UNITED NATIONS DEVELOPMENT PROGRAMME

Developing and implementing NDC roadmaps and financing strategies:

Lessons learned from the NDC Support Programme (2017-2025)

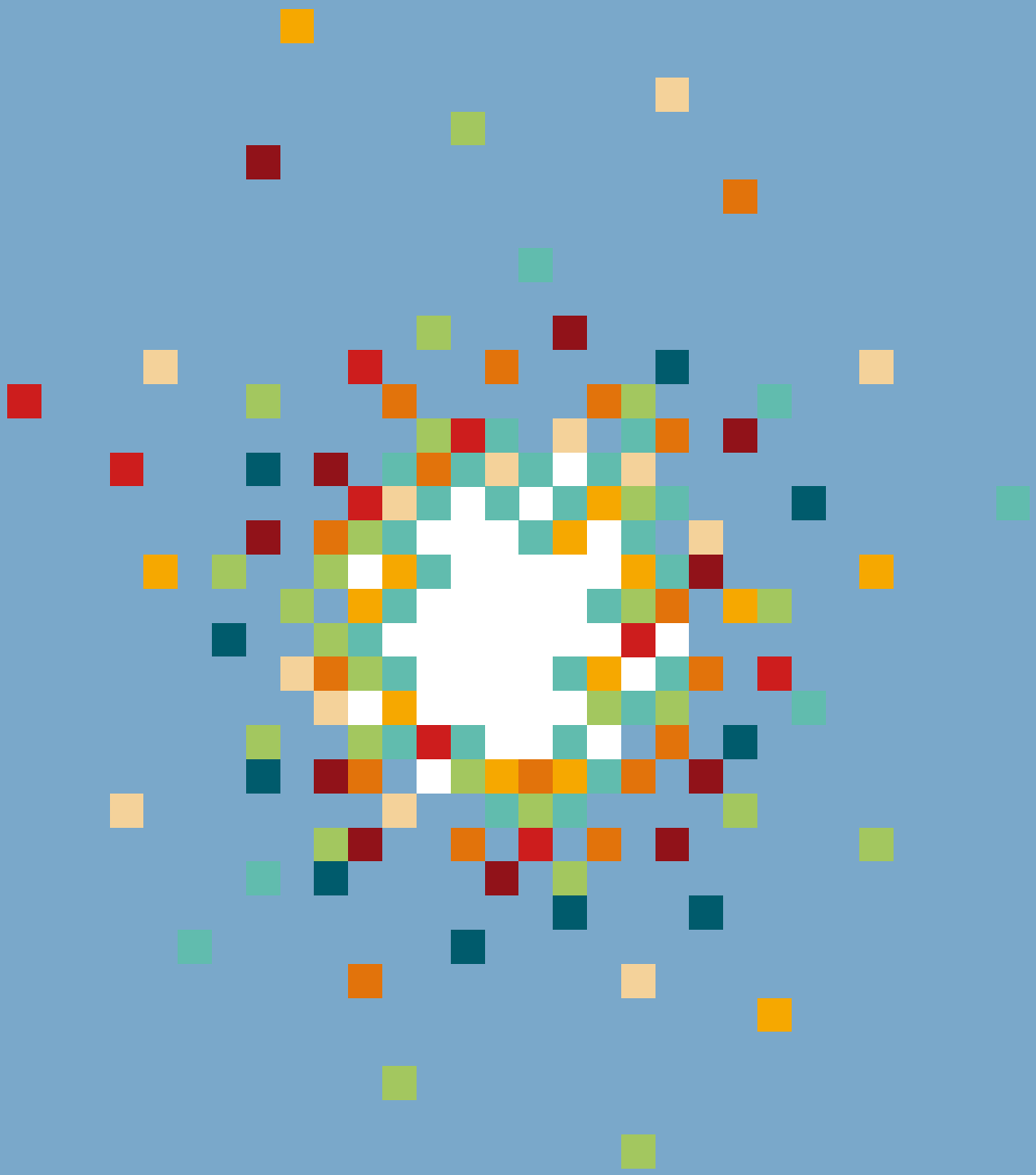

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Table of contents

Acronyms

AFD	French Development Agency *(Agence Française de Développement)*
CBT	Climate Budget Tagging
CPEIR	Climate Public Expenditure and Institutional Review
CRGE	Climate-Resilient Green Economy
GIZ	German Agency for International Cooperation *(Deutsche Gesellschaft für Internationale Zusammenarbeit)*
GHG	Greenhouse gas
I&FF	Investment and Financial Flow
MRV	Monitoring, Reporting and Verification
NDC	Nationally Determined Contribution
NDC SP	NDC Support Programme
OECD	Organisation for Economic Co-operation and Development
PCEIR	Private Sector Climate Expenditure and Institutional Review
SDGs	Sustainable Development Goals
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change

Executive summary

The Paris Agreement emphasizes the need to align climate action with broader socio-economic goals to ensure sustainable, low-carbon and climate-resilient development pathways. Nationally Determined Contributions (NDCs), as national climate pledges and action plans, play a vital role in aligning countries' climate and growth goals to ensure they support low-carbon development pathways. As countries prepare to submit their next round of NDCs for the 2025 submission cycle, there is a renewed focus on enhancing ambition, strengthening implementation and aligning financing strategies with long-term climate goals.

NDC roadmaps[1] and financing strategies[2] are crucial for operationalizing country commitments. While roadmaps provide a structured framework to guide action, financing strategies address resource mobilization and allocation to ensure implementation. Together, they serve as essential tools for translating climate commitments under the Paris Agreement into actionable, measurable plans that align with national development priorities and address critical governance, financing and capacity challenges.

This document examines lessons learned and good practices from the development and implementation of NDC roadmaps and NDC financing strategies in eight countries supported under the United Nations Development Programme's (UNDP) NDC Support Programme (NDC SP): Argentina, Ecuador, Ethiopia, Guatemala, Nigeria, Paraguay, Peru and Tunisia.

The analysis highlights how these eight countries tailored their approaches to address unique national circumstances. **Argentina** focused on aligning its NDC roadmap with national long-term strategies and the Sustainable Development Goals (SDGs), while **Ecuador** employed participatory governance to foster inclusion and accountability. **Ethiopia** integrated its NDC roadmap into its Climate-Resilient Green Economy (CRGE) strategy to ensure coherence with national development priorities. **Guatemala** emphasized subnational consultations and local-level capacity-building to strengthen adaptation planning. **Nigeria** raised its NDC ambition through early parliamentary engagement and strong interministerial coordination. **Paraguay** strengthened governance structures and developed sectoral mitigation plans that integrate financial planning through an investment climate analysis, serving as national roadmaps for mitigation planning. **Peru** adopted innovative tools, such as its voluntary carbon footprint platform, to improve transparency and mobilize private sector participation, while **Tunisia** strengthened institutional capacity and governance frameworks to support energy-related mitigation measures.

Lessons learned from this analysis highlight critical factors for successfully developing and implementing NDC roadmaps and NDC financing strategies. Key takeaways include the following:

- Embed NDC roadmaps and financing strategies into national governance and financial systems to enhance policy coherence, avoid fragmentation and strengthen the integration of climate actions into national development priorities.
- Maintain strong interministerial coordination to ensure alignment between sectoral and national priorities, fostering integrated decision-making and enhancing the effectiveness of NDC implementation.
- Link financing strategies to roadmap priorities to mobilize resources, overcome funding gaps and scale impactful climate actions.
- Adopt inclusive and participatory approaches to ensure NDC roadmaps and financing strategies reflect local needs, integrate diverse perspectives and build broad public and political support.
- Ensure sustained capacity-building efforts to equip institutions and stakeholders with the necessary tools, knowledge and resources to achieve long-term, measurable results.

1 NDC roadmaps can have different names, such as NDC implementation roadmaps or implementation plans. For consistency, the term "NDC roadmaps" will be used in this brief. In some cases, these roadmaps are included in the official NDC submission, while in other cases they are separate documents.

2 NDC financing strategies are also referred to as NDC investment plans in some countries. For consistency, the term "NDC financing plans" will be used in this policy brief.

- Ensure transparent and inclusive planning processes to enhance institutional resilience and sustain progress toward climate goals.
- Develop inclusive, context-specific climate strategies to reinforce resilience and equity while ensuring benefits are shared fairly.

This document highlights the interconnected roles of NDC roadmaps and NDC financing strategies in advancing climate action. By addressing governance, financing and capacity-building challenges, countries can enhance their ability to achieve transformative climate and development outcomes, that meaningfully contribute to the global effort to limit temperature rises to 1.5°C above pre-industrial levels.

The 2025 NDC submission cycle presents a critical opportunity to incorporate lessons from previous cycles, address gaps identified in the first Global Stocktake and mobilize resources for transformative action. By linking NDC roadmaps and financing strategies to this process, countries can establish more robust frameworks for policy coherence, investment planning and whole-of-government engagement, ensuring that climate commitments translate into tangible outcomes.

1. Introduction

The NDC Support Programme (NDC SP) represents a significant initiative in the global effort to enhance and support climate action. As part of this programme, a series of lessons-learned reports have been developed to capture insights into various programme outcomes. This report focuses specifically on how the NDC SP has facilitated the development and implementation of Nationally Determined Contribution (NDC) roadmaps and financing strategies. The findings presented here are derived from a comprehensive review of activities and outcomes related to NDC SP result areas (see Box 1 for more background on the programme).

The purpose of this report is to provide a detailed summary of the lessons learned from the NDC SP's efforts in advancing the design and execution of NDC roadmaps and financing strategies, both of which support NDC implementation. The insights presented here are designed to guide United Nations Development Programme (UNDP) staff and climate practitioners in refining future strategies and programmes that aim to strengthen national climate planning and financing mechanisms. These insights can also be useful to countries as they revise and submit NDCs in the 2025 submission cycle.

Box 1

Background to UNDP's NDC SP

The NDC SP, launched in 2017, supported developing countries in implementing their NDCs under the Paris Agreement. The NDC SP sought to drive transformational change by scaling up climate investments. The programme's resources exceeded US$74.7 million, with contributions aimed at enhancing the capacity of governments to deliver on their climate commitments. The programme focused on six result areas that were further underpinned by peer-to-peer knowledge sharing and advocacy efforts:

1. Leadership strengthened and championed to promote ambitious climate change vision;
2. Integrated governance enhanced to deliver NDC outcomes;
3. Evidence-based design and planning of mitigation actions delivered;
4. Capacities developed to design climate-friendly investment opportunities, address investor risk, and blend and catalyze climate finance;
5. Enabling environment enhanced for private sector engagement; and
6. Alignment between COVID-19 recovery efforts and NDC enhancement and implementation processes strengthened.

Notably, the NDC SP built on earlier UNDP initiatives, such as the Low Emission Capacity-Building Programme, and continues to support countries in fulfilling their Paris Agreement commitments. The results achieved under the NDC SP are part of an ongoing effort that integrates previous and current initiatives, demonstrating the continuity and evolution of UNDP's support for climate action. Further, NDC SP's results in many cases are being sustained and scaled up through the Climate Promise portfolio, as well as other joint funding arrangements and complementary UNDP programming.

Result areas 3 and 4 and their corresponding activities contributed to the development and implementation of gender-responsive NDC roadmaps that define key roles, responsibilities and timelines, as well as the formulation of NDC financial strategies to secure resources from national, international, public and private sources. Activities included refinement and disaggregation of economy-wide NDC mitigation targets into sectoral targets and/or development of sectoral plans and actions, costing of NDC priorities, integration of gender considerations, identification of implementation barriers, business case development for mitigation actions and capacity-building and stakeholder engagement. In total, 40 countries undertook activities under result area 3, and 22 countries undertook activities under result area 4.

2. Context and relevance

The development and implementation of NDC roadmaps and financing strategies are increasingly recognized as cornerstones for achieving the ambitious goals outlined in the Paris Agreement. These tools play a critical role in operationalizing NDCs by transforming high-level climate commitments into actionable, measurable outcomes. NDC roadmaps provide sector-specific frameworks that outline priorities, governance mechanisms and timelines, ensuring alignment with broader national development plans. Complementarily, financing strategies mobilize and allocate resources, utilizing innovative financial instruments such as green bonds, climate budget tagging (CBT) and public-private partnerships to address funding gaps and attract private investment. This is particularly vital for developing countries, where systemic challenges such as limited financial resources, high investment risks and insufficient institutional capacity often hinder progress (UNDP, 2023). By aligning roadmaps and financing strategies with socio-economic priorities such as poverty alleviation, renewable energy expansion and ecosystem resilience, countries can create pathways that are both inclusive and sustainable (UNFCCC, 2015; UNDP, 2023).

Box 2

Background to the Paris Agreement, NDCs, and the role of NDC roadmaps and NDC financing strategies

The Paris Agreement, adopted in December 2015 during COP21, is a legally binding treaty that seeks to limit global warming to well below 2°C, with efforts to cap it at 1.5°C above pre-industrial levels. Central to the Agreement are NDCs, which outline countries' commitments to reduce greenhouse gas (GHG) emissions and adapt to climate impacts. These NDCs serve as roadmaps for integrating climate action into national development priorities, addressing issues such as renewable energy expansion, poverty alleviation and public health (UNFCCC, 2015; UNDP, 2023). NDC roadmaps and financing strategies are pivotal for turning these commitments into actionable outcomes. Roadmaps provide sector-specific frameworks that define priorities, timelines, and governance structures, while financing strategies mobilize resources and address investment challenges, particularly in developing countries. They also help ensure accountability by allowing governments to track progress and prioritize resource allocation in alignment with their climate goals.

The Paris Agreement emphasizes aligning financial flows with low-emission and climate-resilient pathways (Article 2.1(c)) and highlights the responsibility of developed nations to provide financial resources for mitigation and adaptation (Article 9). Mechanisms under the Agreement, such as international climate finance and market-based approaches, aim to mobilize public and private sector contributions, addressing systemic barriers like high perceived risks and limited institutional capacity (UNFCCC, 2015; UNDP, 2023). By leveraging these mechanisms, countries can accelerate their transitions to low-carbon economies and increase resilience against climate impacts.

The NDC SP underscored the value of linking roadmaps with financing strategies, using participatory processes to ensure context-specific and inclusive designs. By integrating tools like CBT and blended finance models, countries enhance transparency, track climate expenditures and attract investments. The focus on collaboration between government agencies, private investors and civil society has further strengthened the effectiveness of NDC implementation efforts. Inclusive and equity-focused approaches are essential for ensuring that climate action benefits vulnerable populations. Gender-responsive strategies help build resilience and foster support for NDC implementation. Lessons from the NDC SP highlight the importance of strong governance frameworks and transparent monitoring, reporting and verification (MRV) systems in building stakeholder confidence and sustaining investments (OECD, 2023).

The periodic revision of NDCs provides opportunities to refine strategies and enhance ambition. The 2025 submission cycle is a key moment to integrate private sector engagement and scale up innovative financing, aligning national efforts with global climate goals.

3. Good practices from case studies

The identification of good practices for developing and implementing NDC roadmaps and financing strategies was conducted through a systematic process that combined desk reviews and stakeholder consultations. This effort focused on eight countries supported by the NDC SP, selected for their successful achievements, lessons learned and the potential for replicability across diverse geographical and sectoral contexts. Interviews were held with UNDP in-country coordinators or representatives from country offices identified by UNDP. These discussions provided valuable insights into the successes, challenges and innovative practices employed in each context.

The interviews served as a primary source of information, supplemented by UNDP country briefs, annual reports and other relevant documentation. While the focus was on capturing practices that demonstrated tangible outcomes, the process also highlighted the importance of context-specific approaches, stakeholder engagement and adaptability in climate action planning. The following sections outline the main thematic focus of each country, summarize the trends observed across the eight cases, and provide detailed examples from selected countries to illustrate good practices.

Table 1 provides an overview of the eight countries analysed as part of this study. Each country was supported to develop and implement NDC roadmaps and financing strategies tailored to their unique contexts and challenges. The interventions varied widely, reflecting the diverse priorities, institutional capacities and climate goals of each nation. The table also summarizes the main objectives of each country's intervention and its implementation timeline.

Table 1: Overview of country objectives for NDC roadmaps and financing strategies[3]

Country	Objective of intervention	Implementation timeline	NDC roadmap	Financing strategy
Argentina	Enhancing institutional coordination and aligning NDC targets with long-term strategies and SDGs	August 2019–July 2022	National Adaptation and Mitigation Plan, 2022	
Ecuador	Mainstreaming NDCs into financial structures, tracking climate investments and engaging the private sector	January 2017–March 2022	NDC Implementation Plan, 2020-2025	Finance tracking tools
Ethiopia	Developing an NDC finance strategy, integrating NDCs into development plans and enhancing institutional capacity	April 2020–August 2021	NDC implementation plan	Financing Strategy and Implementation Plan (2021)
Guatemala	Strengthening governance and monitoring systems for NDC implementation	January 2018–November 2020	NDC roadmap	
Nigeria	Preparing sectoral financial strategies and strengthening NDC progress tracking with a focus on energy and forestry	October 2018–July 2021	NDC implementation plan	NDC finance strategy and investment plan
Paraguay	Designing mitigation strategies and financial mechanisms and advancing MRV systems for NDC implementation	October 2019–October 2022		Investment climate analysis
Peru	Aligning NDC implementation with enhanced transparency and sectoral finance strategies for priority measures	October 2017–December 2021	Ministry roadmaps for implementation	Climate Finance Strategy
Tunisia	Establishing NDC implementation governance structures and advancing energy-related mitigation measures	April 2018–August 2023	NDC Partnership Plan, 2019; NDC implementation plan 2023	

3 Where strategies do not have hyperlinks, the document is not publicly available.

3.1 General trends and good practices in developing NDC roadmaps and financing strategies

The analysis of eight country case studies under the NDC SP has identified a set of good practices that have proven effective in advancing the development and implementation of NDC roadmaps and financing strategies. By examining real-world experiences from diverse national contexts, these case studies have revealed practical approaches, innovative solutions and critical insights that can inform scalable and replicable strategies for achieving climate and development goals. These trends reflect how countries are addressing barriers, strengthening institutional systems and mobilizing financial resources to deliver on their NDC commitments.

The case studies provide a diverse set of examples of how countries have approached these challenges. In **Argentina,** the establishment of the National Climate Change Cabinet facilitated coordination among ministries and regional governments, ensuring that NDC goals were mainstreamed into national and sectoral policies while addressing region-specific priorities. **Ecuador** emphasized participatory processes in the development of its updated NDC roadmap, aligning sectoral actions with national targets while incorporating gender equity considerations. In **Ethiopia,** capacity-building efforts strengthened the institutional readiness of government officials to track GHG emissions, manage climate finance and implement the mitigation and adaptation measures outlined in the NDC roadmap. **Guatemala** adopted an inclusive approach by consulting with Indigenous communities and marginalized groups to ensure that its NDC roadmap addressed local vulnerabilities and reflected traditional knowledge. In **Nigeria,** the NDC revision process raised national climate ambition and strengthened institutional coordination through early parliamentary engagement and an active interministerial group. The country also advanced its financing strategy by conducting an investment and financial flow (I&FF) analysis to estimate resource needs and guide investment planning. **Paraguay** introduced CBT to systematically track and manage climate-related expenditures, improving transparency and identifying critical funding gaps for implementing NDC priorities. In Peru, the *Dialoguemos sobre las NDC* [Let's Talk About the NDCs] process offered a highly participatory approach to the updated NDC and its sectoral roadmaps. Finally, Tunisia focused on addressing institutional fragmentation by creating a governance roadmap and enhancing collaboration between public and private actors to align financial flows with its NDC roadmap and climate priorities.

©UNDP Ethiopia

These examples underscore how countries supported by the NDC SP are advancing innovative governance models, mobilizing financial resources, strengthening institutional capacity and fostering inclusivity to achieve their NDC targets. The following trends represent the core structural elements and good practices identified across the case studies, offering practical guidance for countries seeking to develop and implement robust NDC roadmaps and financing strategies in support of the Paris Agreement.

1 **Establishing multisectoral and inclusive governance frameworks.** Effective governance frameworks are essential to implementing NDC roadmaps. The NDC SP highlighted the value of creating systems that facilitate coordination across sectors, clearly define roles and promote accountability. Embedding governance frameworks into existing national structures enhances sustainability and ensures alignment with broader development priorities. Additionally, fostering inclusivity by engaging local governments, private sector stakeholders and civil society strengthens trust, ensures relevance and builds stakeholder buy-in.

In **Argentina,** the NDC SP supported the institutionalization of climate governance by strengthening the National Climate Change Cabinet, which was formalized under Law No. 27520. The Cabinet established a multisectoral coordination framework, bringing together 17 ministries, provincial governments and civil society stakeholders to align climate action with national development priorities. This structure enabled the development of the National Adaptation and Mitigation Plan, which serves as Argentina's NDC implementation roadmap, ensuring that regional and sectoral priorities were integrated into national planning. By embedding climate governance within existing institutions and fostering broad stakeholder engagement, Argentina enhanced policy continuity, built trust and strengthened its capacity to implement its NDC. **Tunisia** addressed institutional fragmentation by developing a governance roadmap that established clear roles for ministries, financial institutions and private sector actors. A climate finance taxonomy was introduced to prioritize climate-related investments, while consultations with the Central Bank and other stakeholders created alignment and trust. This approach fostered coordination, reduced duplication and strengthened Tunisia's capacity to implement its NDC.

Peru's Multisectoral Working Group on NDCs coordinated efforts across 13 ministries and regional governments, ensuring coherence between national climate targets and local priorities. Each ministry was tasked with specific NDC-related responsibilities, fostering accountability and ownership while enhancing cross-sectoral alignment. In **Guatemala,** the Ministry of Environment and Natural Resources prioritized inclusivity by engaging Indigenous communities and subnational governments. Workshops incorporated local needs and traditional knowledge into the NDC roadmap, ensuring that Guatemala's climate actions were relevant, equitable and widely accepted. **Paraguay** strengthened NDC governance through its National Climate Change Commission and sectoral working groups, ensuring coordination across ministries, the private sector and civil society. The NDC roundtable and subcommittees enhanced inclusivity, with Indigenous representation in consultations reaching 20 percent. These structures improved transparency, stakeholder trust and alignment of mitigation priorities.

These examples underscore that governance frameworks should promote collaboration, accountability and inclusivity. By integrating climate goals into existing systems and actively involving diverse stakeholders, countries create governance structures that are better able to develop and implement NDC roadmaps and NDC finance strategies.

2 **Embedding climate finance into national systems.** Countries supported by the NDC SP have shown that institutionalizing climate finance tools enhances transparency and accountability, thus demonstrating that integrating climate finance into national systems is a critical practice for ensuring that climate actions are adequately prioritized, systematically funded and transparently managed. By institutionalizing tools such as CBT, expenditure tracking and cost-benefit analyses, countries have been able to align financial resources with NDC priorities, identify funding gaps and improve accountability in resource allocation. Embedding these tools within public financial systems helps foster long-term political and financial commitment to climate goals. It also strengthens the foundation for NDC finance strategies and NDC roadmaps by enabling systematic financial planning, resource alignment and investment tracking.

In **Paraguay**, an investment climate analysis on climate-related actions was conducted to estimate the costs of implementing mitigation measures and identify funding sources from the public and private sectors. This analysis also informed the development of Paraguay's NDC finance strategy. These efforts enhanced transparency and accountability in climate finance planning, ensuring that fiscal decisions align with the country's climate commitments and enabling more strategic allocation of resources to support NDC implementation. **Ethiopia** leveraged I&FF analyses to estimate the costs of NDC implementation and identify opportunities for mobilizing international and domestic resources. This analysis provided a roadmap for Ethiopia to prioritize investments in

key sectors, such as agriculture and forestry, while ensuring financial flows were consistent with its NDC goals. The process also strengthened Ethiopia's ability to engage with international donors and attract funding for its climate ambitions.

3 **Leveraging financial innovation to address resource gaps.** The innovative use of financial instruments under the NDC SP has enabled countries to address funding challenges and unlock private sector investments. The NDC SP highlighted the transformative role of financial innovation in addressing funding challenges and scaling up investments for NDC implementation. Mechanisms such as blended finance, tailored financial instruments and capacity-building initiatives have allowed countries to attract private sector participation, reduce investment risks and unlock resources for high-impact projects. By integrating these financial innovations into NDC finance strategies and NDC roadmaps, countries can systematically align investment flows with their climate commitments, create enabling conditions for long-term financing, and ensure that resource mobilization efforts are effectively structured to support the implementation of NDCs.


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Tunisia provides a strong example of how financial tools can be tailored to national priorities. The country worked closely with financial institutions to design instruments specifically for renewable energy investments, reducing perceived risks and fostering private sector involvement. This approach ensured that climate-related projects became viable and scalable, addressing critical gaps in financing for the energy transition. **Nigeria** enhanced its climate finance strategy through an I&FF analysis and the development of a climate finance strategy and investment plan. The country also strengthened private sector engagement by conducting quarterly climate investment roundtables, ensuring a structured dialogue on mobilizing resources for NDC implementation. **Ethiopia** has effectively leveraged existing financial structures to mobilize climate finance. The country's NDC finance strategy builds on the Climate Resilient Green Economy (CRGE) Facility, a national mechanism designed to pool and manage climate-related funding. By integrating financial instruments such as green bonds, risk transfer schemes, and public-private partnerships, Ethiopia has enhanced private sector participation and de-risked investment in climate projects. The strategy also prioritizes stakeholder engagement and institutional capacity-building to streamline resource mobilization and align investment flows with national climate goals.

The experiences of Tunisia, Nigeria and Ethiopia, demonstrate how innovative financial instruments, when combined with strategic planning and capacity-building, can mobilize significant resources for NDC implementation. These approaches illustrate that financial innovation is not limited to creating new tools but also involves fostering partnerships, addressing barriers to investment and aligning financial systems with national climate strategies, all aspects that can be captured in a country's NDC finance strategy.

4 **Building stakeholder ownership through participatory processes.** Stakeholder engagement, facilitated by the NDC SP, has been instrumental in aligning NDC goals with local needs and priorities. Importantly, engaging a broad range of stakeholders is key to ensuring that NDC roadmaps are inclusive, contextually relevant and widely supported. Participatory approaches allow countries to incorporate diverse perspectives, foster public

ownership and improve the quality of climate strategies. By involving stakeholders at every stage—from planning to implementation—countries can create climate actions that are both effective and equitable.

In **Argentina,** stakeholder engagement was embedded into the NDC roadmap process through structured consultations and participatory planning. The NDC SP supported the development of the National Adaptation and Mitigation Plan by facilitating dialogue across ministries, subnational governments, civil society organizations and Indigenous groups to ensure that national climate priorities reflected diverse perspectives. This participatory approach strengthened subnational ownership of climate action, with 22 provinces actively engaged in developing mitigation and adaptation measures. Additionally, targeted private sector consultations helped align corporate sustainability strategies with national climate goals, fostering broader collaboration in Argentina's climate transition. In **Peru,** the *Dialoguemos sobre las NDC* platform engaged over 1,500 participants, including Indigenous groups, private sector actors and local governments, to co-create sectoral and regional roadmaps. This participatory process enabled the alignment of local priorities with national targets while fostering public support for Peru's NDC commitments.

Similarly, in **Guatemala,** more than 20 consultative workshops were held with Indigenous communities, ensuring that traditional knowledge and localized needs informed the country's updated NDC roadmap. **Ecuador's** participatory process began with the development of its updated NDC, which involved extensive stakeholder consultations led by the Ministry of Environment and Water and supported by the NDC SP. This process engaged sectoral ministries, local governments, private sector actors and civil society organizations to define national priorities, identify conditional and unconditional measures, and integrate gender considerations throughout. Building on this foundation, the NDC roadmap was developed through further multi-stakeholder dialogues, aligning sectoral actions in energy, agriculture and waste management with national mitigation and adaptation goals. The inclusion of marginalized groups, particularly women, was a key feature, ensuring that the resulting plan addressed systemic vulnerabilities and promoted equity.

By tailoring participatory processes to their unique contexts, countries such as Argentina, Peru, Guatemala and Ecuador demonstrated how stakeholder engagement creates inclusive, relevant and widely supported NDC roadmaps. These approaches illustrate the value of incorporating diverse perspectives to produce strategies that are equitable and effective.

5 **Strengthening institutional and technical capacity.** The NDC SP worked with countries to strengthen institutional frameworks and equip stakeholders with the tools needed for effective NDC implementation. Countries that invested in capacity-building initiatives strengthened their ability to mobilize resources, monitor progress and integrate climate considerations into national and sectoral planning. These efforts equipped government institutions, private sector actors and other stakeholders with the tools and knowledge needed to develop and implement NDC roadmaps and finance strategies.

In **Argentina,** the NDC SP helped strengthen technical capacity at the subnational level by equipping provinces and municipalities with the tools needed to implement the NDC. Capacity-building initiatives focused on training local governments in emissions data collection, GHG inventory development and climate risk assessments, ensuring that subnational actors could effectively contribute to the implementation of the National Adaptation and Mitigation Plan. Additionally, specialized workshops on climate finance and investment planning helped improve institutional readiness to access and manage climate funds, enhancing Argentina's ability to finance its NDC commitments. By building technical expertise at multiple governance levels, Argentina improved its long-term capacity to integrate climate action into local and national decision-making.

In **Ethiopia,** the NDC SP supported comprehensive capacity-building programmes that targeted government officials and technical experts. Training sessions focused on GHG inventory management, monitoring and reporting systems, and financial planning for climate actions. These initiatives enhanced Ethiopia's ability to track progress on its NDC commitments and strengthened the country's institutional readiness to access and manage international climate finance. **Guatemala** emphasized capacity-building at the subnational level, empowering local governments to integrate NDC priorities into their development plans. Training workshops provided technical guidance on emissions reduction measures, adaptation planning and financial structuring. This approach ensured that climate actions were aligned across governance levels, from local to national.

The experiences of Argentina, Ethiopia and Guatemala highlight how investments in institutional and technical capacity enhance a country's ability to design, implement and monitor climate strategies. By equipping stakeholders with the necessary skills and tools, countries can ensure the long-term sustainability of their NDC implementation efforts.

6 **Prioritizing gender and social inclusion in climate strategies.** The NDC SP demonstrated that integrating gender equity and social inclusion into NDC development and implementation processes is essential for promoting equitable outcomes, addressing the needs of vulnerable populations, and strengthening the social sustainability of climate actions. Inclusive strategies ensure that the benefits of mitigation and adaptation measures are widely shared, particularly among marginalized groups, while also enhancing public trust and support for climate initiatives.

Peru integrated gender-responsive elements into four sectoral roadmaps for agriculture, housing, transportation and forestry, based on support from the programme in partnership with the Ministry of Women and Vulnerable Populations. The plans pay particular attention to reaching women in marginalized areas, such as those not yet connected to the electricity grid. Ecuador also prioritized gender equity throughout its updated NDC process and the NDC roadmap. The Ministry of Environment and Water worked closely with stakeholders to ensure gender considerations were systematically integrated. Gender mainstreaming efforts began with public climate finance-tracking tools such as CBT and Climate Public Expenditure and Institutional Reviews (CPEIRs) and continued through 2022, culminating in the approval of gender-sensitive finance methodologies and the validation of a Gender Index to measure gender integration in climate finance. Additionally, capacity-building initiatives strengthened the ability of women and other marginalized groups to engage in and influence climate policy at both the community and institutional levels.

Guatemala developed gender-responsive roadmaps that addressed the vulnerabilities of women and Indigenous groups, ensuring that adaptation and mitigation measures accounted for local realities. Through consultations with women's organizations and Indigenous communities, Guatemala integrated diverse perspectives into its climate strategies, strengthening social inclusion and equity. In **Tunisia,** women and youth played active roles in shaping the country's NDC strategies. Consultative workshops and capacity-building programmes were designed to ensure their meaningful participation, creating a more inclusive and representative approach to climate planning. This process also fostered trust among historically underrepresented groups, strengthening the legitimacy of Tunisia's climate actions.

The experiences of Peru, Ecuador, Guatemala and Tunisia highlight that embedding gender and social inclusion into NDC planning is both a moral imperative and a practical strategy for improving the effectiveness of climate actions. By addressing systemic vulnerabilities and promoting equitable participation, countries ensure that NDC implementation delivers meaningful benefits for all segments of society.

3.2 Selected case studies

The experiences of Ecuador, Ethiopia, Nigeria, Paraguay and Peru are explored in greater detail in this section. Together, these five countries represent a wide range of regional and thematic contexts, offering valuable lessons for other nations seeking to implement their NDCs effectively. Their experiences underscore the importance of tailored strategies to address unique national challenges while contributing to global climate goals.

Ecuador:
Advancing NDC implementation through participatory governance, gender integration and climate finance tools

Ecuador's participatory approach to its first NDC implementation has been a defining feature of its success. During the NDC development process, the Ministry of Environment and Water led comprehensive consultations that involved over 50 institutions and more than 100 stakeholders, including government representatives, private sector actors, academia and Indigenous communities. To accelerate the NDC update, a structured six-cycle participatory process was implemented to complete the update in just four months. This approach included an initial evaluation cycle followed by five cycles of co-construction with public, private and financial sector stakeholders. The methodology ensured that stakeholders were not just consulted but actively shaped the NDC commitments, fostering shared ownership and alignment with national priorities.

Ecuador published its first NDC in March 2019, and subsequently developed the NDC roadmap (NDC Implementation Plan 2020–2025), which was finalized and approved in May 2021. This roadmap translated NDC commitments into concrete sectoral actions and financing strategies. While the NDC SP played a key role in supporting a participatory process and capacity-building activities, the NDC roadmap was also developed with contributions from other organizations, including the German Agency for International Cooperation (GIZ) and the French Development Agency (AFD). The NDC SP's role primarily focused on refining mitigation targets, climate finance tracking and integrating gender perspectives.

The co-creation of the NDC goals was facilitated by the use of design thinking methodologies developed by the UNDP team, ensuring alignment with SDGs and other relevant frameworks. Workshops were held at national and sectoral levels, fostering broad stakeholder engagement and ownership. An extensive actor mapping and bilateral engagement process was conducted before launching the workshops. This included targeted meetings with key public and private sector stakeholders to understand their priorities and barriers to engagement. Platforms such as the REDD+ roundtables actively engaged Indigenous groups, integrating traditional knowledge into Ecuador's climate strategies and fostering inclusivity. During that process, many Indigenous representatives emphasized a holistic view of nature, where climate and biodiversity could not be separated. This required careful facilitation to ensure coherence between NDC priorities and Indigenous perspectives. NDC SP played a key role in ensuring these dialogues were culturally appropriate and aligned with Ecuador's environmental governance frameworks. Additionally, data-sharing agreements had to be structured with strict confidentiality protocols, particularly when engaging industrial sectors on emission scenarios.

To support NDC implementation, Ecuador applied finance-tracking tools to enhance transparency, efficient spending and accountability in climate investments. These included: (i) CBT; (ii) CPEIRs and Private Sector Climate Expenditure and Institutional Reviews (PCEIRs); (iii) a climate finance activity catalogue that ensured that gender considerations were embedded in financial planning; and (iv) private sector business roundtables. The CBT, CPEIRs, and PCEIRs were initially developed before the NDC roadmap, but continued to be refined during its development. These tools were officially validated by the Ministry of Economy and Finance in 2022 and played a key role in tracking Ecuador's climate finance. For example, these tools were used as part of the requirements of the World Bank's First Green and Resilient Recovery Development Policy Loan ($700 million) and AFD's credit loan ($150 million). By strengthening finance tracking and private sector engagement, NDC SP helped lay the groundwork for effective NDC implementation. The roadmap also incorporated conditional and unconditional targets, enabling strategic engagement with international climate finance sources.

Gender equity was first integrated into Ecuador's climate finance-tracking tools and later strengthened within the development of the NDC roadmap. Gender considerations were incorporated into climate finance tools such as CBT and CPEIRs, with continued refinements and approvals extending into 2022. The support included the development of a Gender Finance Tracking methodology (starting from a previous CPEIR) and the validation of a national Gender Index. A sectoral gender analysis was conducted to define gender-responsive indicators

for NDC implementation. Beyond finance, the NDC SP supported gender mainstreaming through targeted workshops on gender-responsive NDC planning, engaging 48 institutions across the public and private sectors. The programme contributed to the development of gender indicators for NDC tracking and provided technical guidance on gender integration in collaboration with Fundación Futuro Latinoamericano and GIZ. Additionally, NDC SP helped formalize gender mainstreaming efforts by establishing the Gender and Climate Change Technical Roundtable in 2019, alongside the Ministry of Environment and the National Council for Gender Equality. NDC SP also played a key role in the first phase of Ecuador's Gender and Climate Change Action Plan, providing foundational inputs that informed its development before it was officially launched in 2024 under the leadership of the International Union for Conservation of Nature. These combined efforts ensured that gender considerations were embedded both in climate finance structures and in the NDC roadmap.

Despite these achievements, Ecuador faced challenges due to political transitions and the economic impacts of the COVID-19 pandemic. Leadership changes at the Ministry delayed project approvals, while the pandemic disrupted key stakeholder engagement activities. However, adaptive strategies, such as virtual platforms, ensured continuity and sustained momentum for NDC implementation. The results of Ecuador's efforts are significant. By prioritizing inclusive governance, gender equity and public finance tracking tools, the country has established a strong foundation for achieving its climate commitments. The institutionalization of governance mechanisms such as interministerial committees and alignment with national laws strengthened collaboration and coherence. The integration of participatory and gender-responsive methodologies has built public trust and engagement, while the mobilization of private sector investment has enhanced the sustainability of climate finance for NDC implementation. Ecuador's comprehensive approach demonstrates how coordinated, inclusive and innovative strategies, such as the roadmap and support for climate finance-tracking tools, can accelerate progress towards a resilient and low-carbon future.

Ethiopia:
Advancing NDC implementation through inclusive governance, gender integration and financial innovation

Ethiopia has consistently demonstrated leadership in integrating its climate ambitions under the NDC into its national development framework. Supported by the NDC SP, Ethiopia has focused on inclusive governance, enhanced capacity-building and innovative financing strategies to strengthen its resilience to climate change and reduce GHG emissions by 68.8 percent below the business-as-usual scenario by 2030.

The foundation of Ethiopia's NDC implementation is its CRGE strategy, which aligns mitigation and adaptation actions with national development goals. Ethiopia's updated NDC builds on this legacy by integrating its targets into the country's 10-Year Development Plan that covers the period from 2021 to 2030. This alignment ensures that GHG reductions and climate resilience initiatives are embedded within broader national development priorities, such as poverty reduction and economic growth.

Ethiopia adopted a highly participatory approach to update its NDC. The Environment, Forest and Climate Change Commission led extensive consultations through over 30 workshops, engaging stakeholders from government ministries (e.g., agriculture, energy and finance), the private sector, civil society and academia. These consultations facilitated the co-creation of NDC priorities while ensuring alignment with regional and local development needs. Local communities contributed through subnational workshops, strengthening inclusiveness and integrating Indigenous knowledge into the implementation plan.

Gender responsiveness has been central to Ethiopia's climate strategy. A comprehensive gender analysis conducted during the NDC update identified gaps in women's participation and access to resources. These findings informed the integration of gender-responsive measures into sectoral plans, particularly in agriculture, forestry and water management. Gender equaity training programmes equipped government officials and community leaders with tools to mainstream gender considerations into climate actions, fostering equitable participation and impact.

Ethiopia has prioritized innovative financial mechanisms to mobilize resources for its ambitious climate agenda. Working with partners, the NDC finance strategy introduced CPEIRs and CBT tools to enhance transparency and accountability. The CRGE Facility, a previously established pooled fund, continues to support climate finance mobilization. While the CRGE Facility itself predates the roadmap, it plays a critical role in financing NDC-related initiatives, such as reforestation and renewable energy projects. Efforts to engage the private sector have included capacity-building programmes that identified barriers and opportunities, resulting in a pipeline of climate-smart investments in energy, agriculture and waste management.

Ethiopia's challenges, such as political instability, locust invasions and the COVID-19 pandemic, tested the resilience of its NDC implementation framework. Virtual platforms were used for stakeholder engagement during the pandemic, while economic resilience strategies incorporated green recovery principles, enabling Ethiopia to stay on track with its climate commitments.

The outcomes of Ethiopia's initiatives are substantial. By aligning NDC goals with its CRGE and 10-Year Development Plan, Ethiopia has established an integrated framework for climate action and sustainable development. Gender-responsive approaches have improved equity in climate actions, while innovative financing and capacity-building programmes have strengthened institutional readiness. Ethiopia's participatory and multisectoral strategies offer valuable lessons for other nations implementing ambitious NDCs, demonstrating that inclusive governance and innovative financial solutions can drive effective climate action.

Nigeria:
Increasing NDC ambitions through strong institutional coordination and strategic collaboration

Nigeria took a structured and strategic approach to updating and implementing its NDC during the 2020 revision cycle. Nigeria's 2021 updated NDC includes a mitigation target that increased ambition by 2 percent. This increase in ambition was made possible through strong institutional coordination. The interministerial group worked closely with key ministries to integrate ambitious sectoral mitigation measures, while early engagement with Members of Parliament helped ensure political support for the revised targets. Capacity-building played a significant role: training initiatives targeted government officials and sectoral experts, enhancing their understanding of GHG inventory methodologies, climate finance mechanisms and sector-specific mitigation and adaptation strategies. In addition, a dedicated youth engagement initiative led to the development of the NDC Youth Manual, which aimed to equip young people with the tools and knowledge to actively participate in climate governance. This initiative, supported by the Nigerian Conservation Foundation, reinforced youth inclusion in the NDC process.

The revision process also expanded sectoral coverage, adding new mitigation actions in agriculture, forestry and energy. Recognizing the urgency of climate action and the need to align national policies with global climate commitments, the government engaged in an inclusive and participatory process. This update was driven by broad-based consultations involving key ministries, development partners, the private sector and civil society organizations, which fostered national ownership and accountability. One of the key strengths of Nigeria's NDC revision process was the early involvement of Members of Parliament, who were engaged as soon as the first draft was available. This helped secure legislative buy-in and facilitated political support for the updated commitments. Additionally, an active interministerial group played a central role in coordinating contributions from various ministries, ensuring a well-integrated and multisectoral approach to the NDC update. Sectoral analyses provided insights into emissions reduction pathways in priority areas such as energy, agriculture and water

resources, enabling Nigeria to adopt data-driven policies and investments in these sectors. Nigeria also developed sector-specific climate strategies for water management and energy efficiency. These strategies were guided by consultations with technical experts and international consultants, ensuring that climate action was tailored to national development priorities.

A crucial aspect of Nigeria's approach has been its emphasis on financial planning and investment mobilization. An I&FF analysis identified the estimated financing requirements to meet Nigeria's climate targets by 2030 and became the basis for the NDC financial strategy and investment plan, a structured approach to mobilizing resources for Nigeria's climate action. In response, Nigeria strengthened engagement with financial institutions such as the Central Bank of Nigeria and the Securities and Exchange Commission to integrate climate finance considerations into regulatory frameworks. Business roundtables and consultations with financial stakeholders were held to explore sustainable investment opportunities, while the country also sought to leverage various financing instruments to support climate action, including private sector investments and climate finance-tracking mechanisms. A Green Jobs Assessment conducted in collaboration with the International Labour Organization highlighted the potential for job creation in renewable energy, agroforestry and waste management. This assessment provided insights into how Nigeria's climate policies could drive economic growth while addressing sustainability challenges.

Despite notable progress, Nigeria faced challenges, including data gaps, financial constraints and delays caused by the COVID-19 pandemic. The absence of a comprehensive and centralized GHG inventory system made emissions tracking difficult, necessitating the use of proxy data and international best practices to estimate reduction outcomes. Political transitions also posed challenges, requiring sustained engagement with policymakers to maintain momentum. After the submission of the updated NDC, the strong engagement of youth and women's groups during the revision process did not fully translate into implementation efforts. Attempts were made to integrate climate action into the National Development Plan, but these were not fully realized due to limited engagement in the drafting process.

Moving forward, Nigeria aims to strengthen collaboration with international partners, enhance transparency in climate reporting and accelerate the deployment of climate finance to achieve its NDC targets. The work of the NDC SP served as the basis for the development of an NDC Implementation Framework (supported by the NDC Partnership), providing a structured roadmap for achieving climate goals, harmonizing climate-related policies and key priority actions, and implementing financial strategies including blended finance mechanisms to mobilize resources from various funding sources. Through these concerted efforts, the country is positioning itself as a regional leader in climate resilience and sustainable development.

Paraguay:
Advancing NDC Implementation through new governance structures and sectoral mitigation plans

Paraguay has made significant strides in updating and implementing its NDC through a participatory, inclusive and data-driven process supported by the NDC SP. This initiative has aligned Paraguay's climate commitments with its national development priorities, enhancing coherence between mitigation and adaptation goals while addressing systemic challenges such as limited institutional capacity and stakeholder engagement.

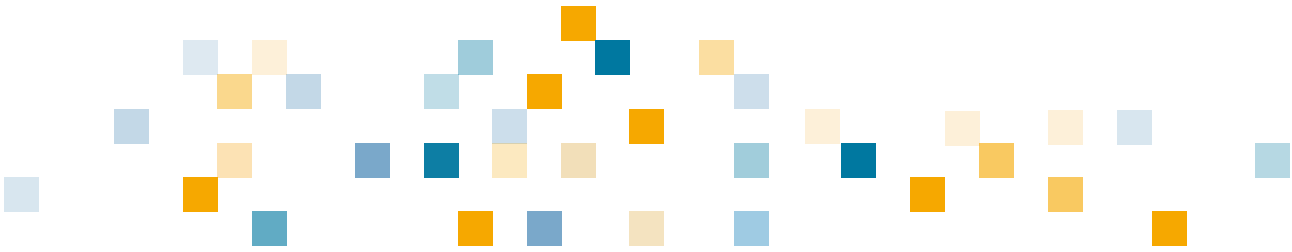
Paraguay's updated NDC, submitted in 2021, outlines ambitious targets, including a 20 percent reduction in projected emissions from the business-as-usual scenario by 2030. Of this, 10 percent is conditional on international financial support, while 10 percent is unconditional, based on Paraguay's domestic resources. To achieve this, the NDC SP facilitated the development of five sectoral mitigation plans across agriculture, energy, industrial processes, waste, and land use, land-use change and forestry. These plans—a fundamental part of the updated NDC and guidelines for the implementation of 45 mitigation measures—included costed mitigation scenarios, emissions modelling and the identification of key performance indicators to track progress.

A core feature of Paraguay's NDC revision was its inclusive governance structure. The Ministry of Environment and Sustainable Development, through its Directorate of Climate Change, led the process with support from the National Climate Change Commission, which is now an established governance body. Sectoral working groups and thematic subcommittees, such as the NDC roundtable, ensured representation from Indigenous groups, women's organizations, youth, academia and private sector actors. These forums enabled stakeholders to co-design climate measures and validate mitigation and adaptation priorities. Consultations extended to Indigenous communities as part of the participatory approach, with Indigenous representation reaching 20 percent of total participants.

Capacity-building was integral to Paraguay's NDC efforts. The NDC SP supported training for over 150 decision-makers and technical staff, focusing on GHG inventory management, climate finance tracking and gender-responsive approaches. The establishment of a National Gender and Climate Change Plan emphasized the role of women in climate governance, addressing gender disparities and enhancing inclusivity. Workshops on agroforestry and family farming also engaged smallholder farmers, strengthening grass-roots participation in climate action.

Financial planning and resource mobilization were critical components of the NDC SP's support. The programme conducted an investment climate analysis on climate-related actions to estimate the costs of implementing mitigation actions and identify potential funding sources from public and private sectors. These efforts, after the completion of the NDC SP in 2023, culminated in the preparation of a comprehensive NDC financing strategy, which aimed to attract international climate finance while leveraging domestic resources. Engagement with the private sector included consultations to explore green investment opportunities and barriers to financing.

Despite progress, challenges persisted, including delays due to COVID-19, which impacted stakeholder consultations and capacity-building activities. Additionally, the mitigation plans' cost estimation process was not as detailed as originally planned, highlighting the need for more precise financial assessments in the next NDC update. Institutional bottlenecks and limited intersectoral coordination also slowed the integration of climate goals into national and subnational development plans. These challenges were mitigated through adaptive management, such as virtual meetings and streamlined approval processes within the Ministry of Environment. The impact of Paraguay's NDC implementation efforts has been transformative. The integration of mitigation and adaptation measures into national planning frameworks has strengthened policy coherence and sustainability. The inclusive process not only enhanced stakeholder ownership but also improved the transparency and accountability of climate governance.



Peru:
Strengthening NDC implementation through participatory platforms and sectoral planning

The development of sectoral mitigation roadmaps has been central to Peru's NDC implementation process. Following the presentation of the intended NDC in 2015, the Peruvian Government discovered that ministries lacked clarity about how to operationalize the commitments. To address this, the Multisectoral Working Group on NDCs was created in July 2016 through Supreme Resolution Nº 005 2016-MINAM. Comprising 13 ministries and the National Centre of Strategic Planning, the working group was tasked with developing sectoral mitigation roadmaps, providing technical guidance and coordinating multi-stakeholder participation. A standardized roadmap template was introduced, which became fundamental to the process, ensuring consistency in how ministries identified, costed and prioritized mitigation measures. Each ministry produced and formally submitted its roadmaps, which were validated within their respective institutional frameworks. The NDC SP supported each ministry with a consultant, facilitating roadmap preparation and integrating cross-sectoral expertise for the costing of mitigation measures. As a result, Peru identified 62 mitigation measures across key sectors such as energy, transportation, industrial processes, agriculture, waste management and land use.

Recognizing the need for coordinated implementation and multi-partner collaboration, an intervention strategy was designed in 2020 to provide assistance and monitor the implementation of NDC measures at both the

sectoral and regional levels. The NDC SP actively collaborated in this process, which included engagement with multiple international partners such as the Swiss Agency for Development and Cooperation, GIZ, United Nations Environment Programme, NDC Partnership and the World Bank. A participatory process— *Dialoguemos sobre las NDC*—has been central to Peru's climate governance. Led by the Ministry of Environment and the Multisectoral Working Group on NDCs, this platform has engaged diverse actors, including regional governments, private sector stakeholders, academia, Indigenous communities and youth organizations. The process has facilitated the co-creation of sectoral and regional roadmaps, ensuring that climate measures are inclusive and reflect local needs. By fostering alliances and establishing clear roles for stakeholders, the participatory process has strengthened Peru's capacity to implement its NDC while increasing ownership and accountability.

Following the submission of Peru's updated NDC in 2020—which increased mitigation ambition from 30 to 40 percent below business-as-usual levels—the NDC SP shifted its focus to advancing concrete mitigation measures to achieve this new ambition. Technical assistance was provided to identify new sectoral and regional mitigation measures, resulting in the development of the document "Strategic Actions to Define and Develop New Mitigation and Adaptation Measures to Achieve the 2030 Climate Goal." This document outlines key mitigation actions for implementation in 2022 by sectoral authorities and provides technical inputs for updating Peru's 2050 National Climate Change Strategy, ensuring alignment with long-term climate goals.

Financial planning and resource mobilization have also been key components of Peru's NDC strategy. The NDC SP supported the development of an I&FF analysis, identifying funding gaps and potential financing sources for priority sectors. A national finance strategy was prepared to attract international resources and promote private sector investment, along with a study to quantify the financial gaps that must be overcome to comply with the updated NDC 2.0 targets. Engagement with the private sector was through a working group composed of representatives of private companies and guilds, under four lines of action: carbon footprint, circular economy, sustainability plans and thematic working groups associated with the NDCs working areas.

Capacity-building has been a cornerstone of Peru's progress. Training sessions for government officials, technical staff and private sector actors focused on GHG inventory management, climate finance strategies and MRV systems. These efforts have strengthened institutional resilience and ensured that stakeholders at all levels are equipped to contribute to NDC implementation. Despite significant achievements, challenges remain. Disruptions caused by the COVID-19 pandemic and political transitions impacted the pace of implementation. Regional disparities in institutional capacity also posed barriers to integrating NDC measures into subnational planning. To address these challenges, the NDC SP emphasized adaptive management strategies, including virtual consultations and hybrid capacity-building workshops. These approaches ensured continuity while promoting inclusivity. The impact of these efforts is evident in Peru's enhanced climate governance and stakeholder engagement. The integration of sectoral and regional roadmaps into national development plans has created a clear framework for achieving NDC targets. By institutionalizing participatory processes and leveraging innovative tools, Peru has demonstrated that ambitious climate action can be achieved through collaboration and inclusivity.

4. Lessons learned

The experiences of the eight countries—Argentina, Ecuador, Ethiopia, Guatemala, Nigeria, Paraguay, Peru and Tunisia—provide valuable insights into the development and implementation of NDC roadmaps and financing strategies. These lessons, derived from interviews, country briefs and supplementary documentation, highlight effective strategies with practical examples. They highlight key approaches that have proven effective in addressing challenges, fostering collaboration and driving progress.

- **Inclusive governance structures are essential but require context-specific adaptation.** Inclusive and well-coordinated governance frameworks are critical for successful NDC implementation, but their effectiveness depends on tailoring them to national contexts and addressing institutional fragmentation. Countries supported by the NDC SP revealed that aligning sectoral contributions with climate goals requires iterative refinement and capacity-building to overcome governance challenges. In **Argentina,** the National Climate Change Cabinet provided a multisectoral governance framework for NDC implementation, ensuring coordination across ministries and subnational governments. However, the federal structure posed challenges in aligning national climate policies with regional priorities, as provinces had varying technical capacities and resources. To address this, Argentina implemented targeted capacity-building programmes for provincial governments, supporting the development of emissions inventories and climate response plans. Additionally, efforts to increase private sector participation through dedicated consultations helped bridge gaps between public and private climate finance priorities, reinforcing the importance of stakeholder engagement in strengthening governance structures.

  In **Ethiopia,** the Environment, Forest and Climate Change Commission led efforts to foster interministerial coordination and engage diverse stakeholders. While this strengthened alignment between climate and development objectives, capacity gaps in regional agencies required targeted training and institutional support. Similarly, **Paraguay** relied on sectoral committees and its National Climate Change Commission to coordinate NDC implementation, but initially faced challenges from overlapping institutional mandates, which were addressed through role clarification and governance reforms. **Tunisia** demonstrated the importance of accountability mechanisms in bridging gaps between national and sectoral levels. The creation of a technical working group facilitated collaboration among ministries, private sector actors and civil society, although initial engagement barriers required additional outreach and capacity-building to strengthen institutional participation.

  These experiences highlight that inclusive governance frameworks must be dynamic and adaptable. Success depends on fostering cross-sectoral collaboration, clearly delineating institutional roles and ensuring that systems can respond to emerging priorities and challenges. By embedding governance within existing structures and addressing capacity needs, countries can sustain progress towards NDC implementation.

- **Stakeholder participation strengthens ownership but demands consistent engagement.** The experiences of countries supported by the NDC SP reveal that broad-based stakeholder engagement is essential for ensuring that NDC roadmaps are inclusive, actionable and context specific. However, maintaining consistent and meaningful participation across diverse groups requires significant effort, resources and time. Challenges such as conflicting priorities and resource limitations often test the durability of participatory processes.

  Ecuador's highly participatory approach included a structured six-cycle process that involved actor mapping, bilateral engagement and multiple workshops at national and subnational levels. This approach engaged government ministries, private sector actors, academia and civil society organizations, strengthening ownership and ensuring that sectoral priorities reflected local realities. However, achieving consensus required tailored facilitation—particularly for integrating Indigenous perspectives—as these groups viewed climate action holistically, linking it with biodiversity conservation. Similarly, industrial sector participation required confidentiality agreements to ensure secure data-sharing for emissions scenario development. These experiences underscore the importance of flexible and adaptive stakeholder engagement strategies in NDC implementation.

  Guatemala demonstrated the importance of incorporating local voices into adaptation planning. Consultations with regional governments and community representatives shaped the design of adaptation measures in marine-coastal zones, ensuring alignment with the needs of vulnerable populations. Despite these efforts, limited technical capacity at the local level posed challenges, requiring targeted capacity-building initiatives to empower stakeholders and enhance participation.

These examples illustrate that, while stakeholder participation strengthens ownership and ensures alignment with local contexts, it is not without challenges. Effective engagement requires ongoing investment in resources, capacity-building and outreach to sustain meaningful involvement, particularly among marginalized groups. Inclusive and consistent stakeholder engagement is vital for creating NDC roadmaps that are both practical and broadly supported.

- **Financing climate action requires creative solutions to overcome systemic barriers.** Mobilizing resources for NDC implementation is a complex challenge that requires tailored and innovative financing approaches to address diverse national needs and overcome systemic barriers. Countries supported by the NDC SP showcased strategies that effectively bridged resource gaps, but these efforts highlighted the importance of aligning financial mechanisms with national contexts and ensuring sustained institutional engagement. **Tunisia** leveraged blended finance to attract diverse funding sources, combining domestic resources with international grants to scale investments in key sectors like water management and energy efficiency. **Paraguay** focused on costed mitigation scenarios and the development of a financing strategy that prioritized high-impact sectors, such as agriculture and forestry. This approach ensured that limited resources were strategically allocated, aligning financial planning with sectoral mitigation priorities.

  These examples highlight that, while innovative financial mechanisms are essential, their success depends on strong institutional frameworks, targeted capacity-building and effective stakeholder coordination. By adopting diverse approaches tailored to their specific contexts, countries have demonstrated how resource mobilization can drive impactful and sustainable NDC implementation.

- **Aligning climate action with national development goals amplifies impact.** NDC implementation is most effective when combined with broader socio-economic priorities, ensuring that climate actions not only reduce emissions but also deliver tangible benefits such as poverty alleviation, job creation and gender equality. The NDC SP has shown that, while this alignment fosters political buy-in and public support, it requires iterative planning and cross-sectoral coordination to reconcile competing priorities.

  In **Argentina,** aligning NDC implementation with national development priorities was central to the design of the National Adaptation and Mitigation Plan. The plan includes sectoral mitigation and adaptation measures that support economic resilience, sustainable development and just transition policies. Specific efforts focused on embedding climate strategies within Argentina's energy transition, infrastructure planning and regional development frameworks, ensuring that mitigation actions also contributed to economic competitiveness and social equity. Additionally, consultations with the Economic and Social Council of Argentina reinforced political commitment by linking climate action to broader socio-economic goals, strengthening long-term support for the NDC roadmap.

  Ethiopia's roadmap exemplified this integration by embedding climate resilience into national development frameworks. The alignment of its CRGE strategy with poverty reduction and job creation goals ensured that mitigation and adaptation efforts contributed to long-term socio-economic resilience. Similarly, **Nigeria's** renewable energy projects emphasized energy access and economic development, making the initiatives more attractive to private investors and enhancing their scalability.

  In **Paraguay,** NDC implementation was closely tied to sectoral development priorities through sectoral mitigation plans. The country leveraged mitigation actions to address challenges such as deforestation and rural poverty, creating co-benefits that reinforced public and political support. **Peru's** subnational capacity-building efforts also linked climate actions to local development goals, ensuring alignment with regional needs and priorities.

  These experiences demonstrate that aligning climate action with development goals amplifies impact and enhances sustainability. However, it also requires significant coordination across sectors and levels of government, as well as strong stakeholder engagement to manage competing interests and ensure that climate actions deliver equitable benefits.

- **Transparent and inclusive planning builds resilience to institutional challenges.** Countries implementing NDC roadmaps face institutional challenges such as fragmented responsibilities and shifting political priorities. Lessons from the NDC SP demonstrate that transparent and inclusive planning processes, coupled with integrated governance frameworks, can strengthen institutional resilience and maintain momentum towards climate goals. **Argentina** showcased how transparent planning and governance reforms helped align its climate

actions across key sectors through the institutionalization of the National Climate Change Cabinet under Law No. 27520. The Cabinet coordinated efforts among 17 ministries, provincial governments and key stakeholders, ensuring that Argentina's NDC roadmap integrated sectoral priorities. While initial efforts were slowed by institutional fragmentation, the formalization of governance structures, technical capacity-building for subnational governments, and structured stakeholder engagement mechanisms helped streamline coordination between sectors such as energy, transportation and land-use planning.

Ethiopia's interministerial coordination provided another strong example of institutional alignment, ensuring that NDC goals were embedded within national development plans. Similarly, Tunisia integrated technical working groups to enhance multisectoral collaboration, bridging gaps between public agencies and private actors to support sustainable energy transitions. These experiences highlight the importance of embedding transparent and inclusive planning within governance structures to strengthen institutional cohesion. By ensuring that roles are clearly defined and that stakeholders are actively involved, countries can create resilient governance systems that sustain progress towards NDC implementation, even amidst external challenges.

- **Context-specific and inclusive approaches strengthen climate resilience and equity.** The experiences of the NDC SP demonstrate that climate actions rooted in local contexts and designed with inclusive frameworks are more effective and equitable. Tailoring adaptation and mitigation measures to address specific vulnerabilities ensures that climate actions deliver meaningful benefits to communities, particularly marginalized and climate-sensitive populations. Incorporating gender and social inclusion further amplifies these impacts by ensuring that all voices contribute to—and benefit from—climate solutions.

  Guatemala's adaptation planning in marine-coastal zones provides a strong example of localized approaches. By engaging regional governments, community leaders and civil society, the country developed solutions tailored to the vulnerabilities of its coastal populations. **Ecuador** and **Tunisia** emphasized gender-responsive planning in their NDC roadmaps, embedding equity considerations into climate actions. Ecuador's participatory workshops actively involved women's organizations and Indigenous communities, ensuring that diverse perspectives shaped the roadmap's design. Tunisia integrated gender-focused capacity-building to enhance institutional readiness and embed equity into climate finance strategies.

  These examples show that context-specific and inclusive approaches not only improve the effectiveness of climate actions but also ensure that their benefits are distributed equitably. Countries implementing NDCs must prioritize localized solutions and inclusive frameworks to address vulnerabilities and create sustainable, socially responsive outcomes.

- **Capacity-building is fundamental for sustained NDC implementation.** The NDC SP has shown that sustained investment in capacity-building is a cornerstone of effective and long-term NDC implementation. Building technical expertise, institutional readiness and stakeholder knowledge equips countries to design, implement and monitor climate actions effectively. However, capacity-building efforts must be continuous and adaptive to meet evolving challenges and ensure institutional sustainability. **Argentina** invested in institutional capacity-building to strengthen interministerial collaboration on NDC implementation. Efforts to align priorities across the Ministry of Environment and Sustainable Development and the Ministry of Energy were supported by training programmes, which enhanced technical knowledge on emissions tracking and policy integration. These initiatives were critical in advancing energy efficiency and transportation mitigation measures. In Peru, extensive capacity-building programmes at the subnational level empowered local governments to integrate NDC actions into regional development plans.

  These examples highlight that capacity-building is not a one-time intervention but an ongoing process essential for sustained progress. By investing in technical training, institutional strengthening and community empowerment, countries can ensure the resilience and scalability of their NDC roadmap development and implementation efforts.

5. Conclusions

The experiences of eight countries under the NDC SP underscore the importance of tailored, inclusive and integrated approaches to implementing climate commitments. The case studies and lessons learned highlight that effective NDC implementation requires strong governance frameworks, inclusive stakeholder engagement and innovative financing mechanisms. Monitoring systems and capacity-building initiatives further ensure transparency, accountability and sustainability. By aligning NDC actions with national development goals, countries have successfully created pathways that address both climate and socio-economic priorities, contributing to the goals of the Paris Agreement.

NDC roadmaps and financing strategies have proven central to operationalizing climate commitments and ensuring their alignment with national priorities. The roadmaps provide actionable frameworks that define responsibilities, timelines and targets, while fostering coherence between sectoral priorities and overarching development goals. Financing strategies, in turn, address resource mobilization challenges by ensuring clarity on funding needs and supporting the prioritization of impactful measures.

By integrating roadmaps with financing strategies, countries have also built resilience against systemic challenges, such as fragmented governance and unpredictable economic conditions. These tools provide a structured foundation for engaging diverse stakeholders, including private actors and subnational governments, ensuring that implementation remains inclusive and contextually relevant. Building on these insights, future initiatives must continue to refine these frameworks to scale ambition and achieve sustainable, equity-focused outcomes aligned with the Paris Agreement.

While there is no one-size-fits-all approach to NDC implementation, these case studies demonstrate that certain foundational elements, such as participatory processes and robust governance, are vital to NDC roadmaps and innovative financing strategies. These practices not only support operationalization of climate commitments but also enhance their alignment with broader national and global priorities, such as poverty alleviation, gender equality and sustainable development. By building on these insights, especially in the context of NDC revision, future efforts can further refine strategies for achieving ambitious climate goals in an equitable and inclusive manner.

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