** GHG reduction of at least 45% below 2010 levels by 2030. **Non-GHG target:** "These targets progress beyond the Republic of the Marshall Islands' (RMI's) Copenhagen pledge, and…Put RMI on a trajectory to nearly halve GHG emissions between 2010 and 2030, with a view to achieving net zero GHG emissions by 2050 or earlier if possible. This will require a significant improvement in energy efficiency and uptake of renewables, in particular solar and biofuels." "Reducing fossil-fuel imports is the major goal, with the uptake of renewable energy and further energy efficiency improvements on both the demand and supply sides expected to replace more than one third of fossil fuels for electricity and transport by 2030." **Sectors covered:** Energy, Electricity Generation, Transport (land and shipping), Other (cooking and lighting), Waste **Adaptation:** Yes **Adaptation sectors:** None	**Unconditional Mitigation Target** None **Conditional Mitigation Target** None

Appendix 3: NDCs – Sectoral Targets

Country		Quantifiable targets
Bangladesh	**Energy** • Unconditional: 26.3 Mt CO_2e (95.4% of total emissions) reduction • Conditional: 59.7Mt CO_2e (96.46% of total emissions) reduction **AFOLU** • Unconditional: 0.64 Mt CO_2e (2.3% of total emissions) reduction • Conditional: 0.4 Mt CO_2e reduction (0.65% of total emissions)	**Waste** • Unconditional: 0.6 Mt CO_2e (2.2% of total emissions) reduction • Conditional: 1.84 Mt CO_2e (2.97% of total emissions) reduction
Pakistan	**Power/Energy** • 60% renewable energy by 2030 Ban imported coal **LULUCF** • Sequester 148.76 MtCO_2e emissions over the next 10 years	**Transport** • 30% electric vehicles
Sri Lanka	**Power** • 70% renewable energy in electricity generation by 2030 • No capacity addition of coal power plants. • Carbon neutrality by 2050 in electricity generation • 25% GHG emission reduction (5% unconditionally and 20% conditionally) from BAU levels in 2021- 2030, equivalent to an estimated mitigation level of 9,819,000 MT unconditionally and 39,274,000 MT conditionally (total of 49,093,000 MT) of CO_2-e during the period of 2021-2030 **Forestry** • 7% reduction of GHG emissions (2% unconditionally and 5% conditionally) from BAU levels in 2021-2030, equivalent to an estimated GHG emissions reduction of 2,357,000 MT (705,000 MT unconditionally and 1,652,000 MT conditionally) of carbon dioxide equivalent during that period **Industry** • 7% GHG emissions reduction (4% unconditionally and 3% conditionally) from BAU levels in 2021-2030, equivalent to an estimated mitigation level of 2,088,000 MT unconditionally and 1,482,000 MT conditionally (total of 3,570,000 MT) of carbon dioxide equivalent during that period	**Waste** • 11% reduction of GHG emissions (8.5% unconditionally and 2.5% conditionally) from BAU levels in 2021-2030, equivalent to an estimated GHG emissions reduction of 2,549,000 MT (1,969,000 MT unconditionally and 580,000 MT conditionally) of carbon dioxide equivalent during that period **Agriculture** • 7% reduction of GHG emissions (4% unconditionally and 3% conditionally) from BAU levels in 2021-2030, equivalent to an estimated GHG emissions reduction of 4,335,400 MT (2,477,400 MT unconditionally and 1,858,000 MT conditionally) of carbon dioxide equivalent during that period
Samoa	**Energy** • Reduction GHG emissions in the energy sector by 30% in 2030 compared to 2007 levels (or by 53 Gg CO_2e compared to the new reference year once the GHG emissions inventory is updated) **AFOLU** • Reduce GHG emissions in the AFOLU sector by 26% reduction in 2030 compared to 2007 levels (or by 35.2 Gg CO_2e compared to the new reference year once the GHG emissions inventory is updated) in AFOLU sector	**Waste** • Reduction of GHG emissions in the waste sector by 4% in 2030 compared to 2007 levels (or by 1.2 Gg Co_2e compared to the new reference year once the GHG emissions inventory is updated)
Solomon Islands	**Power** • 100% renewable energy by 2050	

Country		Quantifiable targets
Tuvalu	**NDC Submissions:** First NDC 2015 **GDP per capita:** USD 4,143.11 (2020) **Population:** 11,792 (2020) **Long-term Strategy:** None submitted **Share of Global GHG Emissions:** 0.0006% (2016) **Mitigation Contribution Type:** GHG target (2025) **Target Type:** Base year, 2010 **Sectors covered:** Energy, agriculture, and waste **Adaptation:** Yes **Intention to use Market-based mechanisms:** No	**Unconditional Mitigation Target** • 100% reduction in GHG emissions from the electricity sector by 2025 – almost zero emissions by 2025 • 60% reduction in GHG from the entire energy sector below 2010 levels by 2025 **Conditional NDC Target** • Additional reductions in GHG emissions in other sectors, including agriculture and waste • Conditions: necessary finance and technology
Vanuatu	**Energy** See above • 40% reduction in GHG emissions from the energy sector from the BAU level by 2030 **Waste** • 56% (29.335 Gg) reduction in GHG emissions from the waste sector from the BAU level by 2030	**AFOLU** • 9% (30.977 Gg CO_2-e) reduction in GHG emissions from livestock from the BAU level by 2030
Egypt	**Building** • It is planned to develop 16,960 residential units according to green building standards by 2030 and increase awareness and community participation on sustainable buildings • 5,300 solar water heaters • Under the umbrella of Decent Life Initiative's 'Hayah Karima' initiated in January 2021, the sector aims improve the standard of living of citizens through access to clean fuel in households. The natural gas pipelines were already connected to 86 villages. It is planned to extend to additional 180 villages serving 476,000 residents • Installing additional renewable energy (RE) capacities to increase electricity generation contribution to be 42% of generation mix by 2030 • Reduction of 80.52 $GgCO_2e$ (to a level of 134.22 $GgCO_2e$) in emissions from electricity generation, transmission, and distribution by 2030. • The cement sector has already started using alternative fuel at a share of 6.4% in 2015 to replace a percentage of the coal used as the main fuel for the thermal energy. Furthermore, it is planned to decrease the average specific energy consumption from 3710 to 3540 MJ/ton cement • Utilization of waste as alternative fuel in cement sector, waste to biofuels, and installation of 300 MW to generate electric power through incineration, pyrolysis, and other modern technologies"	• Greening of the civil aviation sector through introducing 2% biofuels to airplanes • Low investment energy efficiency measures in petroleum companies to reduce 5% of the sector's energy consumption. • Reduce GHG emissions by 1.682 Gg CO_2e by 2030 (to a level of .89 $GgCO_2e$) in the oil and gas subsector. • The total renewable energy (including hydropower) in FY2019/20 is 5,848 MW • The total installed wind and solar power plants in FY2019/20 are 3,016 MW which is 340% increase from FY2015/16 (887 MW) • Increase waste-to-energy contribution in solid waste management up to 20% of collected waste by 2026 through utilization of waste as alternative fuel in cement sector, waste to biofuels • Installation of 300 MW to generate electric power through incineration, pyrolysis, and other modern technologies • Utilization of waste as alternative fuel in cement sector, waste to biofuels, and installation of 300 MW to generate electric power through incineration, pyrolysis, and other modern technologies

Country		Quantifiable targets
Nepal	**Agriculture** • By 2030, the number of organic fertilizer production plants in the country will reach 100 • By 2030, establish 200 climate-smart villages and 500 climate-smart farms • By 2030, mulberry and fruit orchard areas will be expanded to 6,000 ha • By 2030, the number of additional improved cattle sheds will reach to 5,00,000 for quality farm-yard manure production and use **Buildings** • By 2025, install 500,000 improved cookstoves, specifically in rural areas. • By 2030, ensure 25% of households use electric stoves as their primary mode of cooking • Residential cooking and biogas.... reduce emissions from approximately 1,999 Gg CO_2 eq. in BAU in 2025 to approximately 1,774 Gg CO_2 eq. This is around 11% reduction in emissions from the cooking sector. For 2030, these three targets can reduce emissions from approximately 2,064 Gg CO_2 eq. from BAU to 1,599 Gg CO_2 eq., which is around 23% reduction in emissions. **LULUCF** • By 2030, maintain 45% of the total area of the country under forest cover (including other wooded land limited to less than 4%) • By 2030, manage 50% of Tarai and Inner Tarai forests and 25% of middle hills and mountain forests sustainably, including through the use of funding from REDD+ initiatives • By 2030, upgrade watershed health and vitality in at least 20 districts to a higher condition category • By 2030, manage 50% of Tarai and Inner Tarai forests and 25% of middle hills and mountain forests sustainably, including through the use of funding from REDD+ initiatives **Transport** • By 2030, develop 200 km of the electric rail network to support public commuting and mass transportation of goods • By 2030, increase sales of e-vehicles to cover 90% of all private passenger vehicle sales, including two-wheelers and 60% of all four-wheelers public passenger vehicle sales (the public passenger target does not take into account electric-rickshaws and electric-tempos). • Sales of electric vehicles (e-vehicles) in 2025 will be 25% of all private passenger vehicles sales, including two-wheelers and 20% of all four-wheelers public passenger vehicle sales (this public passenger target does not take into account electric-rickshaws and electric-tempos) • Energy demand for fossil fuels will decrease from approximately 48 million GJ in the 2030 BAU scenario to 34.5 million GJ, which is around 28% decrease in fossil fuel dependency	**Soil fertilization emissions** • By 2030, soil organic matter content of agriculture land will reach to 3.95% **Energy** • By 2030, ensure 15% of the total energy demand is supplied from clean energy sources • Due to this e-vehicle sales target, fossil fuel energy demand for the transportation sector will decrease from approximately 40 million GJ in the Business. As Usual (BAU) scenario in 2025 to 36 million GJ. This would be around a 9% decrease in fossil fuel dependency • By 2025, install an additional 200,000 household biogas plants and 500 large scale biogas plants(institutional/industrial/municipal/community) • By 2030, expand clean energy generation from approximately 1,400 MW to 15,000 MW, of which 5-10 % will be generated from mini and micro-hydro power, solar, wind and bioenergy • Residential cooking and biogas.... reduce emissions from approximately 1,999 Gg CO_2 eq. in BAU in 2025 to approximately 1,774 Gg CO_2 eq. This is around 11% reduction in emissions from the cooking sector. For 2030, these three targets can reduce emissions from approximately 2,064 Gg CO_2 eq. from BAU to 1,599 Gg CO_2 eq., which is around 23% reduction in emissions. • By 2030, adopt and implement waste segregation, recycling and waste-to-energy programs in at least 100 municipalities • By 2030, the number of additional improved cattle sheds will reach to 5,00,000 for quality farm-yard manure production and use" **Waste** • By 2030, adopt and implement waste segregation, recycling and waste-to-energy programs in at least 100 municipalities • By 2030, the number of additional improved cattle sheds will reach to 5,00,000 for quality farm-yard manure production and use • By 2030, the burning of healthcare waste in 1,400 healthcare facilities will be prohibited by proper management of healthcare waste through the application of non-burn technologies • By 2025, 380 million liters/day of wastewater will be treated before being discharged, and 60,000 cubic meters/year of fecal sludge will be managed. These two activities will reduce around 258 Gg CO_2 eq. compared to BAU

Country		Quantifiable targets
Vietnam	**Agriculture** • GHG emission reduction Conditional Contribution: Reduction amount (Mt CO_2eq): 50.9 • Measures to reduce methane emissions in sub-sectors of agriculture, especially wet rice farming and management of livestock waste and agricultural by-products are those carried out for the implementation of Viet Nam's statement at COP26 so as to reduce methane emission by 30% from 2020 levels by 2030 **Economy wide: Methane** • Viet Nam, together with other countries, pledged to reduce methane emissions by 30 percent from 2020 levels by 2030 **LULUCF** • GHG emission reduction Conditional Contribution: Reduction amount (Mt CO_2eq): 46.6 • GHG emission reduction Unconditional Contribution: Reduction amount (Mt CO_2eq): 32.5	**Energy** • GHG emission reduction Conditional Contribution: Reduction amount (Mt CO_2eq): 227.0 • GHG emission reduction Unconditional Contribution: Reduction amount (Mt CO_2eq): 64.8 **Industries** • GHG emission reduction Conditional Contribution: Reduction amount (Mt CO_2eq): 49.8 • GHG emission reduction Unconditional Contribution: Reduction amount (Mt CO_2eq): 27.9 **Waste** • GHG emission reduction Conditional Contribution: Reduction amount (Mt CO_2eq): 29.4 • GHG emission reduction Unconditional Contribution: Reduction amount (Mt CO_2eq): 8.7
Oman	**Economy wide: Methane** • The O&G companies have pledged to reduce methane emissions by 30% by 2030 **Energy** • Ambitious goals for renewable hydrogen production: 1 Mt by 2030, Up to 3.75 Mt by 2040, Up to 8.5 Mt by 2050 • Transition to alternative production methods by 2050, reducing reliance on conventional processes and achieving a 50/50 split with renewable energy sources • Mitigation Target by 2030 (Percentage from BAU), Power Sector: 42% • Mitigation Target by 2030 (Percentage from BAU), Oil and Gas Sector: 17% • Increase the share of renewable energy in the energy mix to 35-39% by 2040	**Industries** • Mitigation Target by 2030 (Percentage from BAU), Industry Sector: 7% **Transport** • The Sustainable Transport Master Plan aims to reduce the carbon intensity of the transport sector by 20% and electrify 34% of its cars by 2030 **Waste** • The Biogas Project aims at diversion of 60% of Municipal Solid Waste (MSW) from landfills by 2025, and 80% by 2030
Micronesia	**Energy** • By 2030, increase electricity generation from renewable energy to more than 70% of total generation • Renewable Energy %: 63% by 2027 and 84% by 2037 • By 2030, increase access to electricity to 100% nationwide • By 2030, reduce carbon dioxide emissions from electricity generation by more than 65% below 2000 levels • Electricity Access: 100% by 2027 and 2037 • The FSM presently envisions achieving 100% access to energy by the end of the decade and an 80% reduction of fossil fuel diesel for electricity generation use over the next two decades **Economy wide** • By 2030, reduce black carbon and methane emissions related to diesel electric generation by more than 65% below 2000 levels	**LULUCF** • By 2030, effectively manage 50% of marine resources and 30% of terrestrial resources, including restricting commercial fishing in up to 30% of the FSM marine environment **Agriculture** • By 2030, effectively manage 50% of marine resources and 30% of terrestrial resources, including restricting commercial fishing in up to 30% of the FSM marine environment

Country		Quantifiable targets
Fiji	Energy • As a contribution to Target 1, to reach close to 100% renewable energy power generation (grid connected) by 2030, thus reducing an expected 20% of energy sector CO_2 emissions under a BAU scenario • To reduce 30% of BAU CO_2 emissions from the energy sector by 2030	Transport • As a contribution to Target 1, to reduce domestic maritime shipping emissions by 40%
Palau	Energy • 22% energy sector emissions reductions below 2005 levels by 2025 • 45% Renewable Energy target by 2025 • 35% Energy Efficiency target by 2025	
Papua New Guinea	LULUCF • By 2030, the annual emission from deforestation and forest degradation due to agriculture expansion and commercial logging will be reduced by 10,000 Gg CO_2 eq comparing to 2015 level. This will result in the LULUCF sub-sector moving from a net GHG source (1, 176 Gg CO_2 eq) in 2015 to net GHG sink (-8,284 Gg CO_2 eq) by 2030 to mitigate emissions from other sector. This will be achieved by a 25 percent reduction in both the area of annual deforestation and annual degradation against 2015 levels (equating to a reduction of 8,300 ha of annual deforestation and 43,300ha of degradation) as well as an increase in the areas of forest planted • The area of annual deforestation is reduced by 25 percent of 2015 level by 2030 (Equating to a reduction of 8,300 ha of annual deforestation)""The area of forest degradation is reduced by 25 percent of 2015 level by 2030 (Equating to a reduction of 43,300 ha of annual degradation)	Energy • Increasing levels of renewables in the energy mix for on-grid connection – through increasing the share of installed capacity of renewable energy from 30 percent in 2015 to 78 percent in 2030 • PNG is committing to a headline target of carbon neutrality within the energy industries sub-sector by 2030
Cook Islands	Energy • Using 2006 as the base year, emission from electricity generation will be reduced by 38% by 2020	
Niue	Energy • Implement additional renewable energy generation capacity to increase RE share from 35% to 80% • In line with Niue's resilience approach to reduce dependence on imported fossil fuels, Niue will achieve a 38% share of renewable energy of total electricity generation by 2020 • Niue is committed to transitioning the electricity sector from fossil fuel to renewable energy. The NiSERM outlines Niue's aspiration to meet 80% of its electricity needs from renewable energy sources by 2025, which would in turn reduce the country's high reliance on imported fossil fuel • 10% reduction in residential, commercial and government electricity demand by 2020	
Republic of Marshall Islands	Economy-wide • RMI is committed to reducing GHG emissions from domestic shipping 40% below 2010 levels by 2030 and full decarbonization of the sector by 2050 Energy • 100% renewable energy... by 2050	Transport • Reduce domestic transport emissions (including shipping) by 16% in 2025 and 27% in 2030 • RMI is committed to reducing GHG emissions from domestic shipping 40% below 2010 levels by 2030 and full decarbonization of the sector by 2050

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