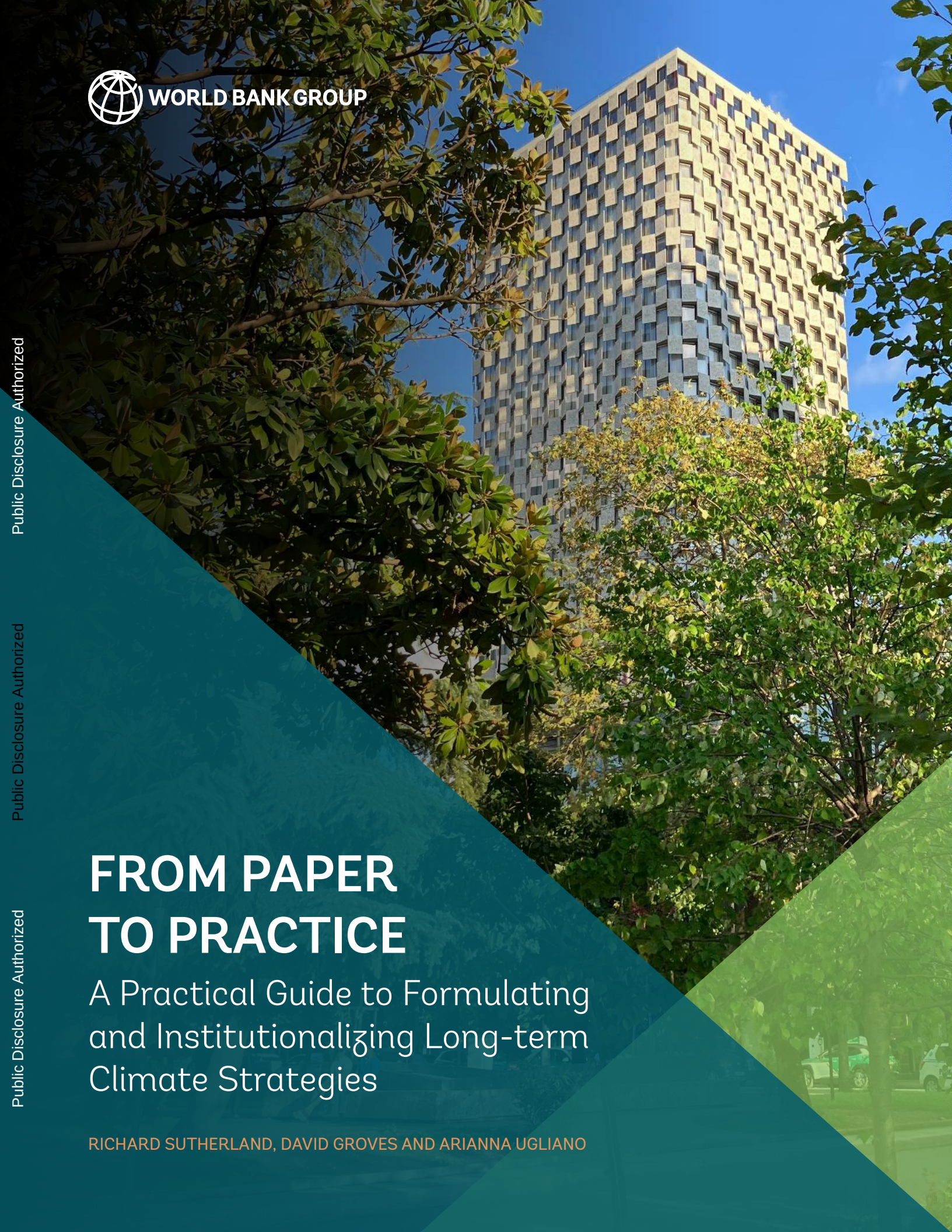

WORLD BANK GROUP

FROM PAPER TO PRACTICE

A Practical Guide to Formulating and Institutionalizing Long-term Climate Strategies

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Acknowledgements

This guidance note is a product of knowledge sharing and collaboration among numerous experts. Richard Sutherland, David Groves and Arianna Ugliano prepared it as part of the World Bank Group's Long-Term Strategies support program. The authors are grateful to the Climate Support Facility, the Swiss State Secretariat for Economic Affairs, and the Financial Management Umbrella Program for their generous financial support.

Development of this note benefited from the insights and experiences of government officials, World Bank staff (Danel Besley, Harikumar Gadde, Elena Strukova Golub, Wei-Jen Leow, Nicholas Menzies, Klaus Oppermann, Maurice Rawlins, Kirtan Chandra Sahoo), and consultants engaged in long-term strategy formulation and implementation in six countries: Dominican Republic, Kazakhstan, Jordan, Lao People's Democratic Republic, Türkiye, and Uzbekistan. We are especially thankful to the practitioners who participated in interviews and surveys, sharing their time, perspectives, and lessons learned.

We are also grateful to the peer reviewers Abel Paul Basile Bove, Chiara Bronchi, Kevin Carey, Lauren Culver, Charl Jooste Thomas Kerr, Wei-Jen Leow and Frederico Sander from the World Bank Group and Marcela Jaramillo from the 2050 Pathways Platform for providing invaluable comments and suggestions that strengthened the analytical rigor and practical relevance of this guide. Their insights helped refine the structure, sharpen the recommendations, and ensure that the guidance is grounded in real-world experience. The team also benefited from inputs from IDDRI, other development partners, Aurèle Cotton (Swiss State Secretariat for Economic Affairs).and Ryan Rafaty (World Bank Group).

We would like to express our sincere appreciation to Arturo Herrera Gutierrez, Stéphane Hallegatte, Serdar Yilmaz, and Chiara Bronchi for their strategic guidance, encouragement, and unwavering support throughout the development of this note. Their leadership was instrumental in shaping the vision and direction of this work.

Special thanks go to our designer, Kushtrim Balaj, whose visual contributions helped bring clarity and coherence to the presentation of complex ideas, and to our editor, whose careful review and attention to detail greatly improved the readability and consistency of the final document.

Finally, we acknowledge the contributions of colleagues from the World Bank Group Climate Department, Governance Global Practice, and regional teams, including Joy Busolo and Anjeeta Barnwal, for their collaboration and support.

Any errors or omissions remain the responsibility of the authors.

Financial Management

CSF CLIMATE SUPPORT FACILITY

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Swiss Confederation

Federal Departement of Economic Affairs, Education and Research EAER
State Secretariat for Economic Affairs SECO

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Abbreviations

CCDR	Country climate and development report
GHG	Greenhouse gas
KPI	Key performance indicator
Lao PDR	Lao People's Democratic Republic
LTS	Long-term strategy
LTV	Long-term vision
M&E	Monitoring and evaluation
MRV	Monitoring, reporting, and verification
NAP	National adaptation plan
NDC	Nationally determined contribution
NDP	National development plan
NZ2055	2055 net-zero pathway
NZ2060	2060 net-zero pathway
PEFA	Public Expenditure and Financial Accountability
PFM	Public financial management
PIM	Public investment management
SOE	State-owned enterprise
UNFCCC	United Nations Framework Convention on Climate Change

Executive Summary

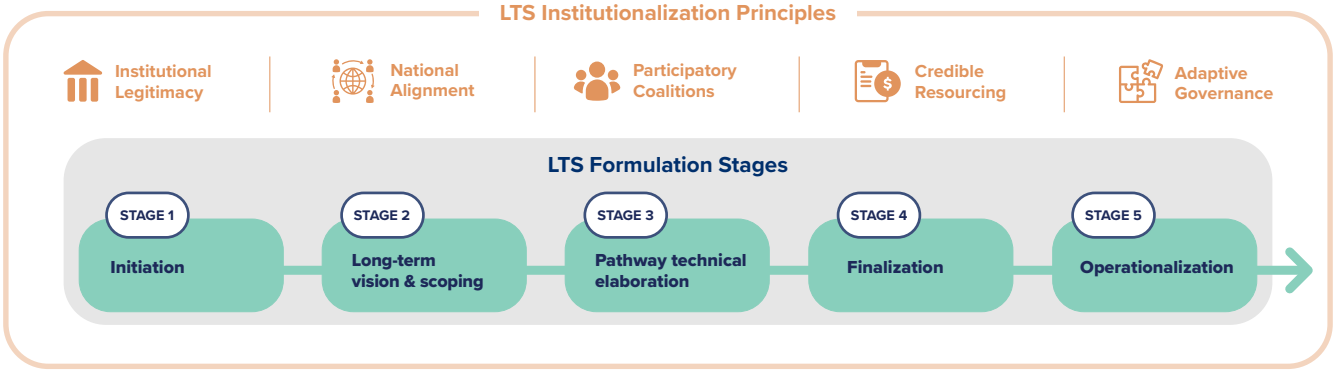
Successful development plans and strategies need to consider climate-related risks, commitments, and opportunities, creating a challenge for their formulation, implementation, and financing. In this context, long-term strategies (LTSs) are increasingly serving as essential tools for aligning climate and development objectives, providing coherent, forward-looking frameworks that can deliver immediate and long-term benefits. Yet, despite growing momentum in LTS formulation, many remain weakly connected to the governance systems and budgetary processes that shape real-world decisions, with insufficient (and delayed) involvement of ministries of finance that will be responsible for their financing. LTSs are also often disconnected from other medium- and long-term planning instruments such as national development plans (NDPs), sectoral plans, and national adaptation plans (NAPs). This limited institutional integration at the outset risks reducing LTSs to aspirational documents rather than effective, implementable, financeable strategies.

This guide addresses that gap. It presents a five-stage process for formulating and operationalizing LTSs with practical methods, activities, expected outcomes, and actionable recommendations for integrating LTSs into national governance systems at the outset of the process so that they inform near-term policy, fiscal, and investment decisions. This integration shortens the transition from strategy to financing while creating an opportunity to strengthen the role of the Ministry of Finance and accelerate resource mobilization by defining, for instance, feasible, effective price levels for a carbon tax; identifying key performance indicators for sustainable finance instruments, or assessing the volume of carbon credits that can be exported in the context of Article 6 of the Paris Agreement. The approach presented in this note draws on well-established principles and good practices; from development partners, including IDDRI and the 2050 Pathways Platform; the World Bank Group's Climate Change Institutional Assessment; and lessons learned from Country Climate and Development Reports, a set of World Bank LTS engagements, expert interviews, and international case studies. Although focused on LTSs, the approach and insights discussed are equally applicable to other long-term plans such as NDPs and NAPs. This guidance note is intended as a living document and may be updated as additional countries implement LTSs and new evidence and lessons emerge on successes and challenges of existing LTSs.

Institutionalization, operationalization, and financing are integral components of the proposed framework for formulating and implementing an LTS (Figure ES1). The

framework builds on five principles, with key actions that can be implemented at different stages based on a country's context, recognizing that governance systems and financing instruments should be built not just at implementation stage, but also during formulation. The five-stage process and the institutionalization conditions embedded in it are not prescriptive and recognize that countries may be at different stages of the process and operate at different levels of readiness. They may also face diverse governance structures, heterogeneous or fragmented plans, and varying levels of human capacity, financial resources, and external support.

Figure ES1: Overview of Proposed Framework for Formulating and Institutionalizing a Long-Term Strategy (LTS)



The LTS formulation process is structured around the following five stages.

- In the **Initiation** stage, LTS objectives are defined; the LTS leadership and governance structure are established, including key technical participants and decision makers from government agencies; and an initial stocktaking of existing related plans, policies, and assessments is conducted. Stakeholders responsible for implementation and financing—such as ministries of finance or representatives of local authorities—need to be mobilized from this Initiation stage.

- **Long-Term Visioning and Scoping** can range from a single set of stakeholder engagements to discuss targets and goals, key mitigation and adaptation options, potential co-benefits, and implementation and financing constraints to a longer, more discrete visioning process that includes multiple rounds of engagement and development of a detailed long-term vision.

- During the **Pathway Technical Elaboration** stage, most of the quantitative analytics are conducted. It includes sector-level pathway development and analysis, macroeconomic assessments, financial need and opportunity assessments, and iterative refinements. Economywide implications (e.g., total investment needs, implications for trade balance and debt sustainability, the role of international carbon markets) are explored and quantified. This stage also includes stakeholder dialogue to assess and compare resilient, low-emission pathways, ultimately selecting one or a few to guide near-term actions.

- During the **Finalization** stage, the results of the Pathway Technical Elaboration are translated into short-term actions with leading agencies and policy and investment requirements for implementation.

- The last stage, **Operationalization**, continues for many decades. Identified near-term actions are codified in a country's NDC, NDP, NAP, and sectoral plans and then implemented through regulations, policies, and investments and periodically updated with the support of a monitoring and evaluation system and learning mechanisms. Countries are expected to receive different types of support simultaneously (e.g., technical analysis and capacity building for the Pathway Technical Elaboration stage) or sequentially (e.g., technical analysis for the Pathway Technical Elaboration stage, followed by technical analysis for the LTS investment plan development during the Operationalization stage).

LTS institutionalization, and therefore operationalization and financing, is embedded in the LTS formulation and implementation process, drawing on a set of principles summarized below. The principles do not constitute a checklist or linear sequence. Instead, they describe dynamic institutional conditions that cut across the LTS lifecycle, shape the effectiveness of formulation and operationalization, and are driven by country context. They leverage and strengthen existing governance frameworks, rather than creating new ones, and are not prerequisites for undertaking an LTS.

Principle 1 Institutional Legitimacy focuses on establishing durable institutional and political foundations for the LTS by ensuring legal recognition, formal authority, and political support. Embedding the LTS in law or regulation gives it formal standing to guide national priorities, and visible political endorsement anchors it within the government's agenda and builds public trust. Mechanisms that safeguard implementation throughout political transitions, such as oversight bodies or statutory reporting requirements, help maintain momentum over the long term. Key recommendations for creating an enabling environment for LTS institutionalization are presented in Table ES1.

Table ES1 Recommendations for Ensuring Institutional Legitimacy of a Long-Term Strategy (LTS)

Recommendation	Description and Country Examples	Expected Outcomes
1.1: Ensure legal recognition of LTS	Enacting or amending laws, regulations, or decrees to formally establish the LTS as a national strategy. For example, **Costa Rica's** *Plan Nacional de Descarbonización* was formalized through an executive decree, granting it the force of secondary regulation. In 2021, **Nigeria's** net-zero target was integrated into the National Climate Change law. In **France**, the 2015 Energy Transition Act for Green Growth created a legally binding governance framework that defines binding mid- and long-term targets for decarbonization.	The government has adopted a legal or policy instrument (e.g., law, decree, regulation, cabinet resolution) that formally endorses the LTS as a national strategy. To operationalize this mandate, ministries of finance and planning have issued guidance to line ministries requiring that LTS priorities be reflected in sectoral strategies and annual budget submissions.
1.2: Define institutional mandates for LTS	Defining institutional mandates by designating lead agencies and clarifying mandates in law or policy to ensure that responsibilities are aligned across ministries. For example, **Nigeria's** Climate Act established the National Council on Climate Change to oversee implementation of its action plans, supported by the Ministry of Environment. **Mexico's** General Climate Change Law (2012) went further, mandating development, evaluation, and revision of its national climate-change strategy. It delegates to the Secretariat of Environment and Natural Resources the authority to develop a national climate change strategy with participation from the National Institute of Ecology and Climate Change and the approval of the interministerial committee.	The government has adopted a legal or policy instrument (e.g., law, decree, cabinet resolution) that designates a lead agency with a formal mandate to lead, coordinate, and report on the LTS process and clearly defines LTS-linked roles and responsibilities of participating institutions, including oversight bodies.
1.3: Secure political endorsement for LTS	Engaging political champions to secure high-level endorsements, which can take different forms, such as in **Nigeria,** where the president chairs the National Council on Climate Change, or in **South Africa,** where the Presidential Climate Commission was established in 2020 to oversee its just transition to a low-carbon and resilient economy and society by 2050 and support evidenced-based decision making and consensus building.	The LTS is formally endorsed at the highest political level (e.g., cabinet, president) and publicly communicated, triggering institutional alignment and durable implementation.

Principle 2 National Alignment requires that the LTS be embedded in the country's planning ecosystem (e.g., national, sectoral, and subnational planning frameworks) so that it directly informs policies, investments, and institutional processes, including long-term climate objectives within core socioeconomic development priorities. This vertical and horizontal integration ensures that long-term climate objectives influence day-to-day policy and resource allocation decisions, rather than remain aspirational. Without these reinforcing elements, even well-designed LTSs risk being ignored or reversed. Table ES2 summarizes recommendations for anchoring the LTS in NDPs and foster ownership and top-down and sectoral policy coherence.

Table ES 2 Recommendations for Aligning Long-Term Strategy (LTS) with National Development Plans (NDPs) and Priorities

Recommendation	Description and Country Examples	Expected Outcomes
2.1: Assess current alignment	Conducting diagnostic assessments of planning systems to ensure effective vertical and horizontal alignment. For instance, **Togo's** Ministry of Economy, Finance and Development Planning is actively involved in the Inter-Ministerial National Adaptation Plan Committee, working to synchronize the NAP process with national development and budget cycles. This approach helps identify strategic entry points for integrating adaptation priorities directly into the budgeting process, which increases coherence across policies and planning frameworks.	National and sectoral planning processes, systems, and documents (e.g., NDPs, investment frameworks, NDCs, NAPs) reflect LTS goals, pathways, and assumptions, ensuring that future policy and investment decisions are synchronized with long-term climate and development objectives.
2.2: Harmonize planning processes	Increasing institutional alignment, by assigning oversight of the LTS to new or existing entities responsible for NDPs or NDCs and fully integrating LTS functions into the mandates and operational workflows of these planning bodies. In **Uganda**, for example, the Green Growth Strategy follows the same governance framework as the NDPs, with the National Planning Authority and the Ministry of Finance, Planning and Economic Development leading implementation and monitoring in coordination with other agencies and civil society. In **Lao People's Democratic Republic**, the LTS has informed successive five-year revisions of the NDP. **Bosnia and Herzegovina's** long-term low-emission development strategy is incorporated into its NAP, focusing on adaptation within key sectors over the medium term.	The government has updated its legal and institutional frameworks for long-term planning to align NDP, sectoral, NDC, and LTS processes, ensuring that LTS functions are integrated into the mandates and workflows of national planning institutions.
2.3: Ensure subnational coherence	Facilitating vertical alignment by involving local governments, for example through regional LTS roadmaps, scenario-planning workshops, and reporting tools. In **Chile,** new governance structures were established to support net-zero implementation at the national, regional, and municipal levels. LTS implementation involved assigning specific responsibilities to ministries and using measurable indicators to monitor progress.	Local governments and agencies align their climate and development plans, actions, and reporting with the LTS, leading to vertical alignment that translates national long-term goals into locally relevant, implementable outcomes.
2.4: Encourage alignment and implementation	Exploring a range of incentives (e.g., administrative, transparency-based, fiscal transfer, regulatory, market-driven) to encourage effective LTS alignment and implementation.	The government has adopted an LTS performance management framework that introduces administrative, fiscal, or market-based instruments (e.g., performance contracts, fiscal transfers, preferential regulatory treatment, green financing mechanisms) to encourage alignment of sectoral planning and investment decisions with LTS targets and priorities.

Note: NAP, national adaption plan; NDC, nationally determined contribution.

Whether a country is initiating, updating, or implementing its LTS, national ownership and top-down coherence ensure that the strategy is legitimate, politically credible, and able to influence decisions across the policy landscape. Without these governance foundations, the LTS risks becoming a stand-alone technical document with little bearing on budget allocations, sectoral priorities, or long-term investment choices.

Principle 3 Participatory Coalitions requires establishing multilevel, cross-sectoral coalitions and coordination mechanisms that empower a broad range of actors across government, civil society, the private sector, and communities to co-create, co-own, and co-implement the LTS. Top-down mandates give LTSs legitimacy, but real implementation depends on bottom-up coordination that brings diverse knowledge and perspectives. This broad-based ownership involves leaders, civil society, the private sector, and the public and ensures durability. The approach requires not only strengthening interministerial structures, but also embedding coordination in the daily routines of government agencies, clarifying roles and responsibilities, and ensuring that engagement processes extend beyond the central government to include subnational authorities and domestic nonstate actors. The evidence suggests that early-stage LTS processes can build momentum by investing in informal, ad hoc collaboration, but sustaining and expanding this work will depend on formal, well-resourced, inclusive governance systems. Table ES3 provides practical recommendations for designing coalition and coordination mechanisms for LTS delivery.

Table ES3 Recommendations for Creating Participatory Coalitions for Long-Term Strategy (LTS) Delivery

Recommendation	Description and Country Examples	Expected Outcomes
3.1: Establish coordination mechanisms early	Setting up interagency committees or task forces early to help avoid fragmentation, clarify roles, and foster trust among stakeholders. For example, the Climate Change Act of 2024 in **South Africa** requires provinces and districts to use existing intergovernmental fora to review and align their policies, coordinate climate change actions, and report on progress to ensure that climate considerations are mainstreamed and integrated into all levels of governance. Similarly, **Uganda's** tripartite arrangement between its finance and environment ministries and the planning authority has improved policy coordination, resulting in a national development plan that includes climate considerations.	The government has established a cross-sectoral steering committee and technical task force with clearly defined roles and responsibilities to coordinate the LTS process.
3.2: Embed collaborative practices into routine governance	Establishing a structured approach that promotes continuous engagement and accountability among stakeholders, including through structures such as interministerial committees, working groups, and joint task forces that have regular meetings, shared workplans, and established reporting protocols. In **Kazakhstan**, for instance, formalized coordination mechanisms that help ensure that the LTS is treated not as a standalone document but as a living strategy integrated into national planning as it moves toward implementation support collaboration between ministries.	Routine collaboration mechanisms are established and embedded in governance to ensure alignment and participation of ministries.
3.3: Ensure frequent, inclusive stakeholder engagement	Creating and implementing a stakeholder engagement plan by mapping stakeholders, setting engagement protocols, opening communication channels, and offering opportunities for involvement. In **Kenya**, this included a two-tier method: key stakeholders met in person while a broader group—counties, private sector, civil society—assessed adaptation and mitigation. **Togo** engaged a wide array of stakeholders through workshops that featured presentations, open discussions, group activities, feedback sessions, and debates, all leading to consensual decision making. Participants came from various sectors, including nearly all ministries, the presidency, the prime minister's office, research institutions, the private sector, and civil society organizations. The workshops were designed to map out national and sectoral policies and strategies; enhance collaboration with national stakeholders to define sectoral visions, the national vision, and the timeline for the LTS; and identify key measures for greenhouse gas emissions reduction and enhance adaptation efforts.	Stakeholders from the public (all levels of government) and private sectors, civil society, and academia are systematically engaged and actively participate in making key decisions for the formulation and implementation of the LTS, ensuring an inclusive, transparent process.

Principle 4 Credible Resourcing calls for adequate financial and human resources to support the LTS once the necessary policies and regulations are in place. It requires involving relevant actors and stakeholders to develop a feasible climate finance strategy integrated with the LTS, embedding LTS priorities in public financial management systems, mobilizing private sector investments; identifying opportunities from sustainable finance, carbon pricing, and international carbon markets; and increasing technical capacity across all levels of government. It emphasizes the need to embed LTS priorities in national and sectoral budgets and to ensure that the Ministry of Finance participates in formulating and institutionalizing the LTS so that the ministry can include LTS priorities in its decision making, including for fiscal and expenditure policies. Achieving this requires implementing clear, coordinated strategies to attract and manage international climate finance. The principle also underscores that successful LTS implementation will require governments to ensure that national and subnational agencies have adequate staff time, technical skills, and institutional expertise to deliver the LTS effectively. Recommendations on how to strengthen resourcing and increase capacity for LTS implementation are summarized in Table ES4. As with other principles, relevant actions may be advanced during the LTS formulation phase.

Table ES4 Recommendations for Ensuring Financing and Capacity to Deliver a Long-Term Strategy (LTS)

Recommendation	Description and Country Examples	Expected Outcomes
4.1: Develop a feasible climate finance strategy to enable public and private sector investments	Assessing needs, map the landscape, defining priorities and enabling conditions, and developing policy and financing instruments and implementation arrangements to underpin the strategy. **Rwanda's** Climate and Nature Finance Strategy (2024-2030) (Ministry of Finance and Economic Planning. n.d.) serves as an example of how countries are approaching long-term strategies. **Costa Rica** leveraged policy-based loans from development banks and embedded low-emission milestones in International Monetary Fund–supported structural reforms. **Uruguay** used milestones from its low-emission planning as the starting point to define the KPI of a sustainability-linked bond.	A comprehensive, feasible climate financing strategy is adopted to enhance credibility, attract external financial support, and move away from fragmented, ad hoc, or project-based funding.
4.2: Develop feasible investment plans to achieve targeted milestones	Identifying and prioritizing sectoral investments, assessing risks, appraising priority policy and investment packages, and match investments with financing. **Kenya's** NAP estimates costs of adaptation actions to 2030 and identifies institutions responsible for implementation; actions are divided into short (1-2 years), medium (3-5 years), and long term (>6 years). Investment needs, timeframes, and budget allocations are assessed for each macro-level action. **Costa Rica's** Investment Plan (CIF 2023) also serves as a usual example of such a plan.	Sequenced, costed investment plans are developed to mobilize public and private finance for LTS implementation.
4.3: Embed LTS in country's public finance management system	Incorporating climate goals into standard budgetary procedures such as preparation, execution, reporting, and auditing. It includes approaches such as green budgeting and risk-based budgeting. **Bosnia and Herzegovina** has established investment financing mechanisms for the NAP at the municipal level that engage the public and private sectors. In **Indonesia**, climate budget tagging is used to determine the project pipeline for investments from the country's first Green Sukuk (an Islamic bond structured to comply with sharī'ah law, which prohibits interest). In **Ghana**, line ministries and local governments are required to integrate climate actions into their annual plans and budgets. To further align budgeting systems with climate considerations, the Ministry of Finance distributes budget guidelines to ministries, departments, agencies, and all levels of local government.	Dedicated resources are allocated in the national budget; comprehensive, feasible climate financing strategy is adopted.
4.4: Increase institutional capacity and support human resources	Staffing government agencies and departments with adequate qualified personnel, which is necessary for implementing the LTS. **Bosnia and Herzegovina's** NAP implementation is designed to increase capacity at the national, subnational, and sectoral levels to adopt risk-informed planning and budgeting. This process has included development of standard operating procedures for institutional cooperation on climate data exchange and implementation of a monitoring and evaluation framework.	Institutional structures are staffed with qualified personnel with technical capacity.

Note: NAP, national adaptation plan.

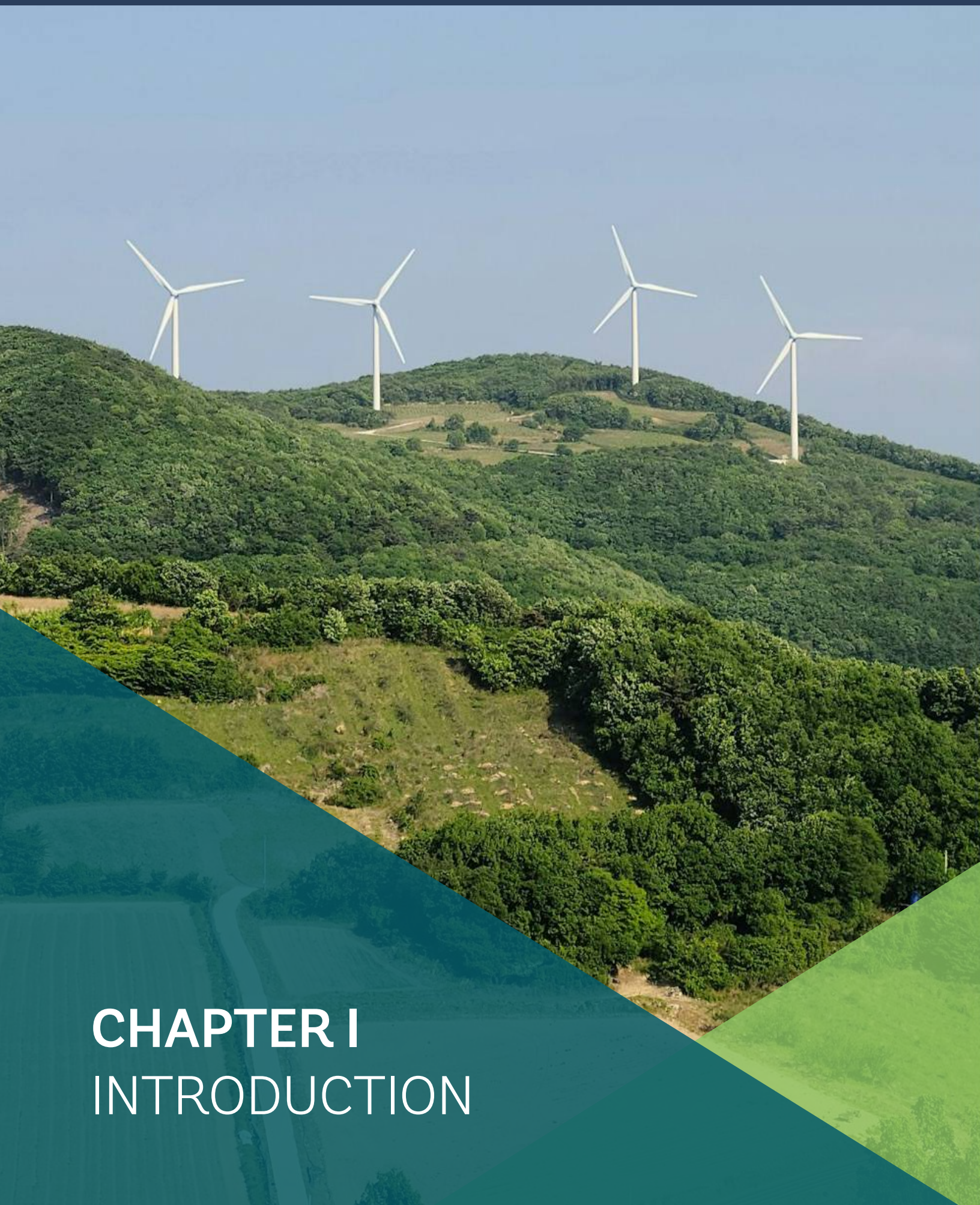
Principle 5 Adaptive Governance focuses on institutional mechanisms that embed learning and feedback loops in the LTS process. It also emphasizes that the long-term credibility and effectiveness of the LTS depend on strong governance mechanisms that make implementation transparent, accountable, and adaptable. This means establishing legally mandated oversight institutions with the authority to monitor progress (captured in Recommendation 1.2), ensuring robust M&E systems that track clear indicators, and embedding formal processes for periodic review and learning. In some cases, it also requires a cultural shift toward transparency and inclusive engagement that includes publishing accessible reports, creating opportunities for co-design, and ensuring that diverse voices are represented in decision making. When these systems exist, they must be adequately resourced and integrated into national governance frameworks, such as budgetary processes; when they are weak or absent, building them should be a priority to avoid implementation gaps, loss of momentum, or even political backlash and reversals. Table ES5 provides recommendations for anchoring the LTS in NDPs and priorities to foster ownership and top-down policy coherence.

Table ES5 Recommendations for Promoting Adaptive Governance for Long-Term Strategy (LTS) Delivery

Recommendation	Description and Country Examples	Expected Outcomes
5.1: Develop robust M&E framework	Defining responsibilities, implementation agencies, assessment methods, indicators, baselines, stakeholders to consult, and enforcement measures. **Ethiopia** uses a monitoring, reporting, and verification system to track progress on its LTS, combining climate change and development planning. **Fiji's** LTS has an M&E framework with four monitoring dimensions: tracking policy actions, measuring emissions reductions, assessing co-benefits (e.g., green jobs, Sustainable Development Goals), and monitoring support mechanisms (e.g., capacity building, finance).	The government has adopted a national M&E framework for climate action that defines institutional responsibilities, reporting cycles, and performance indicators aligned with LTS targets and mandates that results be integrated into formal decision-making processes.
5.2: Institutionalize learning and adaptation	Setting formal, scheduled review cycles and clear processes for updating targets and plans. The **Vietnamese** government reviewed its 2011–20 Power Development Plan mid-period to assess progress and address factors affecting implementation. This process has led to policy improvements, including integrating environmental and societal considerations into the plan and better aligning with development goals. **Rwanda** has robust monitoring, evaluation, and learning frameworks for ongoing review and adjustment of adaptation targets.	The government has institutionalized review and learning processes that enable regular updates to LTS targets, pathways, and implementation measures based on evidence and stakeholder feedback.
5.3: Promote transparency and public engagement	Developing a clear communication plan, ensuring open data access with user-friendly progress reports, and establishing formal public consultation channels. The **United Kingdom** sought broad feedback on its Invest 2035 (its modern industrial strategy) by inviting businesses, industry leaders, and environmental groups to help shape its net-zero goals.	The government has adopted a national framework for public engagement and transparency in climate strategy implementation by establishing formal mechanisms for stakeholder consultation and launching a public-facing platform that provides open access to LTS-related data, progress reports, and simplified communication products.

Note: M&E, monitoring and evaluation

LTS formulation, institutionalization, and financing should be fully integrated into a consistent framework. A technically sound strategy without institutional grounding or financing solutions will remain aspirational, whereas strong governance without analytical foundations risks creating conflicting development and climate goals. Integrating LTS formulation, institutionalization, implementation, and financing at the onset can drive development by building strategies through inclusive processes, embedding them in legal frameworks and decision-making processes, and operationalizing them through near-term investments and adaptive monitoring.



CHAPTER I
INTRODUCTION

Countries face the multifaceted challenge of pursuing development objectives while building resilience to climate risks and taking advantage of opportunities for a low-emission transition. Long-term strategies (LTSs) have emerged as a key instrument to help governments articulate long-term climate and development goals and explore pathways to achieve them.[1] When designed and executed well, LTSs can provide a long-term vision (LTV), inform short- and medium-term policy choices, and guide investment decisions across sectors.

There is growing consensus that climate change also presents a development opportunity for developing countries, rather than solely a constraint on growth. Recent analytical work highlights how climate-aligned development pathways can support industrial transformation, economic competitiveness, energy security, and job creation. These opportunities are particularly evident in renewable energy, low-carbon manufacturing, resilient infrastructure investments, and nature-based solutions. The current spike in oil and gas prices illustrates the socioeconomic benefits of energy efficiency and domestic renewable energy production and the macroeconomic risks of dependency on large imports of fossil fuels. World Bank Group country climate and development reports (CCDRs) show that, in many contexts, low-emission and resilient development pathways can deliver net economic benefits, even over the short term, and create employment opportunities when climate objectives are aligned with national development priorities and supported by credible implementation frameworks (World Bank 2025a). Similarly, an analysis by the Organization for Economic Cooperation and Development and the United Nations Development Program shows that well-designed climate strategies can unlock investment, spur innovation, strengthen energy security, and contribute to inclusive growth, provided that they are integrated with broader economic and industrial policies (OECD 2025).

Although LTSs offer an opportunity to help countries capture these short- and long-term benefits, many LTSs have struggled to influence real-world decisions. Even when supported by extensive consultation and increasingly sophisticated modeling, LTSs frequently remain weakly connected to the institutions that shape near-term policy choices, budget allocations, and investment decisions. As a result, they risk remaining aspirational documents rather than implementable, financeable strategies that guide government behavior over time. In doing so, LTS efforts may fail to realize development opportunities associated with climate-aligned growth.

This challenge is neither solely institutional nor purely technical. In practice, many LTSs face two related shortcomings. First, some are not sufficiently grounded in robust, transparent analytical work to enable meaningful deliberation over alternative development pathways and associated tradeoffs. Second, even when analytical foundations are strong, LTSs are often weakly institutionalized and poorly translated into action through existing planning, budgeting, and decision-making systems. In particular, formulation of these strategies tends to be separated from their operationalization and financing, creating inconsistencies and lack of ownership from the agencies and ministries in charge of operationalization. For instance, ministries of finance play a key role in financing implementation of LTSs but are insufficiently involved in their formulation. Evidence from national adaptation plans (NAPs), national development plans (NDPs), and similar long-term frameworks shows that many encounter similar difficulties, including limited integration into governance systems, fragmented responsibilities, and insufficient mechanisms for monitoring and delivery (OECD 2025). This pattern indicates a broader governance challenge affecting long-term planning instruments more generally.

This guidance note responds to these gaps by proposing a framework to connect LTS formulation and institutionalization—two related but distinct dimensions of LTS effectiveness. Integration of the formulation process and the institutional conditions at the onset determine whether a LTS process can lead to durable implementation and finance mobilization. This integration ultimately shortens the transition from strategy to financing while creating an opportunity to strengthen the role of the Ministry of Finance and accelerate

1 LTSs are government-owned documents encouraged under Article 4, paragraph 19 of the Paris Agreement (UN 2015).

resource mobilization by defining, for instance, feasible, effective price levels for a carbon tax; identifying key performance indicators (KPIs) for sustainable finance instruments; or assessing the volume of carbon credits that can be exported in the context of Article 6 of the Paris Agreement. This guidance note describes an operational framework for formulating LTSs through a five-stage process. This framework translates key LTS principles—including those recently developed by multilateral development banks (EIB n.d.—and recent guidance from a range of sources—including guidance developed by the 2050 Pathways Platform and the Nationally Determined Contribution Partnership—into concrete methods, activities, and expected outcomes. In parallel, it articulates an approach to integrating LTSs into national governance systems at the outset of the formulation process and across and alongside the five stages so that they inform near-term policy, fiscal, and investment decisions. This process is referred to as LTS institutionalization. The underlying logic is that institutionalization, understood as embedding LTSs in governance systems, enables operationalization, defined as translation into near-term instruments, and supports sustained implementation over time. This distinction underpins the structure of the document and reflects the core insight that strong process design alone is insufficient if strategies are not embedded in the machinery of government. Although focused on LTSs, the approach presented in this guide can also be applied to other long-term planning instruments, including nationally determined contributions (NDCs) and NAPs.

This guidance note provides a framework and can be complemented by other, more-targeted, guidance on LTSs. For example, a recent World Bank Group technical note on the role of international carbon credit markets and domestic carbon pricing in NDCs and LTSs focuses on how carbon pricing and carbon markets can be coherently integrated into the LTS process (World Bank Gorup 2026). Such integration is as much an institutional challenge as it is a technical one, for instance to define feasible and effective price levels for a carbon tax, identify KPIs for sustainable finance instruments, or assess the volume of carbon credits that can be exported in the context of Article 6 of the Paris Agreement. To address these challenges, opportunities created by carbon markets and pricing should be included from the outset in formulating the LTS and embedded in the broader transformation narrative to enable a smooth transition from strategy formulation to implementation.

1.1. Purpose, Scope, and Methodology

Purpose and Audience

This guidance note is designed to equip governments and practitioners with implementable insights and a practical how-to framework for formulating and institutionalizing LTSs. It focuses on formulating technically sound LTSs and addresses their institutional integration, which involves embedding long-term low-emission, climate-resilient pathways in planning, budgeting, and decision-making processes across the government so that they can be operationalized through existing policy and fiscal instruments. The guide is intended primarily for:

- Central government agencies involved in coordinating, planning, financing, and overseeing LTSs and, more broadly, climate change policies
- Practitioners and technocrats tasked with aligning budgets, fiscal policies, and investments with climate commitments
- Development partners and technical advisors supporting institutional reforms and investments for climate mitigation, adaptation, and resilience

The note is particularly relevant for developing countries and low-capacity contexts, where governments face the dual challenge of implementing complex policy reforms and investments with limited resources. These contexts require practical, scalable solutions to embed long-term thinking in everyday decision making.

Scope

The note is built on the premise that an LTS can succeed only if it is technically robust and institutionally anchored in a country's core governance and financing systems. It therefore presents a pragmatic LTS planning framework for countries and development partners to formulate technically sound LTSs. Next, it addresses how to make the LTS operational, durable, and embedded in the machinery of government. In doing so, the note focuses on the governance aspects of institutionalizing LTSs, understood as the rules, structures, processes, and capabilities through which governments make, implement, and formalize decisions and public actions. To support this objective, the guide presents a structured, action-oriented framework that builds on key LTS formulation and institutionalization principles and translates them into recommended activities, expected outcomes, and real-world examples drawn from World Bank LTS engagements and international case studies.

The LTS formulation process builds on international good practices and lessons learned. It translates key LTS principles (EIB n.d.) and recent guidance on LTS formulation from a range of sources into concrete methods, activities, and expected outcomes. Technical experience from recent World Bank Group LTS engagements in the Dominican Republic, Lao People's Democratic Republic (PDR), Jordan, Türkiye, and Uzbekistan(Box 1), along with insights from the CCDRs, also inform the process.[2]

Box 1: World Bank Long-Term Strategy (LTS) Engagement Countries

From 2021 to 2024, the World Bank supported LTS engagements in several countries through its LTS support program (Supporting Long-Term Low-Carbon Planning in Pilot Countries, P176599) and other direct grants.a The following engagements offered valuable insights captured by this note into the LTS formulation process and the governance challenges and opportunities involved in embedding LTSs in national systems and decision-making processes.

- **Dominican Republic:** Supported the Ministry of Economy, Planning, and Development and the National Council of Climate Change in developing a net-zero LTS by 2050.
- **Jordan:** Worked with the Ministry of Environment to formulate an LTS using an integrated emissions model and participatory analysis.
- **Kazakhstan:** Supporting the Ministry of National Economy in developing an implementation plan with specific deliverables and timeline for the country's LTS, including a clear plan of action for achieving its nationally determined contribution.
- **Lao People's Democratic Republic:** Worked with the Ministry of Environment and Natural Resources to provide modeling support, recommendations, and high-level implementation steps for achieving net zero by 2050, validated by a government steering committee.
- **Türkiye:** Supported the Strategy and Budget Office in developing sectoral emissions and macroeconomic models to inform the 12th National Development Plan (2024–28).
- **Uzbekistan:** Helped the Ministry of Environment and Finance develop an LTS and net-zero target, building on the country climate and development report (WBG 2023) and economy-wide modeling.

a. Funding for these engagements came from the Climate Support Facility, the Swiss State Secretariat for Economic Affairs fund, and the Nationally Determined Contribution Support Facility

The LTS institutionalization approach combines a review of existing knowledge with direct engagement with practitioners. It draws on evidence on the governance dimensions of long-term development planning, objectives for institutionalizing LTSs, and actions shown to be effective in practice. Structured interviews with 11 experienced practitioners, including World Bank staff, government officials, and consultants directly involved in the LTS engagements, complemented this work. This phase focused on perspectives from

2 CCDRs are diagnostic reports that the World Bank launched in 2022. They often include illustrative low-emission, climate-resilient pathways.

actors closely involved in LTS formulation, with further interviews planned with government agencies and other stakeholders across countries and regions. The interviews examined how LTSs had been embedded in governance frameworks and decision-making processes and identified factors that had enabled or constrained their integration. These conditional factors include the quality of the formulation process, the quality of the LTS document, and the wider political and socioeconomic context[3].

Interview findings were analyzed using descriptive statistics and content analysis. This analysis informed the governance framework presented in this note and highlighted practical challenges and opportunities for embedding LTSs in national systems. This analysis informed the framework, which is illustrated with examples from countries with more advanced LTS implementation experience, including Canada, Costa Rica, and France.

The methodological approach presented in this note is not prescriptive. It recognizes that countries might be at different stages of the process and have different levels of readiness (human capacity, financial resources) and financial support from internal or external sources.

1.2. Caveats and Limitations

This guide draws on a rich set of insights from good practices, World Bank LTS engagements, and select case studies, but several methodological limitations should be acknowledged.

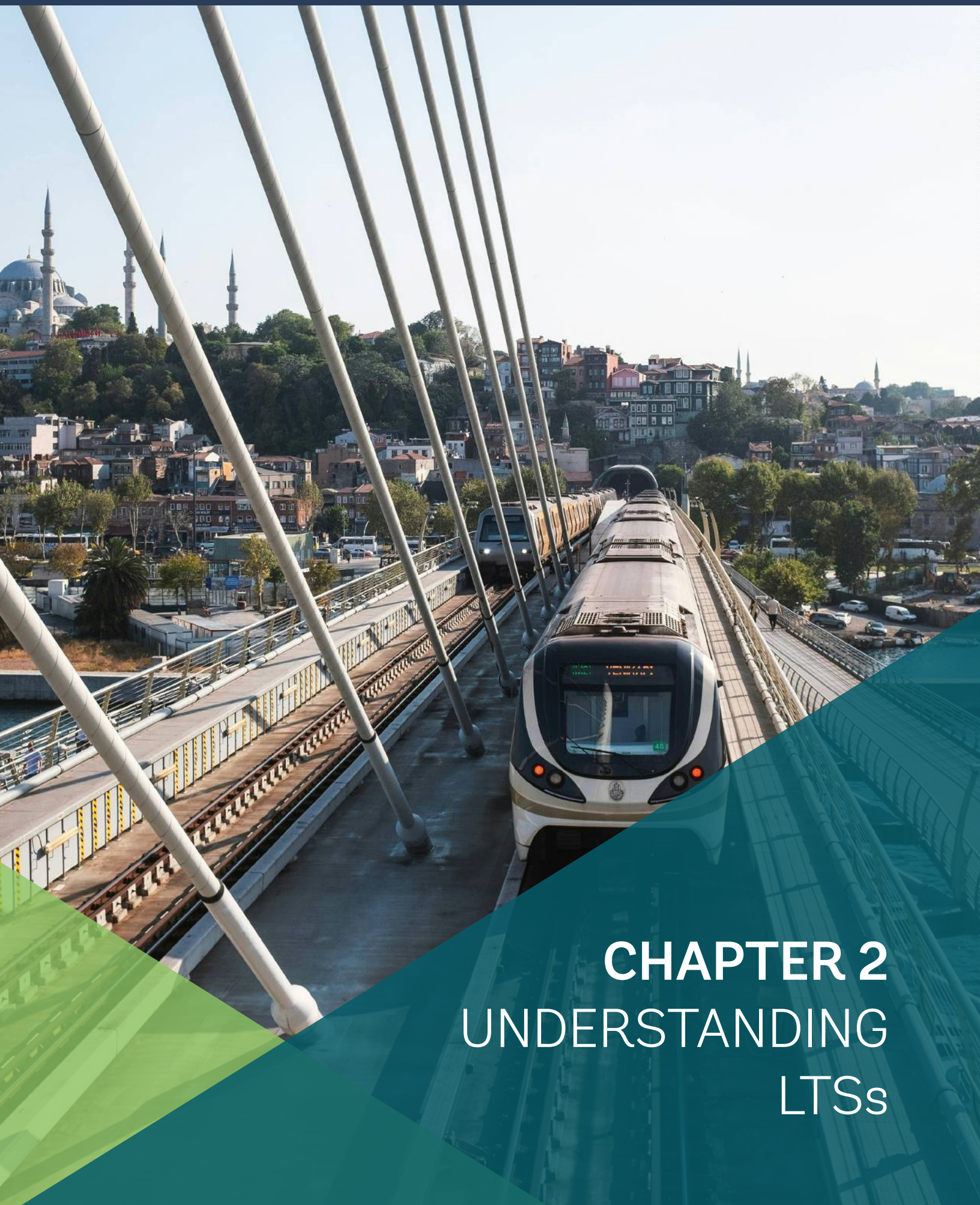
- The primary data source consists of initial 11 in-depth expert interviews across six countries that are in the early stages of LTS formulation or implementation (Dominican Republic, Kazakhstan, Jordan, Lao People's Democratic Republic, Türkiye, Uzbekistan). These countries represent an emerging frontier of LTS development, and the practices identified reflect forward-looking, conceptually sound approaches with strong potential for broader application as implementation matures.
- The sample offers a focused lens on early-stage institutional contexts; future research building on a wider range of institutional arrangements will strengthen and refine the conclusions.

The interview and survey process will be expanded to address these limitations and additional areas of interest. In particular, there is limited empirical evidence on how LTSs are operationalized in practice. The work underpinning this guidance note pointed to a need to further investigate countries that have already institutionalized their LTSs and can demonstrate clear links between governance arrangements and climate policy outcomes. This includes generating knowledge on the downstream operational dimensions of LTS implementation, including application of gender-responsive and socially inclusive governance tools, approaches to developing LTS-aligned investment plans, and integration of those plans into country platforms and financing mechanisms. This guidance note should therefore be seen as a starting point that may be updated as additional evidence becomes available. Its value lies in surfacing practical questions, identifying critical governance entry points, and laying a foundation for future operational learning.

1.3. Report Structure

The remainder of this guidance note is structured as follows. Chapter 2: Understanding LTSs introduces the role and characteristics of LTSs. Chapter 3: Formulating LTSs presents the five-stage process for formulating and operationalizing an LTS, focusing on sequence, activities, and decision points as countries move from initiation to implementation. Chapter 4: Institutionalizing LTSs provides a principle-based framework for institutionalizing LTSs, explaining the legal, organizational, fiscal, and coordination conditions that shape how the LTS is operationalized in practice and over time. Together, these two chapters reflect a simple logic: Chapter 3 explains how the LTS process unfolds, and Chapter 4 explains what must be in place for that process to influence decisions over time. Chapter 5: Conclusion summarizes key insights and implications.

3 The questionnaire used to facilitate the interviews is available upon request.



CHAPTER 2
UNDERSTANDING LTSs

This chapter presents the conceptual foundations for the guidance note. It defines LTS; explains the importance of robust, transparent analytics for credibility; and describes how LTSs interact with governance systems that influence policy, fiscal, and investment decisions. The chapter places the LTS within key state functions such as planning, budgeting, coordination, and accountability and identifies common implementation challenges seen globally. It also distinguishes between LTS formulation and institutionalization, which shapes the report's structure.

2.1 What an LTS Is

An LTS describes a country's vision and pathway to achieve a low-emission, climate-resilient economy by or around mid-century. LTSs typically articulate broad objectives, such as emission reduction by mid-century, and outline the types, scale, and speed of transformation required across key sectors, including energy, transport, land use, and industry. LTS development generally involves identifying alternative low-emission, climate-resilient transformation pathways; sequencing measures with milestones over time; and assessments of the costs, benefits, and trade-offs of each option.

An LTS is more than a technical climate scenario. It is a whole-of-government, whole-of-society, whole-of-economy plan, developed by the government under an official process, that links climate goals with national development priorities and real-world implementation constraints. When effectively developed and embedded in national decision-making systems, the LTS functions as a strategic compass. It helps align short- and medium-term policies, investments, and regulatory actions with long-term climate and development outcomes and enables countries to plan for deep, structural transformations across sectors while building resilience to climate risks.

An LTS should therefore be understood not only as a technical planning document, but also as a strategic governance instrument. Its effectiveness depends on the quality of the process through which it is formulated and the extent to which it is embedded in existing planning, budgeting, and decision-making systems. These two dimensions, process and institutional embedding, are analytically distinct but mutually reinforcing.

2.2 Why Sound LTS Analytics Matter

A robust analytical foundation is essential for identifying feasible long-term climate pathways and translating ambition into credible action. A granular assessment of policy impacts, costs and benefits, and implementation challenges helps stakeholders understand trade-offs, prioritize actions, and sequence reforms. To be effective, the analysis should draw on the best available data, apply transparent methodologies, and articulate clear assumptions. It should also build on past and current policy initiatives to ensure continuity and relevance.

When LTS analysis is transparent and institutionally grounded, it strengthens government ownership and enhances stakeholder confidence. In contrast, weak or opaque analysis can undermine credibility, reduce political traction, and limit the influence of LTSs on real-world decisions. Without a strong evidence base, LTSs risk being perceived as aspirational exercises that are disconnected from implementation realities. Access to timely, disaggregated data on emissions, climate risks, financing flows, and implementation progress is therefore critical for informing decisions, building trust, enabling oversight, and reinforcing accountability (Waisman et al. 2026).

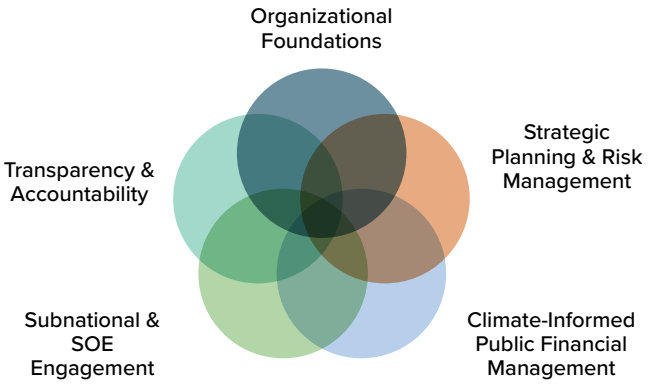
2.3 Where the LTS Sits in Governance

Although sound analysis provides the technical foundation for LTSs, implementation depends on how well those strategies are embedded in the institutions that shape real-world decisions. To be effective at driving transformation, LTSs must be ambitious, country driven, and implementable. This requires integration into the core governance systems through which governments plan, decide, finance, and deliver public action. This subsection introduces a set of conceptual building blocks to help readers understand where and how LTSs intersect with those systems and where institutional embedding is required for LTSs to influence real decisions.

These building blocks draw on good practices and the World Bank's Climate Change Institutional Assessment (World Bank 2021), an operational diagnostic framework that helps practitioners identify entry points for

mainstreaming climate change within governance and public institutions. It assesses climate change policies across five core governance dimensions: organizational foundations; strategic planning and risk management; climate-informed public financial management (PFM); subnational governance and state-owned enterprises (SOEs); and transparency, accountability, and stakeholder engagement (Figure 1).

Figure 1: Dimensions of the Climate Change Institutional Assessment



Note: SOE (State Owned Enterprise)

Organizational Foundations

Climate actions should be anchored in a sound institutional architecture with clear mandates, durable coordination mechanisms, and adequate technical capacity. This begins with a legal and regulatory framework that articulates long-term climate objectives and delineates institutional roles. Functional clarity is also essential. Government agencies need well-defined responsibilities for policy leadership, planning, regulation, implementation, and oversight.

Horizontal (across ministries) and vertical (across levels of government) cross-government coordination is equally important. Interministerial committees, climate councils, and integrated planning units help align policies, avoid duplication, and promote joint ownership. Institutions must also be resourced and staffed, with incentives that support continuity across political transitions.

Strategic Planning and Risk Management

Climate action is more likely to gain traction when it is aligned with broader national priorities and embedded in national planning systems. A low-emission, climate-resilient transition delivers benefits that extend beyond emissions reduction and resilience building. It can support economic growth and development, including through green job creation, enhanced energy security, avoided economic losses from climate impacts, and progress toward a circular economy. Embedding these objectives in strategic planning requires institutional processes that harmonize climate commitments with NDPs, sector strategies, and subnational priorities. It also requires integrating climate risks and long-term uncertainties into planning and decision-making frameworks so that long-term goals meaningfully inform near-term choices. Governments may therefore need systems to regularly assess climate risks, vulnerabilities, and opportunities, supported by appropriate data infrastructure and periodic updates.

The credibility of climate action plans depends on whether these risks are systematically identified, monitored, and addressed. Strong monitoring, reporting, and verification (MRV) systems are essential. They track progress, support course correction, and strengthen accountability. Embedding MRV functions in core planning institutions helps integrate climate data into routine policy and investment decisions, enhancing credibility and responsiveness.

Public Financial Management

Turning long-term strategy into action requires aligning ambition with finance. PFM shapes how climate finance is mobilized, allocated, and sustained over time. When climate objectives are embedded in budget planning, investment appraisal, procurement, and fiscal risk management, long-term strategies are more likely to translate into durable public action. At the same time, implementation depends on the existence of institutionalized mechanisms to mobilize and coordinate climate finance from domestic and international sources. Well-functioning PFM systems help ensure that such financing is predictable and aligned with long-term priorities, rather than ad hoc or donor dependent. By

strengthening planning, prioritization, and fiscal and policy risk-management functions, PFM can also help crowd in private capital by amplifying investment signals and managing risks associated with climate investments, thereby supporting sustained implementation over time.

The appropriate role of public finance depends on the extent to which private capital can be mobilized, including through carbon pricing, international carbon markets, and sustainability-linked finance. This in turn hinges on the credibility of long-term policy signals, investment pipelines, and risk-sharing arrangements. PFM systems can support domestic resource mobilization by amplifying investment signals and managing fiscal and policy risks.

Subnational Governance and SOEs

Subnational governments and SOEs control many of the key levers for climate action, including land use, infrastructure, utilities, and service delivery. In many countries, SOEs are also among the largest sources of greenhouse gas (GHG) emissions, giving governments a unique opportunity to achieve meaningful, direct emissions reductions through their ownership role. As a result, the effectiveness of long-term strategies depends not only on national policy direction, but also on the alignment, capacity, and incentives of subnational actors and SOEs.

Clear institutional arrangements that define roles across levels of government help translate national strategies into local action. For SOEs, integrating climate risk assessment, emissions disclosure, and climate objectives into corporate governance and performance frameworks strengthens accountability and implementation. Vertical coordination mechanisms, including climate-linked intergovernmental transfers and conditional grants, can reinforce coherence between national priorities and subnational and SOE-level action.

Transparency, Accountability, and Stakeholder Engagement

A robust institutional framework is incomplete without strong mechanisms to ensure transparency, accountability, and inclusive participation. Access to timely, disaggregated data on emissions, climate risks, financing flows, and implementation progress is critical for building trust, informing decisions, and enabling meaningful oversight. Institutionalized platforms for engaging civil society, the private sector, academia, and communities enhance the legitimacy, quality, and responsiveness of climate policy. These platforms allow diverse perspectives to be reflected in climate plan design and implementation and help ensure that climate action is socially grounded and politically resilient. Independent oversight bodies, including parliaments, supreme audit institutions, and expert councils, also play a vital role in reviewing performance, ensuring policy consistency across electoral cycles, and maintaining focus on long-term objectives.

Robust institutional arrangements are stronger when they include feedback loops that allow information and experience from implementation to inform future decisions, policies, and resource allocations. These loops, enabled by transparent monitoring, stakeholder feedback, and periodic reviews, help ensure that long-term climate strategies remain adaptive to emerging challenges and opportunities, rather than static documents. Over time, these feedback systems foster a culture of continuous learning and improvement, increasing the credibility and effectiveness of climate governance.

2.4 LTS Implementation Considerations

Engagement with long-term climate planning has increased steadily in recent years. As of February 2026, approximately 80 LTSs had been submitted to the United Nations Framework Convention on Climate Change (UNFCCC) under Article 4, paragraph 19, of the Paris Agreement[4]. This growth reflects broad recognition of the role that LTSs can play in guiding climate action, although greater uptake has not consistently translated

4 The most recent set of LTSs can be accessed from the UNFCCC's LTSs portal at https://unfccc.int/process/the-paris-agreement/long-term-strategies.

into effective implementation. In many cases, LTSs remain weakly connected to core governance, planning, and budgeting processes, which limits their ability to influence near- and medium-term policy choices and to drive sustained, whole-of-government climate action (Schaeffer et al. 2019). A preliminary review of global LTS submissions and World Bank LTS engagements highlights three recurring governance challenges that help explain this gap between strategy and delivery.

- **There is a persistent disconnect between strategy and action.** Many LTSs are developed primarily as technical exercises, with limited engagement or ownership from central ministries responsible for planning, budgeting, and policy coordination. This weakens the alignment between long-term goals and short- to medium-term policy and investment decisions.

- **Institutional arrangements for implementation are often underdeveloped and insufficiently adaptive.** Most LTSs (or their supplemental documents) do not clearly articulate the institutional arrangements, coordination mechanisms, or legal frameworks required for implementation. As a result, climate goals often remain siloed from broader governance and development processes. At the same time, few strategies address how the institutions responsible for implementation must evolve organizationally, technically, and politically to support systemic change over time. Without clear institutional design and deliberate institutional adaptation, implementation is likely to falter.

- **Specifics about financing and accountability mechanisms are usually absent.** Few LTSs include concrete strategies for financing implementation, aligning budgets, or establishing transparent systems for monitoring progress. Without these elements, LTSs risk remaining aspirational documents with limited political traction and operational relevance.

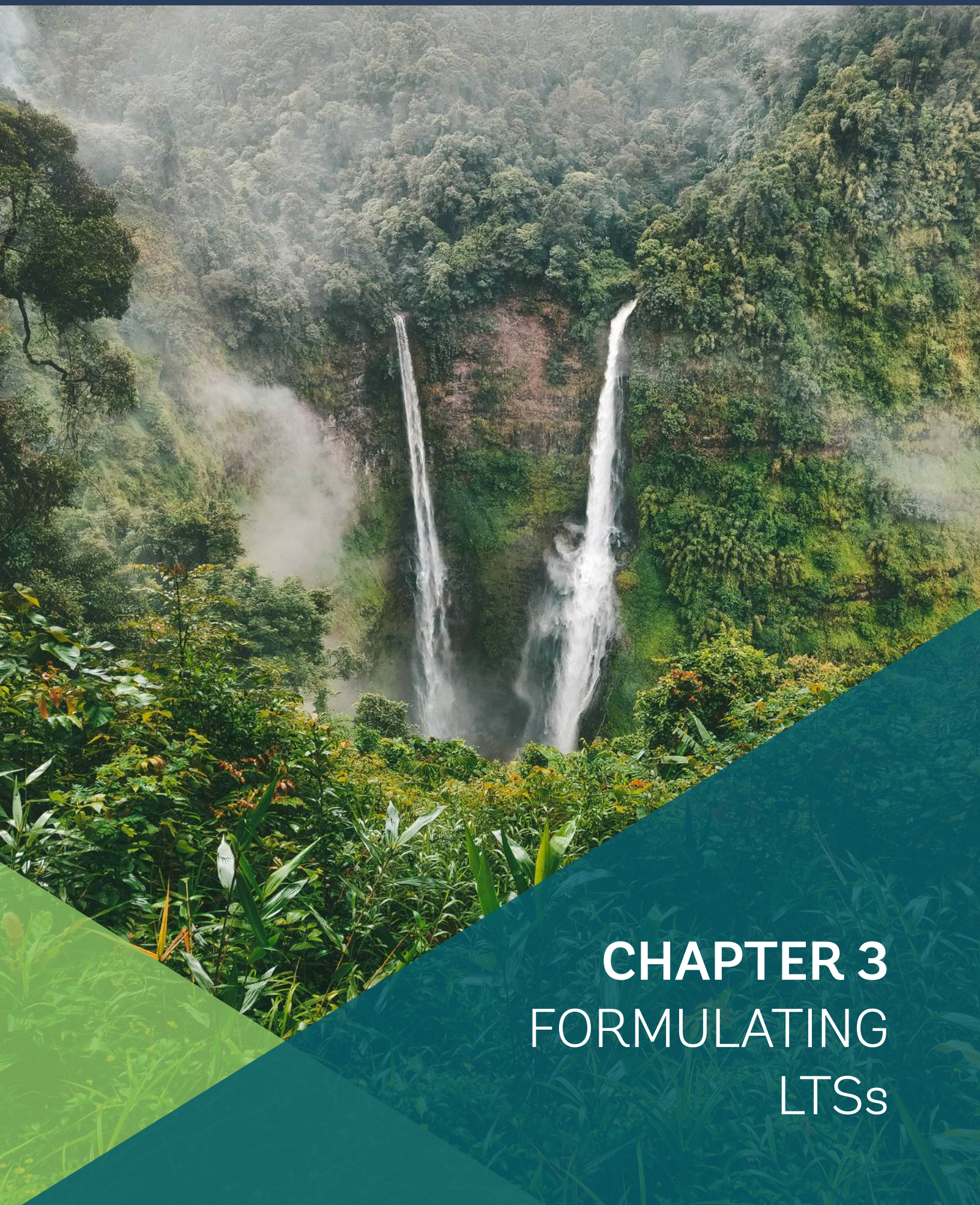
In practice, these challenges mirror those that NDPs and other long-term policy frameworks that fail to integrate effectively into planning, budgeting, and implementation processes face. Moreover, broader capacity constraints and political economy dynamics often compound these design- and institutionalization-related issues.

- **Inadequate institutional capacity and coordination mechanisms:** Formulation and implementation of LTSs are inherently cross-sectoral. They also require coordinated participation from diverse actors across national and subnational governments, the private sector, academia, and civil society. These processes are complex, involving evaluation of trade-offs related to economic, technological, social, and equity dimensions (WRI 2019), yet many governments, particularly in lower-capacity contexts, lack the institutional arrangements, resources, and human capital needed to ensure effective coordination, policy alignment, and meaningful engagement. These gaps are particularly pronounced during implementation, when LTSs must be translated into real-world decisions and delivery systems (Das et al. 2022).

- **Political economy dynamics:** The deep sectoral and economic transformations envisioned in LTSs can trigger resistance or misalignment with prevailing political and economic interests. The broader political economy, shaped by power dynamics, vested interests, institutional incentives, and electoral considerations, can enable or constrain the ambition and implementation of LTSs. When the political context is unfavorable, LTSs may be deprioritized, diluted, or developed in isolation from national strategies, reducing their impact and sustainability. Often this requires a governance approach that combines behavioral policy to build public acceptance, market pricing to signal efficiency, and strategic investment and institutional anchoring to create irreversible structural change toward a low-emission, climate-resilient economy (Rafaty et al. forthcoming).

The challenges underscore that making an LTS implementable is not primarily a technical task, but a governance one. Even when analytical foundations and political commitments are strong, LTSs often falter when long-term climate objectives are not embedded in the institutional structures, rules, and decision-making processes that govern planning, budgeting, and

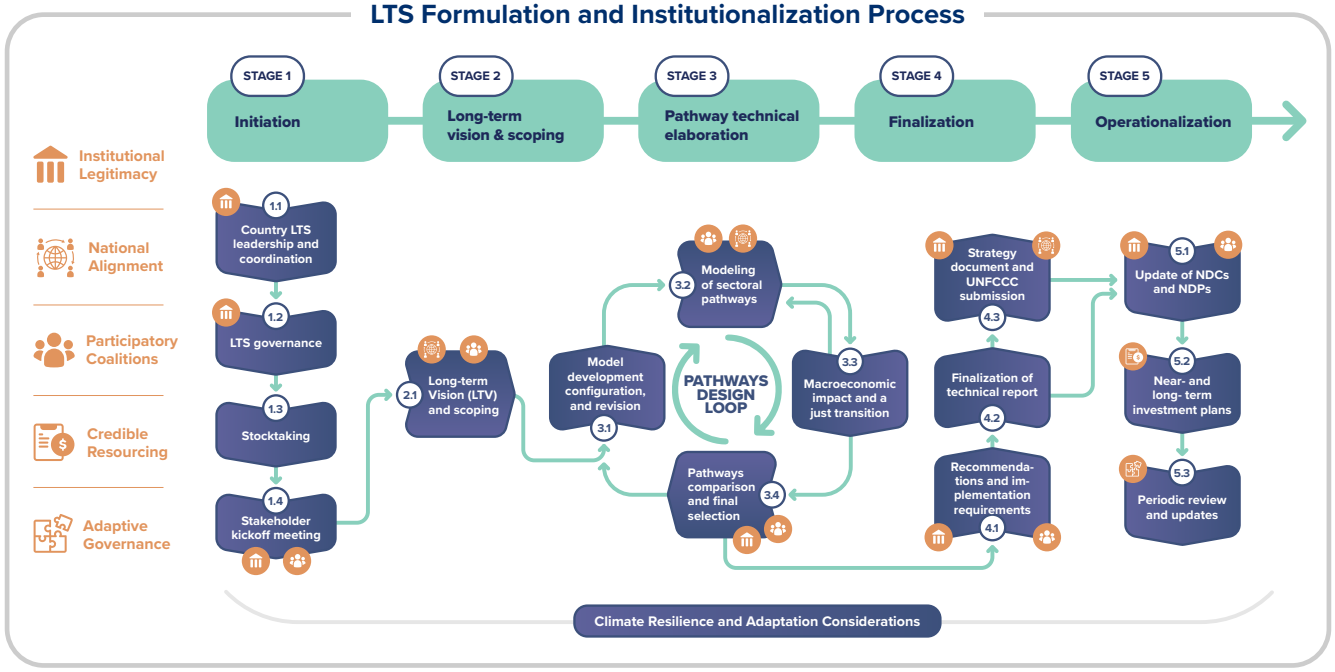
investment. Weak institutional integration can lead to fragmented implementation; erode credibility with citizens, donors, and the private sector; and constrain the LTS's ability to mobilize finance and sustain political support. Without clear institutional ownership, leadership, and alignment with core governance systems, LTSs risk remaining aspirational documents, disconnected from the levers that shape real-world decisions. This guidance note responds to that challenge by offering a practical framework for formulating and institutionalizing LTSs. It provides implementable guidance on how to develop robust strategies and embed them in governance systems, capacities, and decision-making processes to support sustained implementation over time.



CHAPTER 3
FORMULATING LTSs

The World Bank Group has developed a structured, five-stage process for formulating an LTS (Figure 2), drawing on lessons from the World Bank's growing portfolio of LTS engagements. The process provides a structured, high-level roadmap for governments, practitioners, and development partners to organize the analytical, consultative, and technical work required to develop an LTS and progressively translate it into action. The chapter explains how this process unfolds by describing the sequence, activities, decision points, and outputs involved in each stage: what typically happens, and in what order, as countries move from initiation to implementation. The chapter describes the analytical, consultative, and coordination steps involved in developing an LTS but does not prescribe institutional reforms or governance arrangements for its operationalization. The institutional conditions required to be embedded the LTS formulation so that it influences real-time policy, fiscal, and investment decisions are addressed in Chapter 4.

Figure 2: Five-Stage Long-Term Strategy (LTS) Process



The LTS process comprises five stages:

During **initiation,** the foundation for the LTS effort is laid by clarifying objectives, roles, and stakeholder engagement arrangements and by formally launching the process in a structured, transparent manner. The scope of LTS is defined; leadership and coordination arrangements are established, including key technical participants and decision makers from government agencies; and an initial stocktaking of existing plans, policies, data, and assessments is conducted.

During **long-term visioning and scoping**, countries articulate an LTV for a low-emission, climate-resilient development pathway and define the scope of subsequent analytical work. This stage can range from targeted consultations on goals, key drivers of emissions, adaptation options, and implementation and financing constraints to a more extensive visioning process involving multiple rounds of engagement and preparation of a dedicated LTV report.

During **pathway technical elaboration,** the analytical core of the LTS process is formed. It involves development and analysis of sectoral and economy-wide pathways, including modeling of emissions, assessment of investment needs and costs, evaluation of macroeconomic and social impacts, and consideration of co-benefits and uncertainties. Stakeholder dialogue during this stage supports comparison of alternative

pathways and selection of one or more pathways to guide near-term decision making.

During **finalization**, results of the analytical work are translated into short-term actions with leading agencies and policy and investment requirements for implementation. Technical findings and recommendations are documented in a technical report and translated into a policy strategy that reflects government priorities and decisions. The strategy is then formally approved through national processes and prepared for submission to the UNFCCC as the country's official LTS.

Operationalization focuses on translating the LTS into action over the long term. Priorities identified in the LTS are reflected in shorter-term instruments such as NDCs, NDPs, NAPs, and sectoral strategies, which are implemented, monitored, and periodically updated, with different types of support provided sequentially or in parallel depending on country needs and timing.

3.1 Sequence

This five-stage process reflects that LTS development is rarely linear. Countries may move through stages iteratively, undertake activities in parallel, or enter the process at different points, depending on institutional readiness, data availability, and human and financial resources. In this context, climate adaptation and resilience should be considered across all five stages to ensure consistency in decision making, expand opportunities to access finance, and leverage synergies such as local capacities (2050 Pathways Platform 2022). Countries have adopted various approaches to integrating adaptation into their LTSs. Some pursue an integrated mitigation–adaptation approach by assessing low-emission pathways through an adaptation lens and identifying options that simultaneously reduce emissions and vulnerability. Others treat adaptation as a distinct component, drawing on NAPs or related strategies. For these reasons, the five-stage framework is not prescriptive and is intended to be adapted to country-specific circumstances.

3.2 Timing

The time required to move from LTS initiation to operationalization can vary substantially across countries. This variation reflects differences in institutional readiness, data availability, model availability, and external factors such as changes in government. The indicative timelines below are therefore provided as a reference only. In practice, many activities may overlap or proceed in parallel:

- **Initiation:** three to five months
- **Long-term visioning and scoping:** one to three months when taking place as part of the LTS formulation process, although in some cases this effort can be a much longer preparatory stage lasting a year or longer
- **Pathway technical elaboration:** 10 to 16 months
- **Finalization:** three or more months
- **Operationalization:** 12 or more months

Section 3.3 describes each stage in detail, highlighting the typical activities, outputs, and decision points involved as countries move through the LTS process.

3.3 The Five-Stage LTS Process

Stage 1: Initiation

Step 1.1: Country LTS leadership and coordination

Established at the onset of the process, Step 1.1 is necessary for securing government ownership of the LTS and creating the conditions for its subsequent mainstreaming. Leadership and coordination arrangements during formulation may remain the same or differ from those needed during implementation. The arrangements described here relate to formulation; their design, durability, and effectiveness are discussed in Chapter 4.

EXPECTED OUTCOME
› Leading agency identified. › Core LTS Delivery Team established. › Technical consultants procured as needed. › Agreement reached on initial work plan and schedule.

Key actions in Step 1.1 typically include:

- **Securing a formal government mandate** authorizing development (or update) of an LTS. This may take the form of a presidential decree, legislation, or another official government decision.
- **Identifying a lead convening agency** to take responsibility for setting the policy agenda and coordinating across government. The ministry responsible for the environment and the UNFCCC process often plays this role, although ministries of finance or planning are often well positioned to lead or co-lead the LTS formulation process, given their cross-government mandate and links to development priorities.
- **Establishing a core LTS delivery team** composed of relevant government institutions and key national stakeholders, with support from development partners and technical institutions as appropriate. The team should include representatives from key ministries, including finance, planning, and relevant sectors such as energy. The team coordinates the formulation process, makes decisions, and oversees day-to-day management of LTS-related tasks.
- **Agreeing on the overall process timeframe**, considering country readiness, analytical requirements, and available resources.
- **Mobilizing technical expertise**, as needed, to support stakeholder engagement and perform the necessary technical analysis, drawing on national institutions, external consultants, or development partners as appropriate.
- **Developing an initial LTS workplan and schedule** to guide the sequencing of activities during the formulation phase.

Step 1.2: LTS governance structure

An appropriate cross-cutting governance structure should support the core LTS delivery team from the outset. To the extent possible, the structure should be inclusive of different institutions and levels of government, with clearly defined mandates, roles and responsibilities, and cross-cutting coordination authority, as well as the necessary budgetary and human resources to perform their functions (Elliott et al. 2019). This governance structure could include:

- **Steering committee or advisory committee** as an existing or newly established cross-sector body to support high-level decisions and provide strategic guidance during development of the LTS, such as determination of the priority pathway.
- **Sectoral task force or working groups** from governmental agencies, academia, nongovernmental organizations, and the private sector to support data collection, modeling, and assessment of impacts.

EXPECTED OUTCOME

- Stocktaking summary note
- Inputs to scope subsequent analytical work
- Knowledge sharing event(s)
- Stakeholder map identifying relevant actors
- Initial stakeholder engagement plan

Step 1.3: Stocktaking

This step establishes a shared factual baseline for the LTS. It consolidates existing policies, plans, assessments, and data relevant to long-term climate and development objectives to inform design and sequencing of later stages. The stocktaking focuses on a structured review of existing and planned policies, strategies, and assessments relevant to the LTS. These typically include climate change laws and regulations, NDCs, NDPs, sectoral strategies, NAPs, and related analytical work such as CCDRs.

EXPECTED OUTCOME

- Lead government agency establishes steering committee or advisory committee.
- Lead government agency forms sectoral working groups.

The objective of this step is to identify agreed-upon objectives, institutional responsibilities, existing commitments, data sources, and known gaps. The review should remain selective and fit for purpose,

emphasizing relevance rather than completeness. When useful, the stocktaking may draw on existing analytical material to provide an initial orientation on possible sectoral pathways. This does not involve new modeling; it helps define the scope, depth, and priorities of subsequent technical analysis. Often, the findings from the stocktaking are presented in knowledge-sharing events with government officials and possibly the broader public.

The stocktaking should also include systematic identification of stakeholders relevant to LTS formulation, implementation, and financing to ensure that the LTS reflects their priorities and concerns and that they have sufficient ownership of the LTS[5]. This activity involves identifying and categorizing stakeholders based on their mandates, influence, and potential role in implementation, not engagement. Based on this mapping, an initial stakeholder engagement plan is prepared that outlines who should be engaged, at which stages of the process, and for what purpose. Detailed engagement modalities and dialogue mechanisms are developed in subsequent steps. When appropriate, stocktaking findings can be shared internally within government to build a common understanding of the starting point for the LTS process.

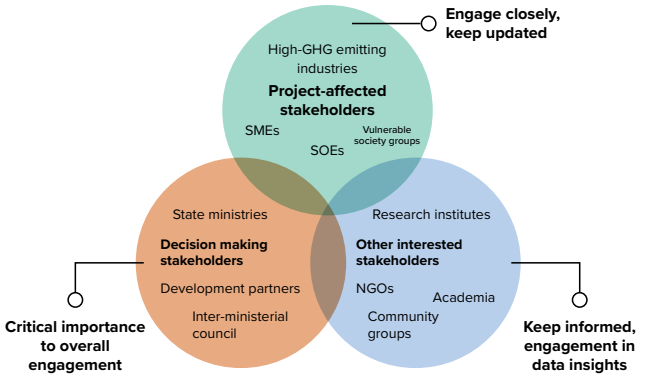
Step 1.4: Stakeholder kick-off meeting

The stakeholder kick-off meeting is usually the first opportunity for LTS leadership and governance bodies to engage with the broad group of stakeholders identified in Step 1.3. The meeting may be used to launch the LTS formulation process and set out its objectives, activities, deliverables, and timeline. It also provides an initial forum for stakeholders to share priorities and concerns relevant to the LTS and to agree on mechanisms to support transparency and consensus building. Chapter 4 provides further detail on the stakeholder engagement process and its role in embedding the LTS in the country's planning and decision-making systems. Figure 3 illustrates the stakeholder landscape considered at the outset of LTS formulation based on the World Bank LTS engagement in Uzbekistan.

EXPECTED OUTCOME

- Kick-off meeting with stakeholders held.
- Supporting material prepared.

Figure 3: Stakeholders Identified as Part of World Bank Long-Term Strategy Engagement in Uzbekistan



Note: "Decision making stakeholders" is equivalent to the steering committee as described in this document. SME (Small-Medium Enterprises. SOE (State Owned Enterprise). NGO (Non-governmental organization)

Stage 2: LTV and Scoping

During Stage 2, mandated government authorities, supported by the LTS core delivery team and informed by stakeholder inputs, establish an LTV for the country's low-emission, climate-resilient development pathway and define the scope of the technical analysis that follows. This involves articulating a clear long-term direction, including development goals and climate targets, together with an initial framing of how these objectives could be achieved. The emphasis is on setting direction and boundaries—including financing constraints—rather than defining detailed pathways or implementation measures.

EXPECTED OUTCOME

- LTV document or report written that includes a net-zero target, sectoral visions, indicators, and initial pathways to be explored.

The nature and depth of an LTV exercise vary according to country context, readiness, needs, and LTS development timeline. In some cases, countries

5 Stakeholders include representatives from other government agencies, subnational governments, SOEs such as utilities, the private sector, civil society, academia, women's groups, youth groups, indigenous peoples, local communities, and development partners.

undertake a dedicated, stand-alone visioning exercise, often involving multiple rounds of consultation and resulting in a formal LTV document with sectoral narratives and indicative targets. In other cases, the visioning exercise is integrated into the broader LTS formulation process through a series of targeted discussions that inform assumptions, indicators, and analytical priorities for subsequent modeling work. Some countries may also choose to consolidate existing, agreed-upon visions and targets rather than develop a new vision document. Regardless of approach, this stage provides a shared reference point that guides the scope, depth, and sequencing of the pathway technical elaboration that follows.

Stage 3: Pathway Technical Elaboration

This stage defines and quantifies alternative pathways for achieving the LTV established in Stage 2. It is inherently iterative and combines technical analysis with stakeholder deliberation. The key steps in this stage include:

- Model development, configuration, and refinement
- Modeling of sectoral pathways and whole-of-economy integration of results to attain net zero under different assumptions of economic transformations and other conditions
- Macroeconomic modeling to assess the effects of low-emission pathways on growth, jobs, trade, and other economy-wide factors
- Evaluation of the impact of different critical conditions and other benefits and selection of a single pathway for finalization

Step 3.1: Model development, configuration, and revision

Numerical models are used to quantify alternative pathways to achieve the low-emission target established in the LTV. These models estimate changes in GHG emissions; costs and direct benefits of required transformations; and broader spillover effects on economic growth, employment, trade flows, and other economic parameters. A range of modeling approaches exists to support LTS elaboration. More than one model is often required to adequately represent all sectors of the economy, estimate the macroeconomic effects, and quantify major co-benefits. Considerations such as transparency of methods, accuracy and granularity of results, complexity of analysis, ease of updates, in-country capacity for future access and use of the models, data requirements, computational time, and available funding resources should guide model selection.

EXPECTED OUTCOME

› Sectoral and macroeconomic models configured to represent country context, low-emission transformations and key uncertainties.

Results from sectoral models provide inputs to macroeconomic models that assess impacts on the economy and in some cases welfare. Macroeconomic models vary based on the key indicators they evaluate, in addition to gross domestic product, consumption, inflation, exchange rates, fiscal impacts and debt, and level of disaggregation of results. Once defined, the model must be configured to represent the country's condition and lon-term pathways to evaluate. This includes:

- *Calibration* to reflect the best available data. This requires adjustment of parameters and equations to align closely with the country's historical data and prevailing conditions.
- *Configuration* to represent different sectoral transformations. Usually at least two pathways (or scenarios) are defined in consultation with the country's LTS leadership and sectoral task force or working groups:
    - **Baseline or reference scenario** that reflects business-as-usual conditions and illustrates the likely trajectory of emissions in the absence of further policy interventions, given existing policy macroeconomic and technology trends and current planned policies.
    - **Mitigation or net-zero pathway(s)** that portray possible low-emission economic transformations in the sectors to shift the reference emission trajectory and achieve net zero. These transformations should be identified based on

key emission drivers and the country's priorities set in their NDC, NDP, and sectoral development plans. To enable quantification of GHG emission impacts and cost and benefits, some key design parameters should also be defined and built into the models, such as timing of implementation and their targets or uptake rate.

- *Specification* of various future assumptions representing uncertainties of the future inherent to a long-term planning effort such as the LTS. Some of these uncertainties can be accounted for at this stage of model configuration, and others can be considered later, when impacts are modeled (Step 3.2).

Step 3.2: Modeling of sectoral pathways and whole-of-economy integration

The sectoral models are used to understand how GHG emissions evolve under the various pathway assumptions, at what cost, and with what benefits. This is an iterative, analytical, deliberative process for which inputs and review from a country's LTS leadership and LTS governance entities are required. The sectoral modeling implicitly (or explicitly) assumes a macroeconomically consistent development pathway (growth, demand, investment capacity, labor availability) defined through an upstream macroeconomic framework and quantifies the following metrics.

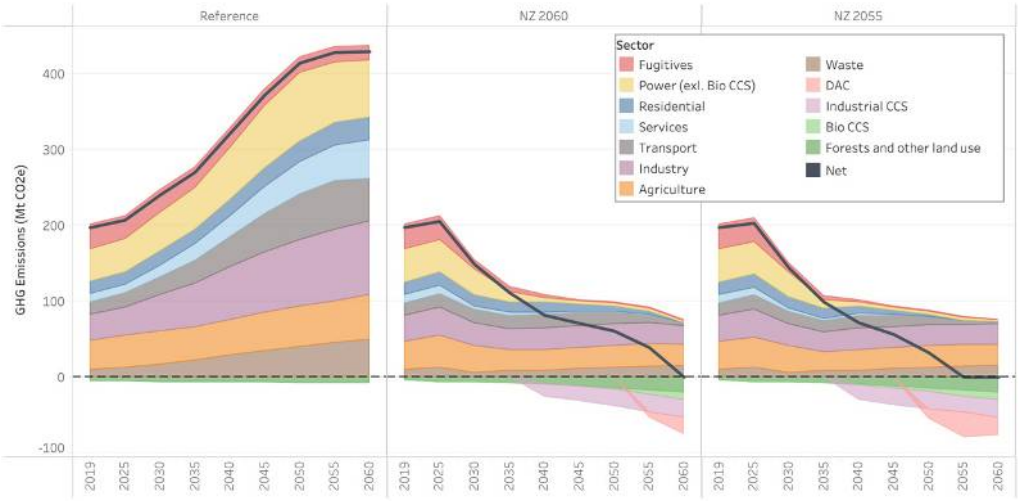
EXPECTED OUTCOME

- Sectoral low-emission pathways developed.
- Whole-of-economy integration of sectoral pathways showing economy-wide shifts of GHG emissions from a business-as-usual scenario and associated costs and savings conducted.

- *Emissions over time according to sector and GHG.* These estimates cover all the major GHGs (carbon dioxide, methane, nitrous oxide, and sometimes fluorinated gases) and reflect prevailing trends of key emissions drivers (e.g., deforestation, industrial fossil fuel combustion, soil inputs), along with emissions intensities (rate of emission of a GHG relative to a certain activity, e.g., quantity of carbon dioxide released per megajoule of energy produced).
- *Upfront investment costs* required for new technologies, infrastructure, practices, skills, and capacities needed to drive transformations under the mitigation pathway(s). These costs may be estimated based on specific actions, such as retiring a coal plant and constructing a given number of wind turbines, or derived from unit costs linked to outcomes or emissions abatement.
- *Operations and maintenance cost* differences (usually savings) between a reference pathway and the low-emission pathway(s).
- *Other benefits* from the low-emission pathway(s) (e.g., better public health, air quality, biodiversity, or food security; less traffic congestion, road mortality, or soil erosion; greater energy security, ecosystem services, or water quality or availability). Some sectoral models, such as Simulation of Sectoral Pathways and Uncertainty Exploration for Decarbonization (SiSEPUEDE), can evaluate these benefits, whereas in other cases, they are assessed as part of the macroeconomic modeling (Step 3.3) with models such as the Mitigation, Adaptation, New Technologies Applied General Equilibrium Model (MANAGE)and the Climate Policy Assessment Tool (CPAT).

Figure 4 provides an example from the World Bank's LTS engagement in Uzbekistan. It shows the evolution of GHG emissions and the contribution of each sector under three pathways: a reference pathway, a 2055 net-zero pathway (NZ 2055), and a 2060 net-zero pathway (NZ 2060). The figure demonstrates how emissions decline under both net-zero pathways, reaching net zero by their respective target years of 2055 and 2060. The largest share of emissions reduction comes from the energy sector, driven by the phase-out of fossil fuels and increasing wind power generation; energy-efficiency measures combined with electrification of heating, cooling, and cooking; and transport electrification. Emission reductions in other sectors (fugitives, agriculture, waste) are lower but remain critical to achieving net zero. Negative-emissions technologies, such as biocarbon capture and storage and direct air removal, together with forest carbon sequestration, also play an important role in neutralizing residual emissions arising from hard-to-abate sectors such as agriculture and industry.

Figure 4: Emission Pathways for Reference and Two Net-Zero Pathways for Uzbekistan

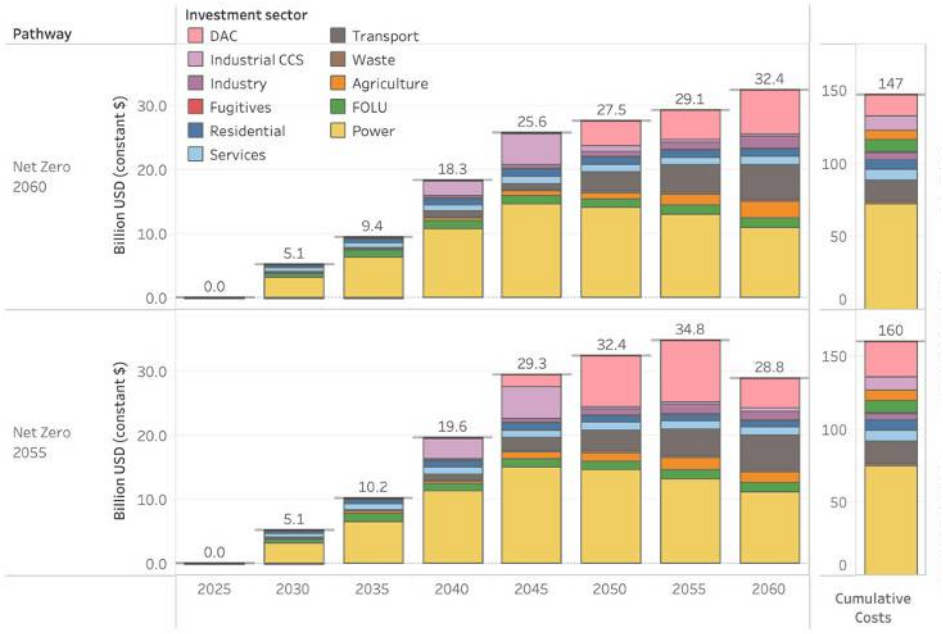


Source: World Bank 2025b.

Note: CCS, (Carbon Capture and Atorage) .

Figure 5 shows the additional annual capital expenditures required between 2025 and 2060, according to sector, for Uzbekistan to transition to each net-zero pathway relative to the reference emissions trajectory. With both pathways, annual expenditures increase as the emissions difference between the net-zero pathways and the reference pathway increases, reaching a maximum at the net-zero year (2055 in NZ 2055; 2060 in NZ 2060). Expenditures increase faster with NZ 2055 than with NZ 2060 to drive faster decarbonization, particularly in the power and agricultural sectors. Total additional capital expenditures needed between 2025 and 2060 are USD147 billion for the NZ 2060 pathway and USD 160 billion for the NZ 2050 pathway.

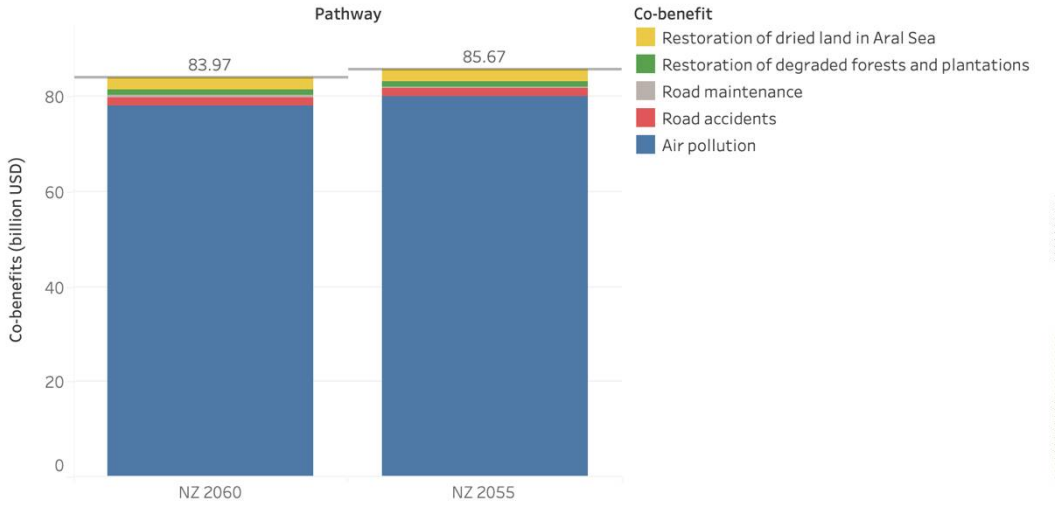
Figure 5: Annual Additional Capital Expenditures Required for Uzbekistan to Transition to Each Net-Zero Pathway



Source: World Bank 2025b.

In Uzbekistan, the World Bank's LTS engagement used the Climate Policy Assessment Tool to estimate impacts on air pollution–related health care costs, road fatalities and maintenance costs, and ecosystem services associated with restoration of dried land in the Aral Sea region and degraded forests and plantations. There are other potential co-benefits, so the estimate should be considered as a lower bound. The largest quantified co-benefits would be realized from lower health care costs associated with air pollution (Figure 6). The benefits are modestly greater for the NZ 2055 pathway, because the phase out of fossil fuel combustion occurs more quickly under that pathway. Other co-benefits related to transportation and restoration are smaller but still significant.

Figure 6: Quantified Co-Benefits of Net-Zero Transition Pathways in Uzbekistan



Source: World Bank 2025b.

Sectoral modeling enables exploration of combinations of sector-specific economic transformations under various socioeconomic, technological, and policy assumptions. More-comprehensive sectoral modeling can examine how alternative assumptions about the future affect outcomes, helping to address what-if questions arising from uncertainty in long-term planning. Robust decision making has been used in LTS-style analyses because it provides a structured yet flexible approach to addressing uncertainty through evaluation of multiple pathways across a wide range of plausible scenarios (or futures) reflecting different assumptions about key uncertainties.

Results are integrated to show the whole-of-economy impacts of the pathways toward the decarbonization target. Different approaches can be used. Some models include all sectors, in which case integration occurs within the modeling framework itself. In other cases, sectoral pathway results are incorporated by aggregating sectoral results in a spreadsheet tool (or equivalent) to assess economy-wide emissions levels. This step requires engagement with the country's LTS leadership and stakeholders to review and discuss the merits and implications of the whole-of-economy pathways under consideration.

Step 3.3: Macroeconomic impacts and a just transition

Macroeconomic models are then used to evaluate the effects of the whole-of-economy pathways on broader macroeconomic conditions. Results of the sectoral analysis feed back into the macroeconomic model. This includes incorporating the investment costs and benefits triggered by price and nonprice policies or interventions quantified in the sectoral modeling to explore the feasibility of the sectoral scenarios as well as their aggregate implications for growth and other macroeconomic variables and household welfare and employment at the sectoral level. The scope of

macroeconomic modeling for low-emission pathways depends on the modeling systems used and the time and resources available. Model results may, in turn, require adjustments to sectoral assumptions or the pace of policy implementation. As a result, macro-sectoral modeling operates as a two-way, iterative process in LTS formulation.

EXPECTED OUTCOME

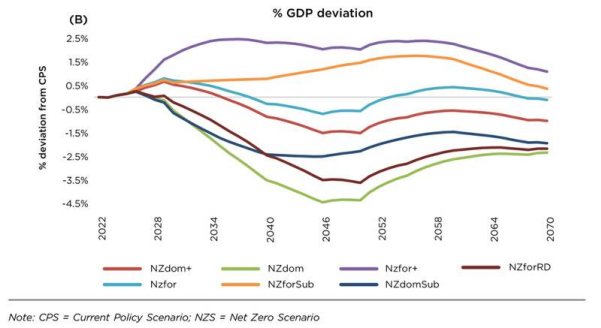
- Macroeconomic assessment conducted showing impacts of low-emission pathway on gross domestic product growth, employment, investments, and other indicators
- Distributional impacts of low-emission pathway showing population subgroups most affected assessed.

More-granular labor market analyses can complement macroeconomic modeling. A low-emissions economic transition requires reallocating labor from emission-intensive to lower-emission activities, which can create mismatches in skills, wages, and geography. These mismatches may prevent workers from accessing new job opportunities and from transitioning out of emission-intensive sectors. Box 2 provides an example of such work, in the case of NITI Aayog's scenarios for India, assessing the macroeconomic implications of a set of sectoral roadmaps to combine India's objective to reach high-income status in 2047 with the commitment to reach net-zero GHG emissions.

Box 2: Macroeconomic Implications of Long-Term Sectoral Roadmaps

NITI Aayog (2026) has published a set of sectoral roadmaps to achieve India's growth objectives (reaching high-income status in 2047), with the aspiration of achieving net-zero emissions in 2070. The macroeconomic simulations—using the World Bank Mitigation, Adaptation, New Technologies Applied General Equilibrium (MANAGE) model—take as inputs the investments needed in the sectoral roadmaps and the associated economic costs and benefits (e.g., operating expenses, fuel costs) and explore the implications for various macroeconomic aggregate, such as gross domestic product (Figure B2.1), trade balance, public debt, current account balance, and sectoral employment. The scenarios are also used to explore various financing arrangements (e.g., with a different balance between domestic and foreign financing) and complementary policies (e.g., distributional interventions, electric price subsidies).

Figure B2.1. Gross Domestic Product Under a Net-Zero Scenario, Compared with Baseline (Current Policy Scenarios), Under Various Assumptions on Financing Sources, Co-Benefits, and Complementary Policies



Source: NITI Aayog 2026.

Building the macroeconomic simulations from the sectoral roadmaps ensures greater consistency between planning in line ministries (e.g., energy, transport) and central ministries (e.g., finance, economy, planning). It also ensures that the sectoral roadmaps are consistent and feasible, especially in terms of finance mobilization.

The overall analytical framework should also consider the distributional impacts of the low-emission pathways. This analysis examines which population subgroups are most likely to be affected by expected changes in income or employment transitions resulting from LTS implementation. It accounts for differences in population characteristics, demographics, geography, and underlying economic conditions. This can be achieved by combining macroeconomic models with adapted or complementary tools (e.g., microsimulation, sectoral employment analysis). Macroeconomic models help ensure economy-wide consistency, and complementary tools are used to unpack distributional and sector-specific impacts.

Step 3.4: Pathway comparison and final selection

Once the modeling is completed (Steps 3.1 to 3.3), the LTS delivery team holistically evaluates the modeled pathways. This evaluation includes a side-by-side comparison of GHG emissions impacts, costs, benefits, and macroeconomic effects while also accounting for considerations such as identified implementation barriers and synergies with broader country priorities. Based on this assessment, the process selects one preferred low-emission pathway in consultation with LTS leadership and stakeholders. The team then develops a storyline that sets out the key transformations and decision points associated with the selected pathway.

EXPECTED OUTCOME

- Overall costs, benefits, constraints, and other considerations of different pathways compared.
- Final pathway selected and formulated with detailed interventions and narrative or storyline.

Stage 4: Finalization

In this stage, the team takes additional steps to develop a final strategy based on the pathway identified and modeled in Stage 3. The LTS delivery team prepares a technical report, in consultation with the LTS steering committee and stakeholders, to present a package of recommendations and specify the requirements needed to support implementation (Steps 4.1 and 4.2). The government then translates the technical report into a policy strategy document, including, when relevant, for possible submission under the UNFCCC (Step 4.3).

Step 4.1: Recommendations and implementation requirements

EXPECTED OUTCOME

- Recommendations developed and implementation requirements identified.
- Initial capacity assessment conducted.
- Initial MRV framework laid out.

The LTS is finalized by defining a set of recommendations and a series of requirements that provide the level of detail needed for effective implementation. Their breadth and depth depend on the country's readiness, its level of understanding of LTS implementation requirements, and the time and resources available (Box 3). In general, they include:

- Translation of the economic transformations identified in the selected low-emission pathway into policy and investment recommendations, developed at the highest level of feasible detail. These recommendations should specify the policy instruments that the government would need to adopt to support implementation (e.g., laws, regulations, codes, tax incentives), define targets and milestones, and be prioritized and sequenced based on a preliminary assessment of factors such as available funding, existing implementation barriers, institutional readiness, and synergies with development and economic objectives.

Box 3: Identifying Sustainability-Linked Finance Key Performance Indicators (KPIs) in the Long-Term Strategy (LTS)

Sustainability-linked bonds or loans offer excellent opportunities to facilitate access to finance to support implementation of climate and development interventions. Successful examples include the sustainability-linked bond on methane emissions in Uruguay and the sustainability-linked bonds in Côte d'Ivoire (with KPIs on renewable energy and forestry).

Such tools face strong implementation challenges, especially related to identification of KPIs and targets that are sufficiently ambitious and objective to attract investors but also feasible and achievable, to minimize risks for governments. Defining ambitious yet achievable targets thorough formulation of the LTS allows for development of an integrated definition of the strategy and the balancing of ambition and risks.

Such an approach would shorten the transition from strategy to financing while creating an opportunity to strengthen the role of the Ministry of Finance in the LTS process. It would also enhance investor confidence, because market participants would be able to structure transactions against a clearly articulated, credible policy framework.

In the Cabo Verde country climate and development report, the ambitiousness and feasibility of the renewable energy penetration target was assessed in line with the principles of the International Capital Market Association (ICMA) and prevailing market best practices. This process enabled a material, core renewable energy KPI supported by ambitious and verifiable performance targets that could be linked to financing instruments to accelerate implementation to be identified.

- Definition of implementation requirements, structured in five-year intervals, to provide governments with the information needed to act on the LTS. Ideally, these requirements include:
    - Initial technical interventions to define parameters for implementation, such as mapping the location of new infrastructure or identifying the most appropriate technologies or practices for specific actions
    - An initial investment and financial framework to identify preliminary steps to mobilize financing, including conducting detailed cost and financial analyses of individual projects and programs, reviewing funding options to cover identified costs and developing a detailed investment plan, and establishing mechanisms for blended finance and public–private partnerships
    - An institutional structure that designates a lead agency for LTS implementation and defines roles, responsibilities, and coordination mechanisms across institutions and projects
    - Stakeholder mapping to identify relevant stakeholders to be engaged during LTS implementation
- Initial capacity assessment to identify required capacities and potential gaps, including capacities related to policy development, modeling, investment management, and GHG emission monitoring and reporting.
- Preliminary MRV framework to support development of a comprehensive MRV system during the operationalization phase, including arrangements for data collection, reporting, and verification. The World Bank LTS program is developing a suggested reporting framework to help countries track LTS implementation and reporting progress.

Step 4.2: Finalization of the technical report

In this step, the LTS delivery team presents the selected low-emission pathway, modeling results, recommendations, and implementation requirements in a technical report. The report should lay out the process used to develop the low-emission pathway and articulate the storyline of key economic transformations required to achieve net zero. It should also transparently document the modeling work and stakeholder deliberations undertaken during the process.

EXPECTED OUTCOME
› Final technical report developed and submitted to country's leadership

An LTS technical report typically follows an outline such as the following:

- Introduction
- Scope and process of the LTS engagement
- Country context and LTV
- Modeling approach and pathways assessed

- Reference scenario or pathway
- Options and transformations for a low-emission, climate-resilient pathway
- Low-emission, climate-resilient pathways (emissions, costs, benefits)
- Macroeconomic effects
- Evaluation of alternative pathways and assumptions
- Implementation requirements, including milestones
- Conclusions

Step 4.3: Strategy document and submission to the UNFCCC

The government translates the content of the technical report into a strategy document for submission to the UNFCCC. This document constitutes the official LTS that the country has prepared and approved. The UNFCCC does not provide guidance on LTS content, and LTSs submitted to date vary widely in style, length, and level of detail. For example, submissions range from text-only to illustrated documents; from concise reports that refer to external materials to more detailed, self-contained documents; and from high-level narratives to submissions that include quantified goals, policies, or multiple pathways to net zero.

EXPECTED OUTCOME
› Strategy document developed by the country and approved › LTS document submitted to UNFCCC

Based on current submissions, the following outline provides a suggested structure for the government-owned LTS (policy strategy document). The level of detail in each section will vary depending on the scope and depth of the analysis conducted.

- National context (priorities, challenges, opportunities)
- Summary of the LTS process and analytical methodology
- Vision of major sectoral transformations
- Description of the low-emission pathway, including assumptions, challenges, and enabling conditions
- Summary of GHG emission impacts
- Summary of investment needs
- Summary of other impacts, including macroeconomic impacts and additional co-benefits, when assessed
- Summary of the climate adaptation component (reflecting the type of adaptation assessment conducted)
- Summary of the implementation framework or roadmap
- Initial plan for the MRV system

Once the report is finalized, the government formally approves the strategy document and communicates it to the UNFCCC secretariat. Approval modalities vary according to country; in some cases, approval may involve signature by the president or minister of the environment, and in others, it may require parliamentary approval.

Stage 5: Operationalization

Once finalized and submitted to the UNFCCC, the LTS typically enters an operationalization phase, during which the country translates its long-term objectives into concrete projects, policies, reforms, investments, and financial instruments. Approaches to operationalization vary depending on country context, institutional arrangements, and available capacities. Although this stage often marks the point at which the LTS begins to interface more directly with shorter-term policy and planning instruments, the governance mechanisms that support sustained delivery, updating, and enforcement may extend beyond this stage. These broader governance considerations are discussed in Chapter 4.

Step 5.1: Update of NDCs and NDPs

One common mechanism for operationalizing the long-term sectoral transformations identified in an LTS is through shorter-term instruments such as NDCs and NDPs (Pérez et al. 2024). In many countries, the long-term development pathway articulated in the LTS can help inform adjustments to short-term targets and actions in NDCs and NDPs, supporting alignment with the LTS's LTV and objectives. In this way, short-term

investment decisions under NDCs and NDPs can serve as building blocks for the longer-term interventions and investments envisioned in the LTS.

EXPECTED OUTCOME
› NDC and NDP revised and aligned with LTS. › NDC and NDP processes aligned with LTS process.

Countries may also seek to build synergies between NDC and LTS processes to increase coherence and efficiency, including from financial and human resource perspectives. When feasible, such synergies can involve coordinated planning processes; use of consistent modeling approaches, including shared data and assumptions; and tracking of progress through aligned or common MRV systems.

LTSs can further serve as a strategic reference for national and sectoral development plans. When NDPs align with the LTS, they can reinforce political commitment to implementation by promoting consistency across broader investment decisions, including in areas such as health and education. For example, the World Bank–supported LTS engagement in Türkiye helped provide analytical inputs and build government capacity to integrate climate considerations into the country's NDP.

Step 5.2: Near- and long-term investment plans

Developing near- and long-term investment plans is an important step in implementing an LTS and mobilizing the financing needed to support it. Investment plans can help identify specific projects and programs associated with LTS actions, including indicative timelines, sequencing, and key implementation activities. This also ensures alignment with sectoral plans and identifies the regulatory and policy reforms needed to support these investments, such as performance standards, tariff reviews, and fiscal policy measures.

EXPECTED OUTCOME
› Near- and long-term investment plans reviewed and updated.

This step often requires refining Stage 3 targets to ensure that they are specific and time bound. Translating the strategic vision and targets in the LTS into concrete, resourced actions is essential for effective implementation (Box 4). If sectoral targets are not defined in the LTS, the first step is to form sector-specific working groups that include technical experts and representatives from line ministries, the private sector, and civil society. These groups convert high-level LTS objectives into implementable sector targets for energy, transport, agriculture, industry, and land use, ensuring alignment with national priorities (Buylova et al. 2024). In some cases, these groups may already exist and need only to be expanded or strengthened as the LTS moves to implementation. Once established, targets should be validated through interministerial coordination and incorporated into sectoral roadmaps that specify critical actions, responsible agencies, capacity-building needs, and financing requirements.

Box 4: Translating Long-Term Strategies (LTSs) into Implementable Targets—Lessons Learned from Early movers

Several countries have made concerted efforts to define concrete investment pathways and sectoral transformations that translate their LTSs into implementable medium- and short-term targets. For example, France integrated its long-term climate objectives into the strategic planning of its transport sector. By modeling two policy pathways—one aligned with a 2050 decarbonization objective and one without—**France** demonstrated that only the strategy consistent with the long-term goal led to "early and ambitious efforts to decarbonize the transport sector," particularly through fuel switching and shifts in transport modes. This approach helps ensure that short-term investments avoid locking in high emissions and instead lay the groundwork for achieving net-zero targets.

Sweden similarly illustrates how legally enshrined long-term climate targets can drive mid-term action. The 2017 Climate Policy Framework commits to net-zero greenhouse gas emissions by 2045, with intermediate milestones such as reducing emissions from 1990 levels by at least 63 percent by 2030. These targets are reinforced through a transparent annual review process and sectoral roadmaps, ensuring that all government sectors remain aligned with the long-term vision. This step-by-step approach increases policy coherence across time horizons and sectors while incorporating emerging technologies and market trends.

New Zealand provides another compelling example, with long-term emissions goals directly shaping sectoral priorities, particularly in land use. The Productivity Commission's low-emissions economy report emphasized the critical role of forestry and agriculture in achieving net-zero emissions, leading to early adoption of policies to increase afforestation and improve livestock practices. Sequencing actions according to long-term goals helped avoid costly backloading and promoted a smoother transition with lower cumulative emissions. The strategy also built public and stakeholder confidence—an essential ingredient for sustained climate action.

Costa Rica and **Ireland** highlight the importance of using LTSs to avoid carbon lock-in. Costa Rica's long-term low-emission development strategy flagged the risk of investing in natural gas infrastructure, which could later require costly retrofits, and instead prioritized direct investment in renewables and electrification of transport and buildings. Ireland's Climate Action Plan also addresses lock-in risks, using modeling to guide short-term decisions that are "consistent with long-term decarbonization pathways." These cases underscore the value of a forward-looking lens in sectoral investment decisions, ensuring that current actions advance—rather than hinder—future climate ambitions.

Source: Falduto and Rocha 2020.

The investment plans may also outline technical assistance and capacity-building needs, allowing related financial requirements to be reflected in subsequent financial analyses. In practice, investment plans frequently include financial analyses that estimate investment needs, expected returns, and risks for selected projects; identify financial and non-financial barriers; and describe policies or regulatory measures that could help address those barriers. Many countries also use investment plans to articulate an overall resource-mobilization strategy.

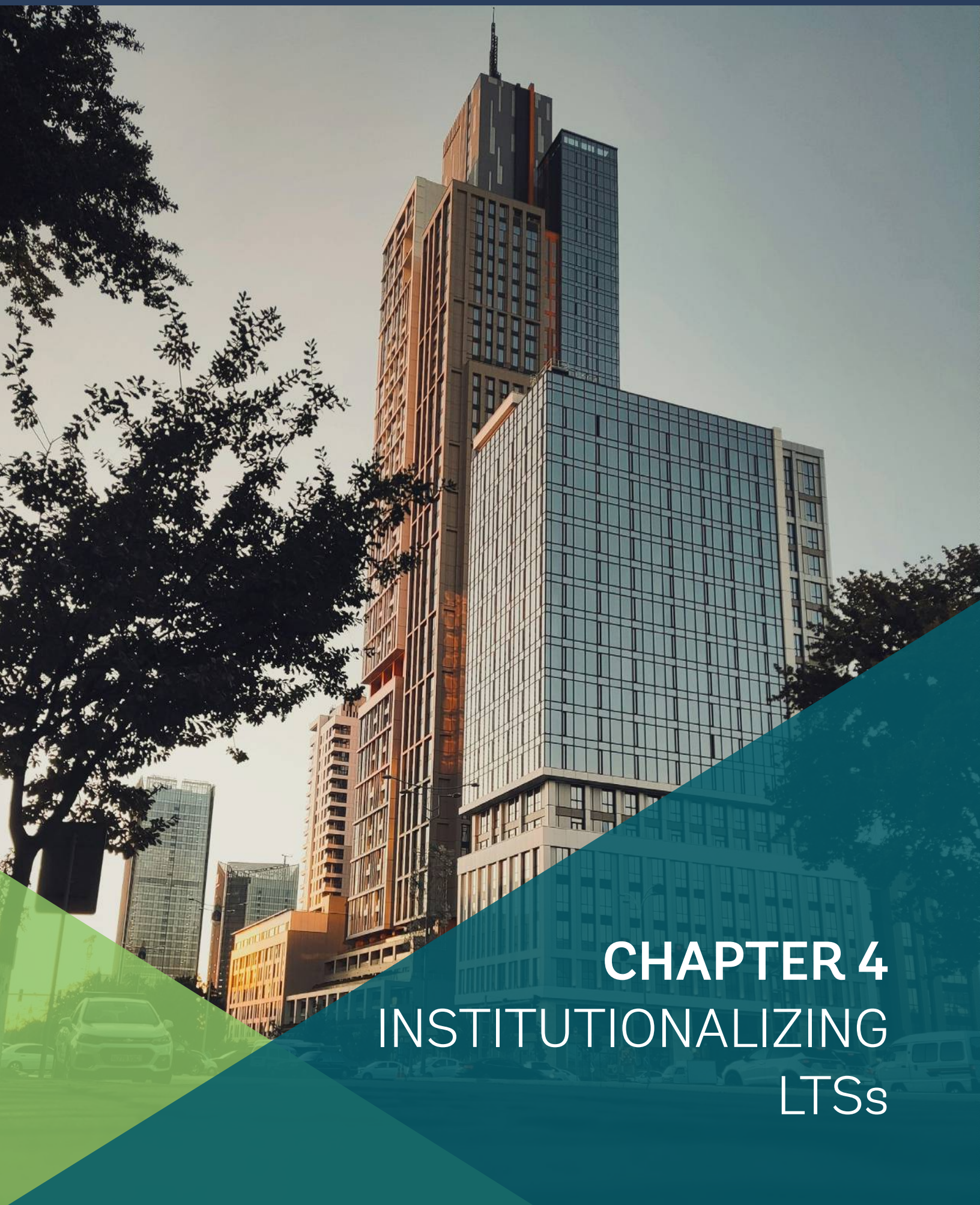
Responsibility for developing the LTS investment plan may rest with a governmental body mandated to oversee LTS implementation. This could be a newly established institution or an existing body with cross-sectoral representation and decision-making authority (NDC Partnership n.d.). In some cases, countries choose to house responsibility for LTS and NDC implementation within the same institutional arrangement to strengthen synergies and promote consistency, although alternative arrangements are also possible.

Step 5.3: Periodic review and updates

Given the long-term horizon of an LTS and the inherent uncertainty of long-term planning, many countries choose to review and update their LTS periodically. Such updates can allow the strategy to reflect improvements in data and modeling capabilities, technological advances, changes in socioeconomic conditions, evolving climate impacts, shifts in national priorities, and broader geopolitical developments. When appropriate, countries may align LTS reviews and updates with existing MRV processes, including the five-year NDC revision cycle. Aligning review cycles can help leverage existing data, resources, and institutional capacities while supporting consistency across planning instruments, although the timing, scope, and depth of LTS updates may differ across countries based on national circumstances.

EXPECTED OUTCOME

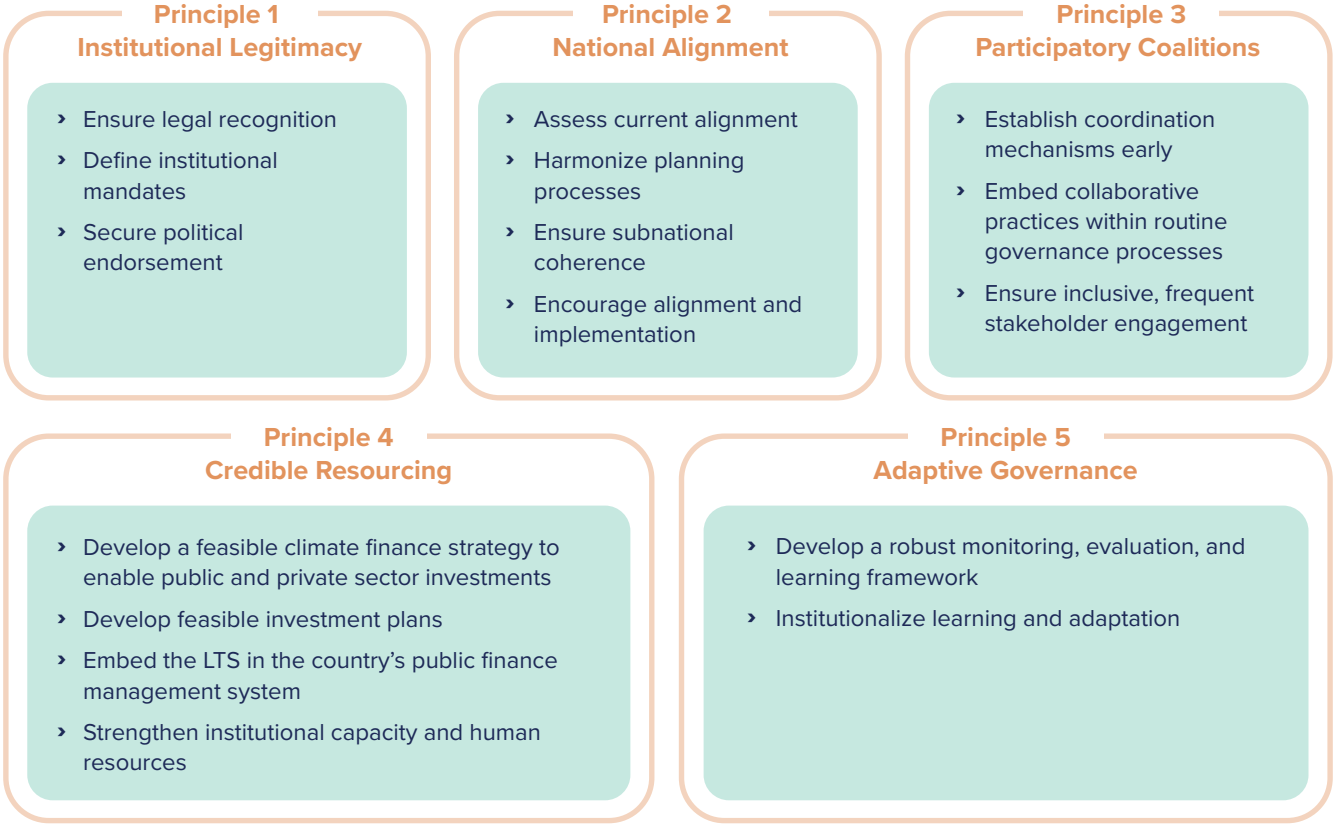
- Review and update process and system defined and operationalized.
- LTS periodic review and updates conducted.



CHAPTER 4
INSTITUTIONALIZING LTSs

This chapter sets out a principles-based approach for institutionalizing LTSs. It introduces five foundational, context-driven governance principles, together with illustrative actions. Jointly, these principles create the enabling conditions for the LTS process described in Chapter 3 to influence policy, planning, and investment decisions over time, without being prerequisites for undertaking an LTS. The principles are legitimacy, alignment, participation, resourcing, and adaptability (Figure 7), and they enable institutional effectiveness and are the main channel to achieve results and outcomes. They represent not an additional stage in the LTS formulation process, but rather cross-cutting principles that shape the institutional arrangements in each stage to support the transition from strategy development to sustained, system-wide implementation.

Figure 7: Principles for Institutionalizing Long-Term Strategies (LTSs)



The principles do not correspond one-to-one with the five stages of LTS formulation, nor do they constitute a checklist or linear sequence. Instead, they describe institutional conditions that cut across the entire LTS lifecycle and shape the effectiveness of formulation and operationalization. These principles and actions are not intended to be applied in isolation (Figure 2); rather, they interact with and reinforce one another across the five-stage process presented in Chapter 3 and may become relevant at different points depending on country context. They all build on the understanding that incremental, day-to-day improvements in the governance systems are critical.

The five guiding principles presented here are intended as interdependent and mutually reinforcing foundations rather than rigid requirements or universal best practices. They reflect the reality that institutionalization is a dynamic, iterative, multidimensional process that requires ongoing alignment, coordination, and adaptation across time horizons, political cycles, and sectors. Countries may engage with these principles from different entry points, depending on their institutional maturity, governance arrangements, and implementation experience. Taken together, the principles provide a flexible, durable framework for embedding LTSs in national governance systems.

The sections that follow present a description of the key elements of each principle; a discussion of why the principle matters in practice; and a set of illustrative actions that governments may consider, drawing on insights from World Bank LTS engagements. Each section concludes with diagnostic questions to help practitioners assess the extent to which the principle is reflected in existing institutional arrangements. This structure is intended to support governments and practitioners in applying the framework in a way that is context-appropriate, politically durable, and operationally feasible.

4.1 Principle 1: Institutional Legitimacy

Create an enabling environment that confers institutional authority and political sustainability on the LTS.

What Principle 1 Involves

Institutional legitimacy requires that the LTS be explicitly recognized as valid, justified, and authoritative. It involves establishing durable institutional and political foundations by ensuring legal recognition, formal mandates, and sustained political backing. When an LTS is embedded in governance systems, it is more likely to endure beyond electoral cycles and shifting political priorities, maintaining its relevance and influence over time.

Why Principle 1 Matters

Without formal recognition and authority, the LTS risks being treated as a compliance exercise for international reporting rather than a core component of national development planning. This risk is greatest during the early initiation stage of the LTS process, when mandates, leadership arrangements, and political authorization are first established. In the absence of high-level political endorsement (and its subsequent consolidation during finalization), the LTS may be sidelined in planning and budget allocation processes, particularly during periods of political transition or fiscal pressure. Such shortcomings can weaken interministerial collaboration, limit resource mobilization, and slow or reverse implementation progress. By contrast, securing institutional legitimacy early, and reaffirming it at the point of formal approval, can secure cross-government engagement, align financing decisions, and help maintain momentum for the LTS across political and economic cycles.

How to Apply Principle 1

Governments embed the LTS in national decision making by taking three targeted, complementary actions: codifying the LTS in law, clarifying institutional mandates and responsibilities for its delivery, and securing the political commitment needed to sustain its priority over time. Legal recognition establishes formal authority for the LTS, institutional mandates translate that authority into operational responsibility, and political endorsement activates it in practice through the policy and budget process. Each action is analytically distinct but mutually reinforcing and may be initiated at different points in the LTS process. Although the specific form and sequencing of the actions will vary according to country context, experience suggests that addressing all three early in the LTS formulation process helps prevent institutionalization from becoming an afterthought once the strategy is finalized. Together, they provide the institutional authority, operational clarity, and political prioritization needed for the LTS to influence decisions over time and across political cycles. Countries can take these actions through the lead ministry or agency if it has sufficient legitimacy, convening power, and technical capacity to drive the process.

Action 1.1: Ensure legal recognition of the LTS.

A durable LTS starts with a clear legal foundation. Legal frameworks have the potential to provide clarity, authority, and continuity by formally anchoring the LTS within the country's governance system. These instruments help ensure that the chosen LTS pathway remains authoritative across political transitions and is recognized across government and society (Averchenkova and Chan 2023), reducing policy and market uncertainty for stakeholders and investors (Coalition of Finance Ministers for Climate Action 2023).

Countries can draw on a mix of legal instruments tailored to their institutional context, including laws, regulations, decrees, and formal government decisions mandating low-emission targets or adaptation goals within national development frameworks (van Tilburg, Ochs, and Lee 2024). Rather than prescribing a single

model, legal recognition provides the formal standing that allows the LTS to guide decision making across administrations without relying solely on political goodwill. Table 1 presents a menu of legal entry points that can be sequenced and adapted to a country's level of institutional maturity and reform trajectory. In many cases, legal recognition raises the political and institutional cost of reversal but does not by itself ensure implementation.

Table 1: Types of Instruments for Long-Term Strategy (LTS) Legal Recognition

Instrument	Example of Use for LTS Recognition	Country Examples
Climate change acts	Mandates LTS development, sets targets, assigns responsibilities	**United Kingdom**: Climate Change Act (2008) establishes legally binding carbon budgets, and a net-zero target by 2050.[a] **Kenya**: Climate Change Act (2016) serves as an early, foundational step in long-term climate policy and LTS development in a context in which, as climate legislation matures, managing carbon market instruments and sustaining broad, inclusive stakeholder consensus is an ongoing, evolving challenge.[b]
Environmental laws	Requires adaptation and resilience planning, references LTS	**Mexico**: General Law on Climate Change (2012) integrates climate planning and institutional structures into national development.[c] **France**: Environmental Code includes low-carbon strategy obligations.
Regulations and decrees	Details implementation steps, monitoring, and reporting	**Dominican Republic**: Presidential decree establishes LTS preparation mandate. **Kazakhstan**: Government decree sets LTS governance structure.
Policy statements	Directs alignment of all policies and budgets with LTS	**Costa Rica**: National Decarbonization Plan endorsed as core development policy that structures the economic transition across 10 axes (e.g., transportation, waste, agriculture) through 2050.[d] **South Africa**: Presidential Climate Commission framed LTS alignment.
Budget laws	Requires LTS alignment in public investment and budget proposals	**Indonesia**: Budget call circulars require climate budget tagging aligned with NDC and LTS (World Bank 2019). **Nepal**: Green budgeting integrated into fiscal processes.
Agency charters	Assigns LTS coordination and oversight to specific ministry or new institution	**Türkiye**: Strategy and Budget Office charter published as part of official climate strategy and governance measures to coordinate climate planning (UNFCCC n.d.). **Philippines**: Climate Change Commission institutionalized via executive order.
Access to information	Mandates LTS transparency and public reporting	**France**: Publishes LTS results and carbon budgets via national open data portal. Centralized platform established for publishing climate and LTS-related transparency data.[e] **Chile**: Law on Access to Public Information enacted that includes climate disclosures.
Participation law	Requires stakeholder engagement in LTS formulation and revision	**Colombia**: Law 1931 (2018) enacted that mandates participatory processes for LTS. Participatory climate governance mechanisms established, such as National Climate Change Council (Donges et al. 2020). **Germany**: Climate citizens' assemblies used to support long-term policy alignment.

a. See the UK Climate Change Act at https://www.legislation.gov.uk/ukpga/2008/27/contents.

b. Kenya's Climate Change Act creates a legal framework and institutional arrangements for climate action. See https://kenyalaw.org/kl/fileadmin/pdfdownloads/Acts/ClimateChangeActNo11of2016.pdf.

c. See Mexico's General Law on Climate Change at https://iea.blob.core.windows.net/assets/imports/events/13/GeneralClimateChangeLaw_Englishversion.pdf.

d. See Decarbonization Plan Commitment of the Bicentennial Government at https://2050pathways.org/wp-content/uploads/2019/02/Decarbonization-Plan-Costa-Rica.pdf.

e. See Data.gouv.fr: the French Open Platform for Open Data at https://interoperable-europe.ec.europa.eu/collection/open-government/document/datagouvfr-french-open-platform-open-data.

A practical starting point for this action is to conduct a legal review or gap assessment, which help identify opportunities for formal recognition of the LTS; pinpoint missing or misaligned provisions in climate, planning, and fiscal frameworks; and where needed, enact or amend laws to codify its targets. This should be complemented by clarifying institutional mandates and responsibilities to reduce duplication and avoid gaps in implementation authority and to ensure alignment across agencies. For instance, it is important to define how the objectives and priorities of the LTS will influence the public budget process to ensure that the Ministry of Finance can appropriately manage trade-offs and synergies with other economic and political objectives. When mandates are absent, new legislation or amendments may provide the necessary authority. International commitments such as NDCs, Sustainable Development Goals, or Paris Agreement obligations can be leveraged to strengthen legitimacy and political traction. The World Bank (2020) Reference Guide to Climate Change Framework Legislation provides examples of how countries are securing legal recognition of their related climate plans (Almuzaini and Menzies 2024).

Action 1.2: Define institutional mandates for the LTS.

Legal recognition gives the LTS formal authority. Action 1.2 focuses on how governments may assign responsibility for acting on this authority once the strategy is approved. An LTS is unlikely to succeed without a designated institutional home and a clear governance structure. There is no single institutional model for doing this. Countries adopt different arrangements depending on their administrative structures, planning systems, and political context.

Institutionalization typically involves giving a lead agency the mandate to oversee the LTS. In some contexts, this role sits with the planning or finance ministry. In others, it remains with the environment ministry or a central coordination body (Box 5). What matters is that responsibility extends beyond the formulation phase and does not rely on temporary task teams alone. It should cover implementation, coordination, tracking progress, and periodic updating of the strategy. The lead institution must have clear objectives; sufficient autonomy; access to adequate resources; and the authority to convene ministries, coordinate cross-sectoral dialogue, manage trade-offs, and report progress through established government channels (UNDP 2021).

This action differs from the leadership arrangements defined during LTS initiation. Whereas Step 1.1 assigns responsibility for managing the formulation process, Action 1.2 establishes permanent roles for delivering the LTS after finalization. These roles should sit within existing state structures whenever possible rather than ad hoc task teams.

Mandates should not be confined to a single agency. Effective implementation depends on assigning specific roles and responsibilities across all relevant ministries, particularly sectorial ministries leading deep transitions in energy, transport, agriculture, and land use. These ministries must have the authority to enact regulations and establish procedures for effective execution. Clarity of mandates should also extend to subnational governments to ensure vertical coherence between national strategies and local development plans. Without clear role definitions at all levels, fragmentation and coordination failure can occur (Oulu 2014).

Formal oversight mandates can strengthen accountability. These may be assigned to existing interministerial bodies or dedicated climate authorities (WRI 2019). For example, they could take the form of a climate council, a parliamentary committee, or an interministerial coordination unit embedded in the prime minister's or president's office. Independent commissions with statutory authority can also serve as neutral accountability bodies. In addition to high-level oversight, sectoral and subnational implementation committees can help ensure that LTS progress is tracked consistently across ministries, agencies, and local governments. Regardless of form, oversight bodies must have legal authority, political support, and sufficient technical capacity to track progress against national and sectoral targets, report regularly to political leaders and the public, and recommend corrective actions or escalate problems when progress stalls or targets are missed. Being able to do this can help secure the LTS's continuity.

Box 5: Who Should Lead?

Strong, high-level leadership (ideally from the government's highest authority) is essential, albeit not sufficient, for effective long-term strategy (LTS) preparation, development, and implementation. Although the Ministry of Environment often leads LTS formulation and submission to the United Nations Framework Convention on Climate Change, other influential ministries such as finance or planning and development may be better positioned (Coalition of Finance Ministers for Climate Action 2023) to lead or co-lead, given their role in embedding the LTS in national budgets and development plans. These ministries can also strengthen linkages to other national priorities such as health, economic development, and energy security (Elliott et al. 2019).A dedicated institution with political will and strong coordination capacity can facilitate effective cooperation among sectoral ministries, subnational authorities, and other stakeholders, ensuring implementation momentum (Coalition of Finance Ministers for Climate Action 2023).

Action 1.3: Secure political endorsement for the LTS.

High-level political leadership is a critical enabler of LTS institutionalization. It strengthens legitimacy, reinforces accountability, and signals a commitment to long-term transformation. Without strong backing from senior political leadership, LTSs are less likely to be prioritized in development planning or reflected in budget decisions. Securing cabinet or presidential approval can be one of the most effective ways to elevate the LTS to national priority status and help anchor it within government decision making. Such endorsements can galvanize public administrators around a shared direction and trigger downstream actions such as budget alignment, cross-sector coordination, and legal codification. The endorsements also signal commitment to international partners, the private sector, and the public, helping build confidence that climate objectives are supported at the whole-of-government level.

Political endorsement typically requires more than sound technical analysis. It often depends on sustained engagement, clear narratives, and coordination across the policy system and requires building broad-based consensus across political actors and key stakeholders to increase durability over time and provide long-term certainty, particularly for private investment in innovation and new technologies. Technical ministries may frame the LTS as a core development strategy, and senior officials translate its objectives into messages that resonate with prevailing policy priorities. Ministries of finance and planning can reinforce endorsement by linking the LTS to fiscal frameworks, and development partners may help connect it to climate finance or international commitments. Civil society, academia, and media can also play a role by reinforcing legitimacy through public discussion. Box 6 summarizes practical approaches that governments and practitioners have used to build political momentum and secure high-level endorsement for LTSs.

Actions 1.1 to 1.3 are not strictly sequential; institutional mandates are often established at initiation (Stage 1) and political endorsement consolidated at finalization (Stage 4), and legal recognition may occur at the outset (Stage 1) or after the LTS is finalized (Stage 4 or 5), depending on country context.

Box 6: Strategies for Securing Political Endorsement of a Long-Term Strategy (LTS)

Communicate the LTS in a way that is politically palatable. The Narrative Policy Framework (Kuenzler 2025) argues that policy acceptance depends on compelling narratives that resonate with societal values and priorities. Drawing on this, communication of the LTS should start with narratives that align with a country's political priorities and long-term vision, recognizing that effective framing varies depending on political demand for climate action and levels of cross-party consensus. (World Bank 2024). Ministries, especially those in environment, planning, or finance, can use their influence and technical expertise to develop policy briefs and public speeches that position the LTS as a tool for national progress, which ensures that the LTS is perceived as a practical, implementable instrument for advancing a country's interests, rather than an isolated, abstract technical exercise. Moreover, instead of the LTS being presented as solely a technical climate document, it should be framed as a core national development strategy. The LTS's messaging should be centered on its role in achieving a country's primary political goals, such as economic competitiveness, energy security, and job creation. This reframing makes the LTS urgent, more politically relevant, and relatable to a wider audience, including policy makers and the public.

Mobilize policy entrepreneurs to act as political intermediaries. Trusted technocrats and policy advisors in the executive branch can play the entrepreneurial role of translating the technical content of the LTS into narratives that resonate with political leaders' priorities. Beyond drafting speeches or talking points, effective policy entrepreneurs[a] actively identify political windows, frame the LTS as a solution to pressing national challenges, and build informal alliances with directors general, permanent secretaries, and political advisors. By convening consultations and shaping dialogues that link the LTS to compelling narratives (e.g., economic competitiveness, energy security, intergenerational equity), they create the conditions for leaders to see the LTS not as a compliance exercise, but as a strategic opportunity. Storytelling thus becomes a potent tool of political entrepreneurship, shifting perceptions from the LTS as a technical obligation and positioning it as a politically advantageous, publicly meaningful initiative that strengthens development outcomes and leadership credibility.

Engage finance ministries to translate the LTS into a politically credible, budget-backed plan. Positioning finance ministries as champions of the LTS can be one of the strongest signals of political endorsement, because fiscal policy ultimately determines which priorities are resourced. They can ground the LTS in the country's core political economy (budgets and fiscal priorities), making endorsement more likely because leaders see the strategy as credible and aligned with their own development agenda. Finance ministries can ensure that LTS goals are reflected in fiscal policy by issuing budget call circulars requiring that spending proposals align with LTS priorities. They can conduct fiscal impact assessments to demonstrate the cost-effectiveness of LTS-aligned investments and embed intermediate LTS targets in medium-term expenditure frameworks. The result is a budgetary process that translates long-term climate commitments into resourced programs, enhancing credibility and implementation feasibility. With their technical credibility and policy leverage, finance ministries can translate LTS goals into implementable, resourced priorities and position the LTS as a central planning instrument with clear implementation and financing pathways.

Leverage development partners and multilateral institutions for political incentives. Development partners (e.g., World Bank, United Nations Development Program, bilateral donors) can combine technical assistance with political leverage. Linking LTS milestones to policy-based loans, grants, or budget support and organizing peer exchanges with leaders from countries that have institutionalized LTSs provides incentives and examples. Framing the LTS as essential for accessing climate finance or joining global initiatives elevates its political salience and strengthens commitment through tangible financial and reputational benefits. This external support could also help shield policy makers from potential domestic backlash by framing climate action as a strategic, externally validated necessity rather than a politically motivated choice.

Activate civil society, academia, and think tanks to build public legitimacy. Nonstate actors can publish opinion pieces, policy briefs, and media campaigns to highlight the urgency and benefits of implementing the LTS. They can convene stakeholder forums and engage youth, women's groups, and Indigenous communities to demonstrate broad-based support. Public legitimacy increases the likelihood of political endorsement and can insulate the LTS from political turnover, fostering a more resilient, inclusive process with greater societal ownership.

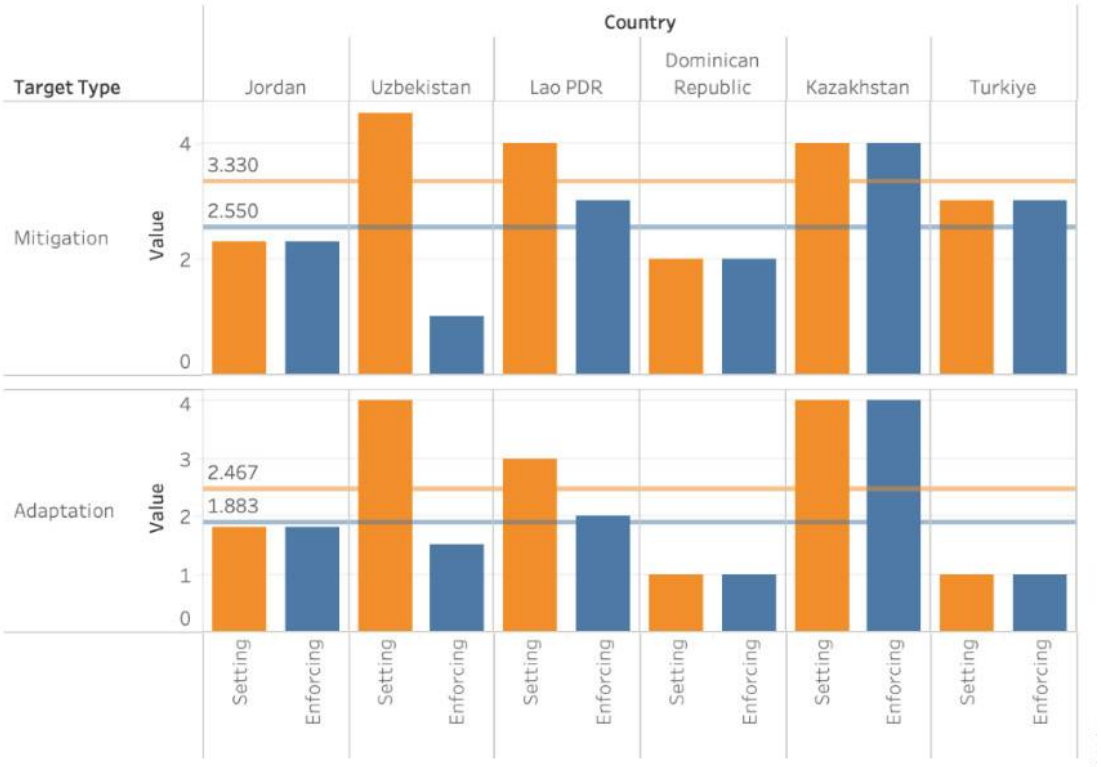
Cultivate political champions for visible, sustained leadership. Securing a formal mandate—such as a cabinet decision or executive decree—anchors the LTS in national strategy. Political champions can reference the LTS in speeches, national addresses, and international forums, signaling commitment to domestic and global audiences. Appointing a high-level envoy or task force to oversee implementation reinforces accountability and continuity, making the LTS more resistant to reversal and well positioned for long-term success.

a. For a definition of policy entrepreneur, see Policy Entrepreneurship, Renaissance Philanthropy, https://www.renaissancephilanthropy.org/playbooks/policy-entrepreneurship/

Insights from World Bank LTS Engagements

The evidence gathered from the six World Bank LTS engagements underscores the importance of creating an enabling environment for LTS institutionalization (Principle 1). Figure 8 shows the interview results with respect to legal support for LTS target setting and enforcement. Higher scores indicate stronger legal frameworks. In all cases, governments had taken steps to provide legal support for their LTS, most often by establishing frameworks for setting and, in some cases, enforcing mitigation and adaptation targets. The interviewees consistently emphasized that such legal foundations were essential for effective, sustained implementation but noted that their strength and comprehensiveness varied considerably. In all countries, legal backing for mitigation was stronger than for adaptation, and frameworks for setting targets were slightly stronger than those for enforcing them, revealing coverage and follow-through gaps.

Figure 8: Extent to Which Long-Term Strategy (LTS) Target Setting and Enforcing Have Legal Support



Note: The scale used in this figure ranged from 1 (not at all supportive) to 4 (fully supportive). Unsure = 0.

Although legal provisions create the framework for action, they do not on their own ensure that an LTS is fully integrated into decision making. The interviews revealed that political support is nearly as critical as technical expertise for driving LTS institutionalization, with institutional coordination ranked close behind (Table 2). Other enabling conditions, such as access to reliable data, adequate financial resources to support institutionalization across stages, and stakeholder engagement, were also identified as influential.

Table 2: Impact of Factors on Facilitating Long-Term Strategy (LTS) Institutionalization

Factor	Mean rank	Standard deviation
Technical expertise	8.1	0.7
Political support	7.6	2.0
Institutional coordination	7.6	1.7
Data and evidence	7.4	1.6
External pressures and influences	7.0	1.7
Willingness of government to adapt and change	6.7	2.6
Financial resources	6.6	2.2
Stakeholder engagement	6.5	2.0
Available policy framework or instruments	6.3	2.1
Increasing urbanization	5.9	2.1
Legal and regulatory environment	5.8	2.8
Competition from neighboring countries or major trading partners	5.2	3.1
Changes in employment patterns	5.1	2.7
Shifts in social trends	4.9	2.9
Domestic pressures and influences	4.6	3.0

Note: This table shows the mean rating of the impact of different factors on facilitating an LTS's integration into existing institutional arrangements and decision-making processes. Participants rated factors on a scale from 1 to 10, with 1 representing "No Influence" and 10 representing "Extremely High Influence".

Overall, these findings highlight that broader enabling conditions (Table 2) must complement robust legal recognition (Figure 8) to ensure that LTS commitments translate into action. When these conditions are weak or misaligned, even well-designed laws or decrees risk remaining aspirational rather than operational (Box 7).

Box 7: Costa Rica—Example of a Well-Established Enabling Environment for a Long-Term Strategy (LTS)

Costa Rica provides a compelling example of how to embed an LTS into a national policy framework. Its Plan Nacional de Descarbonización was formalized through an executive decree, granting it the force of secondary regulation. By linking key LTS milestones to World Bank policy-based loans and financing from the International Monetary Fund under the Resilience and Sustainability Facility, the government created a mutually reinforcing legal and financial framework that strengthened climate ambition. (A new World Bank policy loan was approved in 2025, supporting the PES 2.0 program.) This approach not only enhanced institutional ownership, but also made the LTS more resilient to political shifts, significantly reducing the risk of reversal.

Sources: IMF 2022; IISD 2019; Jaramillo et al. 2023; World Bank 2020.b).

Diagnostic Questions

Practitioners may consider using the following diagnostic questions to examine the extent to which Principle 1 (Institutional Legitimacy) has been met.

- Does the LTS have a recognized legal or formal status (e.g., through a law, decree, cabinet decision, or equivalent instrument) that anchors it within the national policy framework?

- Is there a clearly identified institutional home for the LTS once it is approved, with responsibility for coordination, monitoring, and periodic updating?
- Are roles and responsibilities for implementing LTS priorities defined across key ministries, particularly in sectors expected to lead major transitions (e.g., energy, transport, agriculture, land use)?
- Are arrangements in place to support coordination across ministries and levels of government?
- Is LTS progress reviewed through existing planning, budget, or reporting processes, rather than through ad hoc or parallel mechanisms?
- Has the LTS received political endorsement at an appropriate level, such as cabinet, head of government, or parliament?
- Do senior political leaders routinely reference the LTS in planning, budget, or reform discussions, indicating that endorsement extends beyond one-off approval?

4.2 Principle 2: National Alignment

Anchor the LTS in NDPs and priorities to foster ownership and top-down and sectoral policy coherence.

What Principle 2 Involves

National alignment involves achieving coherence and consistency across institutions, planning frameworks, and building incentive structures. It ensures that the LTS process is fully embedded in the country's planning ecosystem (including national, sectoral, and subnational planning frameworks) and within the incentive arrangements that guide and reward policy, investment, and institutional decisions. This principle focuses on institutional and procedural integration rather than technical consistency alone. Alignment is achieved when the LTS meaningfully informs how priorities are set, resources are allocated, and policies are implemented across government. Satisfying this principle increases the likelihood that long-term climate objectives are integrated with core socioeconomic development priorities rather than treated as parallel or competing agendas.

Why Principle 2 Matters

Anchoring the LTS within national development priorities ensures that it serves as a binding reference for policy, planning, budgeting, and investment decisions, not a parallel or aspirational document (Buylova et al. 2024). When embedded in national, sectoral, and subnational planning frameworks, the LTS informs medium-term expenditure frameworks, public investment appraisals, regulatory approvals, and permitting processes (Falduto and Rocha 2020). Without this integration, sector ministries may prioritize short-term or politically visible projects, and regulatory agencies may approve high-emissions infrastructure inconsistent with long-term targets. Alignment provides clear direction to line ministries, investors, and development partners on sectoral priorities and financing pathways, reducing fragmentation and policy inconsistency (2050 Pathways Platform 2025; World Bank 2024).

At its core, the LTS is a long-term blueprint for economic transformation. Its full value emerges when it is aligned with the country's broader vision for socioeconomic development (Elliott et al. 2019), reflecting the needs, aspirations, and livelihoods of its people (Elliott et al. 2023). To be operational, it must be translated into concrete sectoral targets, programs, and financing plans that shape successive NDCs and NDPs. Regularly updating these instruments in line with LTS priorities (as envisaged under Stage 5, particularly Step 5.1) creates a structured mechanism to sequence reforms, allocate resources, track progress, and adjust course over time. Embedding the LTS in routine planning and budget cycles strengthens implementation discipline and increases the likelihood that long-term decarbonization pathways are sustained across political and economic cycles.

How to Apply Principle 2

Once the LTS is formulated, embedding it in NDPs and other sectoral and subnational priorities can be approached through four practical actions: assess current alignment, harmonize planning processes, ensure subnational and sectoral coherence, and encourage alignment and implementation over time.

Action 2.1: Assess current alignment.

In practice, LTS formulation rarely coincides with preparation of other major long- and medium-term strategic documents, such as NDPs, NDCs, and sectoral strategies. More often, one or more of these instruments already exist and cannot be easily revised mid-cycle to ensure full alignment. As a result, alignment typically occurs off-cycle and must be approached pragmatically, by taking advantage of scheduled revision windows as they arise.

For practitioners, this means treating alignment as a continuous process rather than a one-time exercise. Governments are advised to assess where the LTS is already reflected in existing development plans, budgets, and sector strategies and where gaps remain that should be addressed in future updates. This approach allows countries to strengthen alignment over successive planning cycles even when full synchronization is not immediately feasible.

The focus and sequencing of this assessment should reflect a country's stage in the LTS process. If the LTS has not yet been formulated, practitioners should prioritize close integration between the LTS formulation process and preparation of the NDP, NDC, and NAP (see Action 2.2) to embed LTS routines in core planning systems from the outset and avoid parallel planning tracks. If the LTS is already established, governments should conduct an alignment diagnostic of existing planning instruments—such as the NDP, NDC, NAP, and key sector strategies—to assess whether they reflect LTS goals, pathways, or assumptions, explicitly or implicitly. When misalignments are identified, targeted revisions to planning laws, guidelines, templates, or sector plans may be required, ideally timed to coincide with scheduled review cycles to minimize disruption and duplication.

Action 2.2: Harmonize planning processes.

Greater coherence and less fragmentation can be achieved when the LTS is managed synergistically with the NDC, NDP, and sectoral plans within the same existing planning institutions (Haase and Duwe 2022). In many country contexts, institutions responsible for NDP formulation and oversight are well placed to play a central role in the LTS process, given their existing mandates, coordination functions, and familiarity with cross-sectoral planning. Engaging these institutions in the LTS process can reduce fragmentation, limit administrative burden, and strengthen consistency across climate and development strategies.

Harmonization may require moving beyond ad hoc coordination to formal institutional integration. Countries can embed LTS functions (e.g., coordination, review, feedback) in the mandates, workflows, and coordination arrangements of planning institutions so that long-term climate objectives systematically inform development planning and resource allocation. Practitioners should work with senior leadership to clarify and formalize these roles through legal, procedural, and organizational instruments (e.g., planning laws, institutional mandates, performance frameworks, interministerial coordination mechanisms), updating them as needed to ensure sustained alignment over time.

Action 2.3: Ensure subnational coherence.

Vertical alignment helps translate LTS goals and priorities into locally relevant development strategies and sustain implementation across levels of government. In many country contexts, subnational governments play a decisive role in sectors such as transport, land use, housing, and waste management, making their engagement critical for turning long-term objectives into concrete actions. Integrating LTS considerations into regional and municipal development plans, investment strategies, and service-delivery frameworks can help ensure that local decisions reinforce national long-term pathways rather than work at cross-purposes.

National governments can support this process in several ways, depending on institutional capacity and context. Approaches observed in practice include scenario-planning exercises with subnational authorities, simplified or sector-specific LTS guidance tailored to local planning needs, and light-touch reporting or feedback mechanisms that link subnational actions to national monitoring systems. In some cases, this has involved subnational implementation plans or performance scorecards aligned with national objectives. Strong vertical alignment can increase local relevance and help place-specific constraints surface

early, reducing implementation risks and informing subsequent adjustments to national and sectoral plans.

Action 2.4: Encourage alignment and implementation.

Incentives play an important role in encouraging public and private actors to align decisions and behaviors with long-term objectives set out in the LTS. LTSs are implemented through the choices of institutions, firms, and individuals, often in the face of competing short-term pressures. For this reason, many NDPs already rely on a mix of incentives to influence the uptake of priority policies (e.g., Fiji's NDP 2025-2029 and Vision 2050 [Government of Fiji 2024]). Similar approaches can be used to support LTS alignment beyond legal mandates or top-down directives. Countries can apply a range of incentive mechanisms, depending on institutional context and capacity. These may include:

- **Administrative incentives** such as linking performance contracts, local government support, or civil servant appraisals and promotions to progress against LTS targets. Rwanda's NAP guidance and its monitoring and evaluation (M&E) framework explicitly link line ministries' action plans and Imihigo (performance contracts [Tsinda, Ntaganda, and Cyiza 2023])reporting, demonstrating how performance frameworks can help deliver climate plans.

- **Transparency-related incentives,** including public performance dashboards, comparative rankings, and recognition of strong performers, can be used to create reputational incentives, as in The Gambia's presidential monitoring dashboard for implementing its 2018–21 NDP (UNDP 2020).

- **Fiscal transfers,** which can be used to provide subnational authorities that meet or exceed LTS-aligned targets with financial rewards or preferential access to national funding for infrastructure and development projects. China's cross-regional ecological fiscal transfers (Liu, Xiong, and Zhang 2024) illustrate how intergovernmental finance arrangements can lead to good environmental outcomes while allowing flexibility in implementation.

- **Preferential regulatory treatment** (e.g., streamlined approvals, simplified licensing, procurement preferences), which can reduce costs and accelerate LTS-aligned investments. New Zealand's Fast-track Approvals Act 2024[6], which consolidates approval processes for major infrastructure and development projects, including renewable energy, into a single expedited procedure, illustrates this approach.

- **Market-related incentives,** which can reduce the cost of capital for LTS-aligned investments, for example by leveraging green-bond frameworks to steer financing toward NDC- and LTS-consistent infrastructure. Chile's experience illustrates how such frameworks can help signal policy intent and assure investors that proceeds support stated climate objectives (BNP Paribas 2022).

Insights from World Bank LTS Engagements

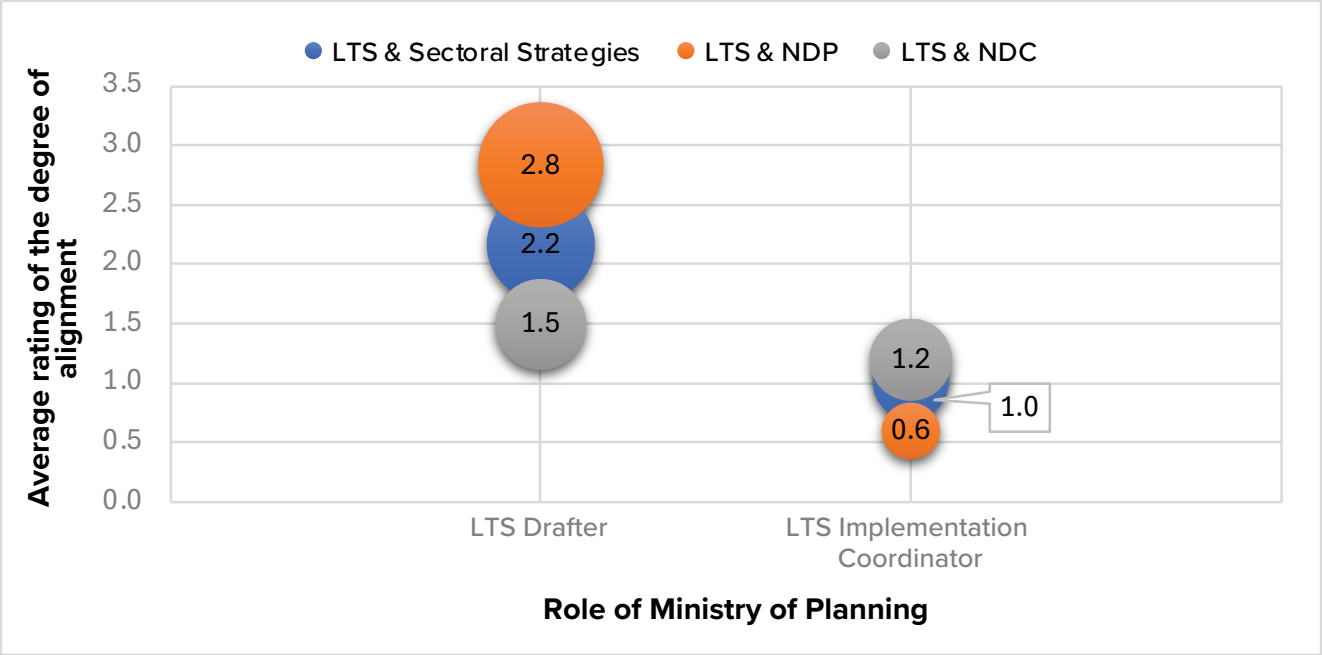
World Bank LTS engagements highlight that aligning LTSs with NDP priorities is critical and challenging and that timing is a crucial deciding factor. Developing separate LTS and NDP schedules increases the risk of them moving in parallel rather than reinforcing each other. Some countries have shown progress in embedding the LTS in the work of national planning ministries, as is the case for Kazakhstan and Lao PDR, where close coordination ensured that LTS goals informed (and were informed by) NDPs. In other cases, countries reported that the LTS was developed in isolation from core planning and budgeting processes, limiting its influence on other strategies, plans, and decision-making frameworks.

The interviews also revealed that the degree of alignment may depend on the role that ministries of planning play in the LTS process. There were two key insights. First, planning ministries were always involved in coordinating LTS implementation if they were involved in drafting it and never involved in coordinating its implementation if they were not involved in drafting it. Second, the average rating of the degree of alignment

6 See "Fast-Track Approvals Process." Ministry of the Environment, https://environment.govt.nz/acts-and-regulations/acts/fast-track-approvals/fast-track-approvals-process/#:~:text=Related%20pages-,Fast%2Dtrack%20Approvals%20Act%202024%20overview,significant%20regional%20or%20national%20benefits

between the LTS and other plans was markedly higher when planning ministries were involved in drafting the LTS and coordinating its implementation (Figure 9). These findings reinforce the argument that the same planning agency should manage the LTS, NDC, and NDP synergistically.

Figure 9: Degree of Long-Term Strategy (LTS) Alignment Against Planning Ministry's Role



Diagnostic Questions

Practitioners may consider using the following diagnostic questions to examine the extent to which Principle 2 (National Alignment) has been met.

- Is the LTS referenced in the NDP or the NDP planning framework, and does that reference influence priorities, assumptions, or sequencing in the plan?
- Are LTS-linked targets and priorities explicitly recognized and reflected in NDPs, NDCs, and sectoral strategies?
- Are finance and planning ministries actively engaged in leading or coordinating the LTS process, including through formal roles in planning, budgeting, or coordination mechanisms?
- Have sectoral ministries adopted, or begun to operationalize, SMART medium- and short-term targets aligned with the LTS?
- Are subnational governments involved in planning and implementing the LTS, and are their plans and actions aligned with national LTS priorities?

4.3 Principle 3: Participatory Coalitions

Create bottom-up coalitions and coordination mechanisms for LTS delivery.

What Principle 3 Involves

Participatory coalitions answer the question of who owns the LTS and whose interests are reflected, focusing on the inclusiveness and credibility of the process: who is involved, how voices are represented, and whether stakeholders can meaningfully influence outcomes. This principle entails establishing durable, multilevel, cross-sectoral coalitions and coordination mechanisms that enable actors across government, civil society, the private sector, and communities to co-create, co-own, and co-implement the LTS. When satisfied, this principle strengthens societal and political ownership; reduces implementation risks; and increases the likelihood that the LTS is sustained, defended, and acted upon over time rather than undermined by exclusion or contestation.

Why Principle 3 Matters

Top-down mandates can grant the LTS institutional legitimacy, but delivery happens from the bottom up. Successful implementation requires building coalitions that bring together stakeholders who will shape and execute actions at the local level. Coalitions not only enhance legitimacy, but also facilitate adaptive governance by including diverse perspectives and local expertise. Such networks assist in navigating trade-offs, managing resistance, and fostering innovation across sectors. Cross-sector coordination platforms enable shared learning and collaborative problem solving. These mechanisms build trust, align incentives, and ensure that implementation remains responsive to local contexts.

Broad-based ownership can significantly increase the durability of the LTS. Achieving ownership requires active participation of political leaders, civil society, and the public and private sectors. When stakeholders recognize their priorities and roles within the LTS, they are more likely to support and advocate for its objectives. This sense of ownership enables the LTS to endure leadership changes, shifting priorities, and external crises. Integrating coalitions and coordination mechanisms into governance structures strengthens institutional and political sustainability. In the absence of inclusive mechanisms, the LTS risks becoming a disconnected vision that, although technically robust, lacks practical impact.

How to Apply Principle 3

Governments and practitioners should prioritize three actions to build participatory coalitions for the LTS process: establish coordination mechanisms; integrate collaborative practices into routine governance; and ensure inclusive, frequent stakeholder engagement. These actions should start at the beginning of the LTS process and remain central throughout the five stages outlined in Chapter 3. This approach prevents institutionalization from becoming an afterthought. Actively including marginalized and underrepresented groups ensures that their perspectives inform priorities and that the benefits of LTS implementation are shared equitably.

Action 3.1: Establish coordination mechanisms early.

The whole-of-government and whole-of-economy nature of LTS formulation and implementation presents institutional and governance opportunities and challenges. Long-term planning involves coordination among multiple ministries and agencies across sectors and levels of government (UNDP n.d.} as well private sector actors and civil society (Box 8) . Effective inter-agency coordination is thus critical to addressing sector-level challenges, aligning plans and decisions, and optimizing public investments while preventing duplication and conflicts (Elliott et al. 2023). Two key structures are recommended:

- A cross-sectoral steering committee comprising high-level representatives from key ministries (e.g., planning, finance, environment, energy) with decision-making authority (UNDP 2024) that provides strategic guidance, ensures alignment with national priorities, and supports high-level decisions, including identification of priority pathways for the LTS (Oulu 2014).

- A technical task force comprising sectoral experts from government, academia, the private sector, and civil society that should deeply understand the local context and support data collection, modeling, and technical assessments to ensure that the LTS reflects local realities and expertise (Oulu 2014). Feedback mechanisms are necessary to ensure that the group's advice is incorporated.

These structures can be newly created or adapted from existing bodies, but their mandate to support horizontal and vertical coordination must be clearly defined and can be revised and enhanced during implementation of the LTS as needed (Woodruff and Regan 2019). For example, in Lao PDR, respondents noted the presence of high-level and technical coordination bodies that met frequently to guide formulation of the LTS. This dual structure helped ensure political buy-in and technical rigor. These arrangements should also facilitate vertical coordination among national, regional, and local governments by establishing procedures for subnational participation in LTS design and implementation. This includes developing regional implementation plans that align with national LTS goals and providing capacity-building and fiscal incentives to support local governments. In Lao PDR, vertical coordination was rated as moderately effective, with some alignment achieved between national and subnational actors through targeted workshops and involvement of local representatives in national consultations.

Box 8: Making the Private Sector a Partner in a Long-Term Strategy (LTS)

Why elevate the private sector?

As countries seek to advance LTS, they are encouraged to target the private sector during design and implementation. This provides several benefits, including broadening the political coalition for key policy measures that may face political economy challenges (e.g., carbon pricing, subsidy reform), unlocking technology and execution capacity in hard-to-abate sectors, and crowding in capital needed for transition and resilience. Countries that formalize public–private engagement in their LTS governance have achieved clearer sectoral roadmaps, faster delivery, and greater investor confidence (WEF 2025; World Bank 2019).

Key lessons learned

- **Create a formal role for the private sector.** For example, government and industry co-chaired the United Kingdom's Net Zero Council and advised on sector roadmaps, barriers, and finance, which provided strategic input to the strategy, helped develop sector transition plans, and supported small and medium-sized enterprise decarbonization. Another example is South Africa's Presidential Climate Commission, which brought government, business, labor, and civil society together to design the Just Transition Framework and recommend financing mechanisms—cementing shared ownership of long-term goals.[a]
- **Institutionalize regional and sector working groups.** To ensure ownership across key sectors, countries have created time-bound taskforces co-led by line ministries and industry associations that translate LTS targets into bankable pipelines. For example, Chile's LTS implementation relies on task forces with measurable indicators to facilitate continuous public–private alignment.[b]
- **Tailor engagement for legacy and transition actors.** The private sector involved in transition industries is seeking clear trajectories via sectoral carbon budgets, targeted incentives for decarbonization, and credible plans to reduce stranded-asset risk. Governments can pair policy with transition-finance guidance to allow banks to underwrite decarbonization. Chile's climate framework law and sectoral budgets are a good model (WRI 2024).[4]
- **Articulate targets for private financing.** Effective LTSs translate ambition into action by clearly distinguishing who is expected to finance what—separating public finance–led investments, commercially viable private investments, and investments requiring blended finance or risk-sharing. This clarity provides fiscal realism while giving banks and investors the long-term visibility needed to develop products and build pipelines aligned with adaptation, resilience, and transition objectives. For example, Morocco's 2050 Long-Term Low Emissions Development Strategy engaged banks, project developers, utilities, and firms to identify which mitigation and adaptation investments were already commercially viable and where policy reform or public de-risking was needed—reinforcing investor confidence and helping domestic banks increase climate-aligned and resilience-focused lending (Sustainability Directory Digital Ltd 2025).

a. See Net Zero Council webpage at https://www.gov.uk/government/groups/net-zero-council.

b. See Presidential Climate Commission for a Just Transition, Just Transition Framework at https://www.climatecommission.org.za/just-transition-framework

Action 3.2: Embed collaborative practices in routine governance processes.

Sustaining momentum of an LTS will require moving beyond ad hoc collaboration. It necessitates establishment of a structured approach that promotes continuous engagement and accountability among stakeholders. Collaborative practices can include formal structures such as interministerial committees, permanent working groups, and shared reporting frameworks, as well as informal networks, joint task forces, and regular cross-sectoral workshops that maintain momentum and foster a culture of cooperation. These arrangements should be institutionalized as components of routine governance. This may involve:

- Setting regular meeting schedules with published agendas and minutes
- Developing shared workplans that align sectoral actions with LTS goals
- Embedding LTS-related responsibilities in job descriptions and performance frameworks
- Routinely reporting to designated parliamentary committees

In Kazakhstan, respondents reported frequent, high-quality collaboration across ministries that are supported by formal coordination mechanisms. This approach ensures that the LTS remains a dynamic strategy that is integrated into national planning as it moves toward implementation.

Action 3.3: Ensure inclusive and frequent stakeholder engagement.

LTS implementation will affect local communities, the private sector, and the general public. To secure support and ensure equitable outcomes, including compliance and community-led actions, stakeholder engagement must be inclusive, timely, and influential from the onset of LTS formulation. This people-centered approach increases the chances of LTS interventions being well targeted at addressing the needs of individuals, businesses, and communities (Woodruff and Regan 2019), mitigating societal inequality, and minimizing potential negative impacts and unintended consequences (UN DESA 2024).

Beyond the stocktaking mentioned in Step 1.3, carrying an LTS stakeholder engagement strategy typically involves:

- **Identifying and mapping stakeholders early in the process.** Stakeholders should be identified and mapped at the inception of the LTS formulation process based on their roles, expertise, and potential impact. A diverse group of stakeholders should be involved, including relevant government agencies, subnational authorities, SOEs such as utilities, the private sector, civil society organizations, academia, women's groups, youth organizations, Indigenous peoples, communities, and development partners (WRI 2019). This early mapping helps clarify stakeholders' expected contributions, areas of influence, and alignment with priority sectors.
- **Defining a structured engagement plan and protocols.** To secure ownership and buy-in, stakeholder engagement must extend beyond ad hoc participation and be grounded in structured processes. The LTS process should clearly define when and how stakeholders are engaged, particularly at key stages when critical outputs require review and validation. These include prioritization of sectoral targets, development of investment plans, design of M&E frameworks, and integration of LTS objectives into medium-term planning and budgeting systems. Engagement at these stages enables stakeholders to validate assumptions; assess feasibility; and ensure that proposed actions reflect local realities, capacities, and priorities.[7]
- **Establishing clear engagement modalities and feedback mechanisms.** Protocols for engagement, including modalities, frequency, and forms of interaction, should be clearly defined, preferably during the LTS formulation stage. Engagement mechanisms may include in-person or virtual workshops, group or bilateral meetings, and

7 Stakeholders are also expected to be engaged during the LTS formulation phase, particularly in defining LTVs and the low-emission pathway assumptions that will guide the sectoral analysis, as well as comparing different pathways, although this note focuses on stakeholder engagement during operationalization.

circulation of background materials for review. Feedback should be substantive and transparent, with clear articulation of how stakeholder inputs are considered and reflected in final decisions.

Action 3.4: Promote transparency and public engagement.

Building on the inclusive, structured stakeholder engagement processes established under Action 3.3, promoting transparency and public engagement is a core governance principle for sustaining trust and broad societal support for a country's LTS over time. As implementation advances, governments should ensure that LTS processes, progress, and results are accessible, understandable, and open to public scrutiny.

Governments can promote transparency and public engagement by:

- **Establishing a clear communication and disclosure framework.** This includes developing a communication plan that supports regular dissemination of LTS objectives, progress, and results and providing open access to relevant data and user-friendly progress reports through public-facing platforms.
- **Creating formal channels for public consultation and review.** Public consultations, open forums, and digital platforms can provide opportunities for civil society, academia, the private sector, and subnational governments to contribute feedback and evidence during implementation. Involving subnational authorities and local communities in these processes helps strengthen vertical integration and reinforces ownership across levels of government.
- **Using accessible, simplified communication products.** To reach broader audiences and make technical LTS concepts more relatable, governments may rely on simplified communication tools such as infographics, videos, and interactive dashboards. These tools support wider public understanding and enable meaningful engagement beyond technical stakeholders.

A notable example is the United Kingdom, which launched a public consultation for its Invest 2035: the UK's modern industrial strategy[8] to gather input from businesses, industry leaders, and environmental organizations, ensuring that a wide range of perspectives shapes its net-zero objectives. The United Kingdom has also committed to publishing a public participation strategy[9] to support clean technology adoption and community involvement, building upon earlier initiatives such as the Climate Assembly UK (Business, Energy and Industrial Strategy Committee 2021).

Insights from World Bank LTS Engagements

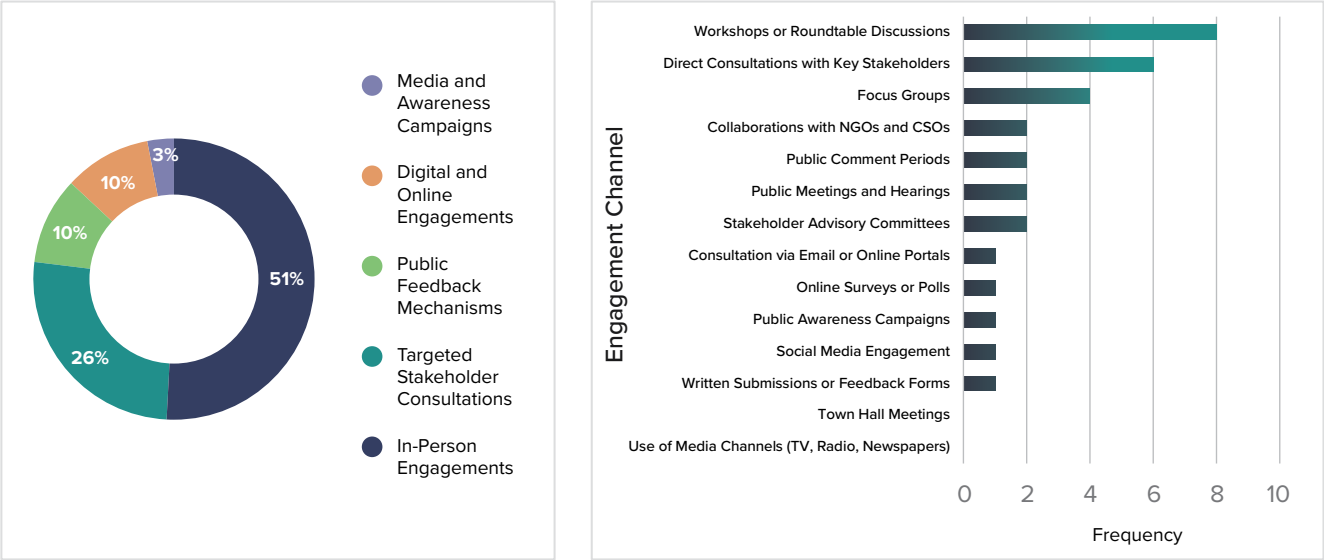
Interview responses reveal a broad but uneven landscape of institutional coordination and stakeholder engagement for LTS formulation and implementation. The World Bank LTS engagements sampled use a range of options for stakeholder engagement (Figure 10). The most common were in-person engagements (51 percent), particularly through workshops and roundtable discussions, and targeted bilateral consultations with key groups (e.g., women, youth, indigenous peoples).

Workshops and roundtable discussions were the most-used engagement channels, whereas media channels (e.g., TV, radio, newspaper) were the least used. These channels provided meaningful opportunities for stakeholders to shape key decisions, such as the LTV, pathway assumptions, and sectoral priorities, throughout the LTS planning and implementation processes.

8 See "Consultation Outcome: Invest 2035: The UK's Modern Industrial Strategy, https://www.gov.uk/government/consultations/invest-2035-the-uks-modern-industrial-strategy

9 See "Renewable Energy: Public Consultation." https://questions-statements.parliament.uk/written-questions/detail/2025-02-06/29486#:~:text=We%20will%20publish%20a%20Net,can't%20achieve%20this%20alone

Figure 10: Channels Used in World Bank Long-Term Strategy Engagements for Stakeholder Engagement



Note: NGO (Non-governmental Organization). CSO (Civil society organization)

For most World Bank LTS engagements, countries have taken concrete steps toward introducing formal coordination structures and inclusive processes, although the degree of institutionalization and the frequency and quality of collaboration vary widely. Stronger performance is generally associated with countries further along in the LTS process, although notable gaps remain in vertical coordination and engagement with domestic nonstate actors. These efforts vary in maturity and effectiveness between countries, but several patterns emerge that offer useful insights into the state of bottom-up governance for LTS implementation:

- **Coordination mechanisms are being established, but institutionalization is uneven**. Countries vary in how formalized their governance structures are, with institutionalization tending to deepen as LTS processes advance.
- **Collaboration is emerging, but frequency and quality vary**. Valued, collaborative practices are not yet systematic in many contexts.
- **Stakeholder engagement is recognized as important but inconsistent**. Engagement occurs at varying levels of frequency and inclusivity, with mechanisms still developing in many countries.
- **Coordination ecosystems are stronger across ministries than across levels**. Horizontal integration is more developed than vertical coordination or domestic collaboration with nonstate actors.

Coordination mechanisms are emergent in World Bank LTS engagement countries (Box 9). Respondents were asked to rate the extent to which interagency committees, task forces, or similar arrangements had been established to oversee the LTS process. The results revealed that, although coordination mechanisms exist in all World Bank LTS engagements, degree of institutionalization varies widely. The interview data also suggested that development of coordination mechanisms often evolves in tandem with the LTS process itself. Early stages rely on ad hoc or informal arrangements, whereas more advanced stages require structured, cross-sectoral platforms to manage complexity, ensure coherence, and prepare for implementation. As countries move from initial planning to drafting, consultation, and finalization, the need for institutional clarity and coordination becomes more pressing, prompting establishment of more permanent and inclusive governance structures.

Box 9: Lao People's Democratic Republic (PDR)—A Model of Emerging Good Practices

Lao PDR World Bank long-term strategy (LTS) engagement offers valuable insights into how bottom-up coalitions and coordination mechanisms can be effectively mobilized to support delivery of an LTS. Lao PDR authorities' commitment to inclusive engagement and interagency collaboration is reflected in the country's high ratings for frequency and quality of collaborative arrangements (e.g., number of meetings and alignment with key milestones, substantial feedback received, high level of participation). Respondents noted that interagency meetings and joint planning sessions were not only held frequently, but were also well organized and effective, suggesting that collaboration was embedded in the governance process rather than treated as a one-off exercise.

Stakeholder engagement was another area in which Lao PDR reported strong performance. The government conducted public consultations for the key milestones of the LTS formulation process, ensuring that civil society, the private sector, and other nonstate actors had meaningful opportunities to contribute and that their feedback was considered in revising the analysis and decisions. Respondents also highlighted that roles and responsibilities across ministries were relatively well defined, which contributed to smoother coordination and reduced institutional friction.

Lao PDR also made strides in vertical and external coordination. Respondents rated national–subnational collaboration as moderately effective, with some alignment and cooperation across levels of government, suggesting that Lao PDR has begun to bridge the gap between national planning and local implementation. Coordination with domestic stakeholders and international partners was rated as generally effective. The government's ability to align with multilateral development banks, bilateral donors, and other international actors has helped secure technical and financial support for the LTS, and domestic partnerships have reinforced its relevance and feasibility.

Although challenges remain, as respondents highlighted, particularly in sustaining momentum and deepening vertical integration, Lao PDR offers valuable lessons for other countries seeking to formulate an LTS that promises to transition successfully to implementation.

Diagnostic Questions

Practitioners may consider using the following diagnostic questions to examine the extent to which Principle 3 (Participatory Coalitions) has been met.

- Has a formal coordination mechanism for the LTS (e.g., interagency committee, task force) been established and institutionalized?
- How frequently and effectively do government agencies collaborate on LTS-related matters?
- Are stakeholder engagement processes inclusive, timely, and influential?
- Are roles and responsibilities for LTS implementation clearly defined across ministries and levels of government?
- How well are national, subnational, and external actors aligned in the LTS process?

4.4 Principle 4: Credible Resourcing

Finance the LTS and build institutional capacity to deliver it.

What Principle 4 Involves

Resourcing requires that financial and human resources in support of the LTS be adequate to enable effective implementation once regulatory and policy reforms are identified. It involves developing a credible climate finance strategy and investment plan, embedding LTS priorities in PFM systems, mobilizing private sector investment, and increasing technical capacity across all levels of government. Meeting this governance condition lays the foundation for credible, sustained, scalable implementation, ensuring that strategic ambitions are matched by the means to deliver them over time.

Why Principle 4 Matters

Delivering on the ambition of an LTS requires more than visionary targets; it demands institutions with resources and the capacity to act and early, sustained involvement of relevant finance actors. Although most

of the LTSs listed on the UNFCCC's portal[10] discuss finance and investment strategies, the level of detail varies considerably (WRI 2021). UNFCCC data show that more than 85 percent of LTSs reference finance and investment needs, but fewer than half quantify those needs, and only about one-third provide costed finance strategies (UNFCCC 2023a). The synthesis indicates that 37 percent of LTSs included costed finance needs, 47 percent assessed required investment levels, 60 percent identified funding sources, and 63 percent acknowledged a role for private finance[11]. This reveals a critical implementation gap; without clear financing pathways, even well-designed, politically supported LTSs cannot achieve their objectives. One important driver of this gap is that actors central to financing (e.g., relevant Ministry of Finance units, financial regulators, private financial institutions) are often insufficiently involved during LTS formulation. Mobilizing public and private finance, aligning donor support, and strengthening government capabilities are essential to move from vision to action.

At the same time, despite widespread recognition that capacity building is an essential enabler of long-term climate action, published LTSs often lack the details necessary to make it a reality. Almost every published LTS treats capacity building as a cross-cutting enabler; capacity for mitigation and adaptation, accessing climate finance, community engagement, and technology development are repeatedly cited as essential for implementation. Although many countries recognize this need, few LTSs provide detailed plans for building the necessary human and organizational capacity. For example, some documents refer to upskilling or reskilling workers (47 percent of LTSs), mainstreaming climate in education curricula, or strengthening subnational institutions, but fewer specify timelines, training programs, budgeting, or institutional reforms to sustain those capacities (UNFCCC 2023b).

The absence of detailed capacity-building plans is a critical oversight, because the development literature confirms that human and institutional capacity are often major bottlenecks in national strategies. Evaluations of World Bank support for Africa, for instance, find that public sector capacity must be sustained over time, not treated as a project-style intervention, if long-term goals (poverty reduction, growth, service delivery) are to be met (World Bank 2005). Other studies confirm that human capacity (education, staffing levels, technical expertise) and institutional capacity (rules, procedures, coordination mechanisms) are often the weakest links in national development and climate strategies. Thus, for LTSs to move from strategy to practice, specific actions are needed: defining required skills and competencies, instituting regular training and knowledge transfer, ensuring stable staffing in key agencies, enabling channels for technical assistance, embedding these in budgetary and institutional mandates.

How to Apply Principle 4

The four recommended actions below could be performed in tandem to ensure that the LTS is financially and institutionally capable of delivering results.

Action 4.1: Develop a feasible climate finance strategy to enable public and private sector investments.

Governments may assume an investor role by directly investing in LTS interventions or an enabler role to attract private sector investments through policy and regulatory reforms. In either case, a feasible climate financing strategy could be leveraged to support LTS implementation. Along with identifying the necessary regulations and policies, the first step in drafting the strategy is to assess needs over time and map the landscape. If investments are not already known, governments must estimate the scale of finance required to achieve national climate goals (mitigation, adaptation, resilience). These estimates must be grounded in the LTS's technical pathways and sectoral transformations, covering capital and operational expenditures. For example, if the LTS envisions a shift to electric mobility, the costing should account for infrastructure needs (e.g., charging stations), vehicle subsidies, and workforce retraining.

10 See the UNFCCC's Long-Term Strategies Portal at https://unfccc.int/process/the-paris-agreement/long-term-strategies

11 The report synthesized information from the 68 latest available long-term low-emission development strategies, representing 75 parties to the Paris Agreement, submitted to the secretariat as of September 25, 2023.

From the outset of the LTS process, the government should actively engage the agencies and institutions responsible for financing and financial oversight. The government must map all existing and potential financing sources. The climate financing strategy should identify potential funding sources (e.g., domestic and international, public and private, carbon markets) and describe how they will be mobilized and coordinated. Countries can draw on a mix of instruments, such as public budgets, environmental taxes and carbon pricing instruments, green bonds, concessional finance from multilateral development banks, international climate funds, and private sector investments. The financing mix should be tailored to the country's political and economic context, building on instruments that have already proved effective. For example, countries with carbon pricing systems can earmark revenues for LTS-aligned investments, and those with access to green bond markets can finance decarbonization infrastructure. Costa Rica leveraged policy-based loans from development banks and embedded LTS milestones in International Monetary Fund–supported structural reforms, aligning external finance with national climate objectives. These strategies must reflect macro-fiscal realities, align with national development priorities, and be sequenced logically to account for project dependencies (e.g., grid upgrades before renewable energy deployment) and readiness factors (e.g., policy or regulatory reforms before capital investment).

Priorities and enabling conditions must be defined. Climate finance must be aligned with national and sectoral development and budgetary priorities to ensure fiscal coherence. At the same time, governments should identify policy and regulatory reforms that can unlock private investment, such as de-risking instruments, tax and non-fiscal incentives, and public–private partnerships. The private sector will play a pivotal role as a key counterpart to government in implementing and financing the LTS. Its involvement is vital not only in implementing interventions, but also in providing the capital and innovation needed to expand solutions.

Once priorities are defined, governments must establish mechanisms and institutional structures that make mobilization possible or leverage existing ones used for broader national finance strategies. This includes actively engaging private sector actors and development partners to foster an enabling environment for blended finance, public–private partnerships, and donor coordination. This engagement should extend across commercial banks and financial institutions that channel credit and nonbank entities (e.g., pension funds, insurance companies, sovereign wealth funds) that provide capital and manage risk. Private equity funds, impact investors, and development finance institutions can also help de-risk early-stage investments and crowd in additional private capital. Their support enables small and medium-sized enterprises and industry associations to deploy technologies, execute projects, and build local supply chains. Mechanisms such as regulatory reforms, risk-sharing instruments, and transparent project pipelines can attract private capital, reduce investment risks, and ensure the financial sustainability of the LTS. A well-developed climate financing strategy should guide the government in this effort, alongside financial sector regulators and the legal, regulatory, and institutional reforms needed to create a conducive environment for private sector investment (Box 10).

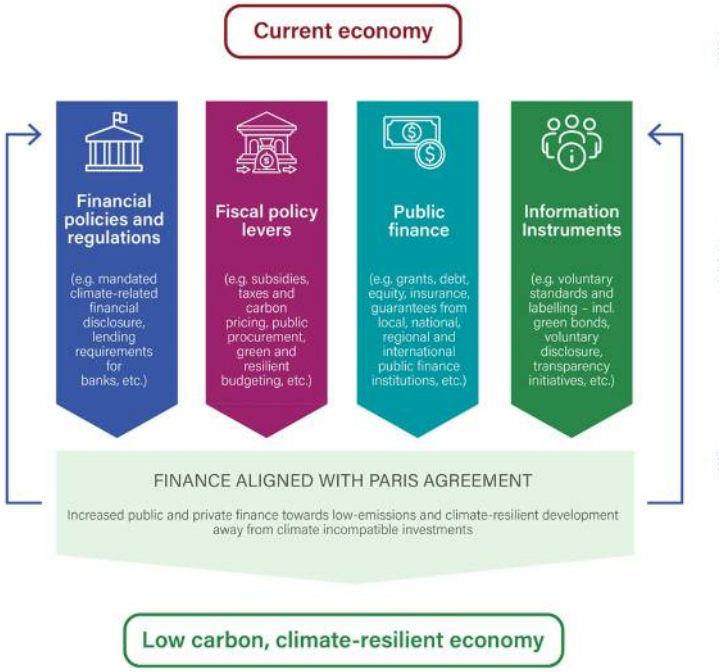
Box 10: Mobilizing Private Sector Finance for Adaptation in Chile

Chile's 2019 Financial Strategy on Climate Change was designed to finance climate objectives and build a resilient, low-carbon economy. It has three pillars: generating and analyzing information to guide investments, developing financial instruments and markets to promote green finance, and strengthening the finance sector's understanding of climate risks. The strategy emphasizes public–private coordination and has issued more than USD 7 billion in green bonds for projects designed to contribute to four environmental objectives: climate change mitigation, improving air quality, preservation and sustainable use of terrestrial and marine ecosystems, and protection and sustainable use of hydro resources. To enhance the strategy, Chile has developed a green taxonomy to direct private capital to priority adaptation areas. Increasing financial inclusion and leveraging international climate finance can also boost private sector participation in adaptation and resilience efforts. Key takeaways include the importance of creating an enabling environment for private investment, understanding investment barriers, and using climate risk information to target adaptation actions.

Source: Hernández & Ceinos (2025).

The World Resources Institute (Alayza 2025) has developed a practical framework that highlights tools governments may already have and can use to shift and mobilize finance for LTSs. These tools fall into four categories: financial policies and regulations, fiscal policy levers, public finance, and information instruments (Figure 11).

Figure 11: Government Tools to Shift and Mobilize Long-Term Strategy Finance



Source: WRI (2025)

Action 4.2: Develop feasible investment plans

Once the climate finance strategy is defined, operational, project-oriented investment plans must be developed, often driven by sectors and subnational governments. A climate change investment plan is a detailed set of concrete, investment-ready priority activities linked to available financial sources and instruments to support their implementation (Hernández and Ceinos 2025). These plans should at least specify projects, resources required, timelines for delivery, and the actors involved. The plans should cover infrastructure, technology deployment, workforce development, and institutional capacity-building needs for each sector's decarbonization or adaptation pathway.

Developing an investment plan usually involves different activities, including narrowing down and selecting the sector, geographic region, and other factors to define its focus; assessing climate risks and identifying and prioritizing investments; appraising priority investment packages to demonstrate their economic and financial viability and benefits; and matching the investment package with appropriate sources of finance and financing instruments. Countries can leverage available knowledge and expertise for development of these plans, referring, for instance, to those developed by international partners such as the Climate Investment Fund.

When institutionalizing an LTS, a climate financing strategy and an LTS investment plan are needed and complementary; the financing strategy focuses on mobilizing financing, and the investment plan provides the concrete, bankable projects that make the strategy implementable. (See Box 11 for additional details.)

Action 4.3: Embed the LTS in the country's public finance management system.

A successful shift from LTS formulation to institutionalization will require mainstreaming LTS considerations in budgetary systems and decision-making processes. To achieve

this, governments may find it useful to adopt tools and processes that systematically link long-term climate goals to fiscal planning and budgeting. Early engagement with the Ministry of Finance is essential to ensure that public funds are strategically allocated to advance LTS priorities (UNDP n.d.), and institutional mechanisms are needed to embed climate objectives in routine budgetary processes and ensure consistent tracking and accountability. Green budgeting offers a structured approach to embed climate objectives in the PFM cycle. To this end, governments can ensure that climate priorities are reflected in annual budgets and medium-term expenditure frameworks by requiring that line ministries align their budget submissions with LTS priorities, especially through climate-informed budget circulars. The scenario modeling and growth assumptions underpinning the LTS can also be integrated into the formulation of fiscal strategies to influence fiscal policies and expenditure decisions, thereby directing investment flows toward LTS objectives (Coalition of Finance Ministers for Climate Action 2022). The climate Public Expenditure and Financial Accountability (PEFA) framework[12] offers a structured approach to assess how well budgeting systems support climate goals, including indicators for climate-responsive budget preparation, classification, and tracking.

Beyond alignment, green budgeting can increase transparency, accountability, and access to climate finance. For example, the PEFA climate supplemental framework highlights how climate tagging, performance indicators, and expenditure reviews can be used to track LTS-aligned spending and evaluate its effectiveness.

Box 11: Climate Financing Strategy vs. Long-Term Strategy (LTS) Investment Plan: What's the Difference?

To operationalize an LTS, countries should have a climate financing strategy and an LTS investment plan, because they play complementary roles. A climate financing strategy is a high-level framework that defines how a country will mobilize, access, and manage the financial resources needed to achieve its climate goals (mitigation and adaptation). It provides the overarching framework for mobilizing resources by mapping potential funding sources—domestic budgets, private capital, concessional loans, international climate finance—and establishing enabling conditions to attract and channel funds. Its purpose is to provide a strategic roadmap for financing climate objectives across all plans and policies, not just the LTS. For example, Rwanda's Climate and Nature Finance Strategy (2024-2030) (Government of Rwanda n.d.) outlines how the country will mobilize resources from multilateral climate funds, bilateral donors, the private sector, and domestic sources, creating a financing ecosystem for climate priorities.

An LTS investment plan translates long-term targets into sectoral pathways and priority projects, offering a concrete pipeline of actions for implementation. It is an operational, project-oriented component of the LTS that identifies the investments, programs, and infrastructure needed to implement long-term decarbonization pathways. It typically lists priority sectors and the scale of investment required; translates high-level targets into pipeline-ready projects with cost estimates, timelines, and financing gaps; and is often aligned directly with medium-term planning cycles (5–10 years), providing an implementation bridge between the LTS and budgets. The overarching purpose of an investment plan is to turn the LTS vision into a portfolio of investable actions that can attract public and private finance. Costa Rica's Investment Plan for the Climate Investment Fund's Renewable Energy Integration Program serve this purpose by detailing investments in smart meters, information systems, and charging stations for electric buses, guiding resource allocation and donor alignment (CIF 2023).

Together, these two instruments ensure that the LTS is finance ready and investment oriented, turning a long-term vision into an implementable, bankable strategy that can secure sustained political, fiscal, and investor support.

Table B11.1: Comparison of Climate Financing Strategy and Long-Term Strategy (LTS) Investment Plan

Factor	Climate Financing Strategy	LTS Investment Plan
Structure	Cross-cutting framework for mobilizing finance across all climate objectives	Sector- and project-specific roadmap for LTS implementation
Focus	Sources, instruments, enabling conditions	Investment needs, priorities, and pipelines
Responsible party	Ministry of Finance or Ministry of Planning, often cross-sectoral	Technical ministries with finance inputs
Purpose	Strategic, long-term financing architecture	Operational, project-based implementation tool

Sources: Hernández & Ceinos 2025; IDB 2024.

12 See the Supplementary Framework for Assessing Climate Responsive Public Financial Management at https://www.pefa.org/resources/supplementary-framework-assessing-climate-responsive-public-financial-management

Additionally, greening public procurement, through centralized systems, e-procurement platforms, and life-cycle costing, can be leveraged to ensure that government spending contributes to LTS-aligned low-carbon, climate-resilient outcomes. These mechanisms can help governments demonstrate readiness to implement their LTS, thereby attracting climate finance and development partner support. By linking LTS goals to budget frameworks, spending proposals, performance indicators, and public investment plans, green budgeting ensures that long-term climate ambitions are translated into short- and medium-term spending decisions (World Bank 2022).

The World Bank **risk-based budgeting guidelines** (Skalon et al. 2024) offer several strategic options for governments to embed LTS adaptation priorities systematically by integrating climate and natural disaster risk considerations across the entire budget cycle. Ministries of finance can proactively assess contingent liabilities stemming from climate-related shocks, such as floods, droughts, and cyclones, and reflect these risks in fiscal forecasts, budget ceilings, and investment screening processes. By linking LTS adaptation goals to fiscal risk management tools such as stress testing, climate-adjusted macro-fiscal forecasting, and risk-layered financing strategies, governments can ensure that resilience-building measures are not only planned, but also adequately resourced and protected from budgetary trade-offs. For example, New Zealand's Treasury includes disaster stress tests in its long-term fiscal planning, and the Philippines has begun integrating disaster risk into its public investment management (PIM) through its National Asset Management Plan (Sutherland, Skalon, and Allan 2024). These practices ensure that climate and disaster risks are not only acknowledged, but also systematically addressed through budget preparation, execution, and accountability mechanisms. Also, by creating clear protocols for emergency procurement and tracking post-disaster spending through tagging and audits, governments can enhance transparency, build institutional confidence, and ensure that resilience-building measures are adequately financed and implemented. Measures such as these increase the credibility and durability of the LTS, particularly in contexts in which climate risks pose significant threats to development outcomes and fiscal stability.

PIM systems are particularly significant in this context. They serve as the primary mechanisms for identifying and operationalizing bankable LTS investment projects. Effective PIM systems connect long-term strategic objectives and near-term investment decisions through structured processes for project screening, appraisal, prioritization, and funding selection. To be effective, PIM systems must integrate climate objectives into the early project identification and pre-appraisal stages, ensuring that investments align with long-term mitigation and adaptation pathways before entering the project pipeline. Climate-informed screening distinguishes projects driven by climate objectives from those only influenced by climate factors, ensuring that both receive appropriate risk assessment and design standards. During appraisal, PIM systems help translate LTS priorities into viable investments by requiring systematic climate risk assessments; evaluation of adaptation options; and where relevant, valuation of GHG impacts using established cost-benefit analysis methods. Sequencing these requirements based on country capacity, starting with basic climate risk screening and gradually introducing advanced appraisal tools, prevents institutional overload and improves investment quality. Applying climate-informed PIM practices consistently across sectors enables governments to move from broad LTS ambitions to prioritized, costed, resilient investment plans that are credible to ministries of finance, development partners, and private investors.

Action 4.4: Strengthen institutional capacity and human resources.

Implementing an LTS is a complex, cross-sectoral undertaking that requires a broad set of technical, managerial, and coordination skills, yet in many countries, particularly developing economies, the institutions charged with delivery are understaffed or lack specialized expertise (Averchenkova, Gannon, and Curran 2019). These capacity gaps can slow or derail progress, even when political support and financing are established. Once capacity constraints are identified, increasing institutional and human resource capacity is therefore critical to translating the LTS into sustained, tangible results. To address these challenges, governments may consider taking two complementary actions.

First, ensure that adequate human resources are in place across key ministries and agencies. Given the whole-of-government and whole-of-economy nature of the LTS, staff must be available to coordinate efforts, provide technical input, and manage implementation. This may require allocating financial resources for dedicated staff time and introducing performance incentives to ensure consistent engagement. In Costa Rica, for instance, the Ministry of Environment and Energy assembled a central technical team combining international consultants with local officials and researchers. This approach accelerated technical work and built local capacity to sustain the process beyond the initial formulation phase. Incentives could include financial rewards or performance metrics to ensure optimal staff engagement and productivity (see also Principle 2) (WRI 2019).

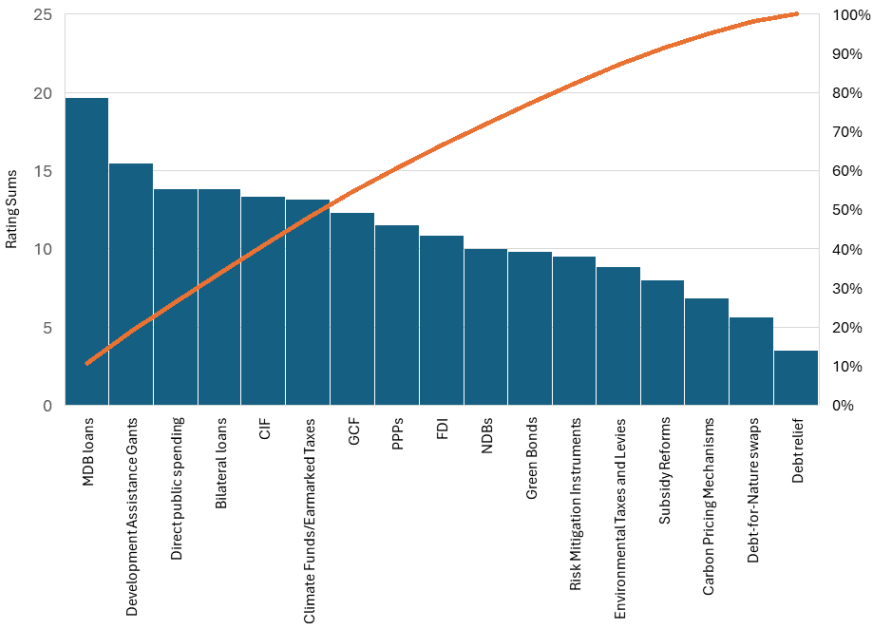
Second, invest in building the technical expertise needed for effective LTS implementation. This starts with a capacity needs assessment to identify gaps in areas such as climate modeling, policy design, stakeholder engagement, and change management. Based on these findings, targeted training programs can be developed to strengthen civil servants' skills and embed knowledge in government. Such programs should be designed to foster ownership of the LTS and empower agencies to make investment decisions aligned with long-term goals. Capacity-building programs should be embedded in existing public service training systems to institutionalize the process of equipping officials with the tools and skills needed to integrate long-term thinking into daily decision making.

Insights from World Bank LTS Engagements

Climate financing sources and use

The range and frequency of use of financing instruments to support climate-related projects and initiatives varied among World Bank LTS engagements. Loans from multilateral development banks and international financial institutions emerged as the most widely used instruments for climate-related investments, receiving a modal rating of 4 out of 5, indicating frequent use (Figure 12). The Climate Investment Fund also received a modal rating of 4 but with a lower total score (13 compared with 20 for multilateral loans), suggesting that, although some countries used it frequently, fewer countries overall used it. The fact that all respondents reported using multilateral loans, whereas only 50 percent reported using the Climate Investment Fund, confirmed this. Carbon pricing mechanisms and debt-for-nature (or climate) swaps were the least frequently used instruments.

Figure 12: Frequency of Use of Climate Finance Instruments According to Type of Instrument



Note: MDB (Multilateral Development Bank). CIF (Climate Investment Fund). GCF (Green Climate Fund). PPPs (Public Private Partnerships). FDI (Foreign Direct Investment). NDBs (National Development Banks).

International sources of climate finance were used more frequently and more broadly than domestic sources. The average modal rating for international instruments was 1.2, with a total score of 112, compared with a modal rating of 1.3 and a total score of 74 for domestic instruments. Domestic sources had more instances of 0 and 1 ratings, indicating "unsure" and "not at all used," respectively. This finding suggests that the portfolio of international financing instruments was not only more diverse, but also more consistently accessed across the World Bank LTS engagements. Some countries demonstrated broad use of climate finance instruments, whereas others relied more heavily on a narrower set.

Technical capacity to support LTS implementation

The extent and distribution of technical capacity to support LTS implementation varies across World Bank LTS engagements. Most respondents indicated that public sector employees have only barely sufficient knowledge, skills, and time to support the LTS process. Staff capacity was generally higher at the national level (modal rating 3—moderately sufficient) than at the subnational level (modal rating 1—not at all sufficient).

Revelations about access to adequate staff were more nuanced. When asked whether their countries had adequate government personnel with the technical skills and experience needed to support the LTS process, most respondents were neutral, although they expressed stronger agreement that governments had access to sufficient external technical expertise and knowledge (modal rating 4—agree).

Diagnostic Questions

Practitioners may consider using the following diagnostic questions to examine the extent to which Principle 4 (Credible Resourcing) has been met.

- Has the Ministry of Finance been engaged in the LTS process?
- Have strategies been implemented to attract and manage climate finance?
- Are investment needs identified, costed, and sequenced to support these targets?
- Are LTS priorities reflected throughout the PFM cycle?
- What are the key LTS-linked capacity gaps at national and subnational levels?
- Do agencies have the staff time and expertise to implement the LTS?

4.5 Principle 5: Adaptive Governance

Develop governance mechanisms to enforce the LTS, monitor progress, learn, and adapt.

What Principle 5 Involves

Adaptive governance emphasizes institutional mechanisms that embed learning and feedback loops in the LTS process. These include systems for tracking progress against LTS targets, enforcing compliance, and systematically applying insights from M&E to revise pathways and improve decision making iteratively. When achieved, it ensures that the LTS remains responsive, effective, and resilient under evolving conditions and uncertainty.

Why Principle 5 Matters

As with other major public policies, the success of an LTS relies on strong accountability systems that hold officials and institutions responsible for their actions or inaction. These systems promote transparency, build trust in public institutions, and help integrate the LTS into national governance (Elliott et al. 2023). Without formal processes to track progress, enforce milestones, and apply lessons learned, even a well-designed, well-funded LTS can lose momentum and relevance. Because LTSs operate over long time frames, they must remain dynamic and responsive to new data; evolving technologies; and changing political, economic, and environmental conditions. Adaptive governance mechanisms enable governments to adjust assumptions, correct course, and refine strategies in real time, which increases policy effectiveness and credibility with citizens, investors, and international partners.

How to Apply Principle 5

Countries can institutionalize adaptive LTS governance by improving M&E systems, institutionalizing learning, and promoting transparency and stakeholder engagement. These actions integrate the LTS into daily governance, making long-term goals more accountable and results oriented.

Action 5.1: Develop a robust monitoring, evaluation, and learning framework.

A robust M&E system supports adaptive governance by using clear, measurable indicators to track LTS progress, such as emissions reductions and green investment. This enables objective decisions and timely adjustments. MRV systems, required under the UNFCCC, ensure that climate actions are measured, reported, and verified for accountability and credibility. For LTSs, MRV provides a technical foundation for tracking progress and supporting global processes such as the Global Stocktake, although MRV is mainly compliance focused and insufficient alone for long-term transformation.

In contrast, M&E frameworks enable governments to learn, identify bottlenecks, and adjust when plans go off track. Unlike MRV, M&E assesses whether policies, institutions, and investments are delivering the intended outcomes. It connects MRV output with policy performance, institutional effectiveness, and social impacts. Whereas MRV provides critical input to secure credibility and transparency, M&E provides the iterative feedback loops that turn LTSs into living instruments that can evolve with shifting technologies, market signals, and political contexts. Embedding MRV data in M&E frameworks ensures that LTS implementation is transparent and adaptive.

A well-designed M&E system provides a structured foundation for adaptive management of LTS implementation. It defines the "what" (commitments and actions for which parties are responsible), the "who" (agencies responsible for implementation), the "how" (assessment methods, indicators, baselines, stakeholders to be consulted) (WRI and UNDP 2021), and the "what next" (enforcement measures) (Higham et al. 2021). Responsibilities for data collection, quality control, and analysis must also be clearly assigned, and regular reporting cycles should align with national planning and international processes (e.g., NDCs, the Global Stocktake). M&E enables necessary revisions and updates (World Bank 2020a). The results must feed into formal decision-making processes, enabling governments to update LTS targets, redirect finance, or recalibrate policies. For instance, Germany's Climate Protection Act requires annual emissions reviews by an independent council; if a sector misses its target, the responsible ministry must propose corrective measures within three months.

To operationalize the LTS M&E framework, governments can consider digital platforms or dashboards that provide near-real-time tracking of key indicators, with user-friendly visualization tools to support decision making. Such platforms can be made accessible to government and the public, reinforcing transparency and enabling external stakeholders to monitor progress independently.

Action 5.2: Institutionalize learning and adaptation.

Learning and adaptation are essential to keep the LTS relevant as circumstances change. LTSs must adjust to shifts in technology, economics, and politics. Singapore's planning system exemplifies this approach, with urban plans routinely revised to maintain competitiveness.[13] Similarly, Fiji's Green Growth Framework (Ministry of Strategic Planning, National Development and Statistics 2014) and Grenada's National Sustainable Development Plan 2020-2035 (National Plan Secretariat 2019) are treated as "living plans" that are regularly updated to reflect new realities.

To support adaptive governance, countries could benefit from implementing reforms and dynamic tools that enable continuous learning and regular updates to the LTS. This would require establishing formal processes and tools for data collection and strategy review rather than treating the LTS as static. Regular review cycles,

13 See Integrated Master Planning and Development (database), Centre for Liveable Cities, Singapore https://knowledgehub.clc.gov.sg/liveability-framework/integrated-master-planning-and-development. Last access on May 13, 2026

often every five years, should use updated data, stakeholder feedback, and scenario analysis to identify gaps and opportunities.

Structured dialogues among ministries, subnational authorities, and nonstate actors help interpret monitoring results and guide policy adjustments. Formal mechanisms for revising targets, pilot programs, and stakeholder forums support timely responses to new challenges and opportunities, including emerging technologies. Including flexibility clauses in LTS legislation or policy frameworks allows strategies to be updated without full political renegotiation, ensuring that adaptation is proactive rather than reactive.

Insights from World Bank LTS Engagements

World Bank LTS engagements underscore that, although many countries have advanced in LTS formulation and early implementation, few have established comprehensive systems for monitoring, reporting, and adaptive learning. The interview results reveal a mixed picture of institutional maturity in accountability and adaptive governance mechanisms for LTS implementation across participating countries.

- **Transparency,** defined as the existence of legal or procedural requirements to make LTS-related information publicly accessible, emerged as the strongest dimension. It received the highest modal score of 4, indicating general agreement that transparency mechanisms are in place in the countries surveyed.
- **Oversight mechanisms,** including audits, legislative reviews, and judicial scrutiny, received the lowest modal score of 2, suggesting that respondents generally view these mechanisms as insufficient to hold government actors accountable for LTS commitments. The narrow range of scores (2–3) indicates that, although there are some oversight structures, they are often limited in scope or implementation.
- **Feedback mechanisms and public consultations** each had a modal score of 3, reflecting a neutral assessment from respondents and suggesting that, although institutional mechanisms for stakeholder engagement and public input in the LTS process have been established, they vary in effectiveness and degree of formalization. Public consultation scores ranged from a low of 1, indicating strong disagreement that consultations are required, to a high of 5, suggesting that public input is systematically integrated. This disparity highlights uneven institutionalization of participation through documented policies, platforms, and protocols and underscores the need for more consistent, legally grounded approaches to ensure inclusive, transparent LTS processes.

Diagnostic Questions

Practitioners may consider using the following diagnostic questions to examine the extent to which Principle 5 (Adaptive Governance) has been met.

- Has a dedicated institution been legally mandated to oversee LTS implementation and report on progress?
- Have clear, measurable indicators been established to track progress on LTS targets across sectors?
- Is there a defined process for revising targets and implementing plans based on new information or changing conditions?
- Are public reports on LTS progress published regularly and accessible to diverse audiences?
- Do stakeholders, including local governments and civil society, have formal opportunities to participate in review and learning processes?

CHAPTER 5
CONCLUSION

This guidance note has argued that LTSs are most effective when conceptualized and used as strategic governance tools rather than solely as technical planning documents. An LTS must combine a credible LTV, grounded in robust and transparent analysis, with integration into the institutional systems that inform policy, fiscal, and investment decisions. This distinction is not merely technical; the divide between well-designed strategies and sustained implementation fundamentally reflects a governance gap. Chapters 2, 3, and 4 each addresses distinct aspects of this gap, collectively advancing a framework that is analytically rigorous and institutionally implementable.

Chapter 2 established the conceptual foundation by positioning LTSs as strategic governance instruments. It identified recurring implementation failures observed in global LTS experience, including weak connections between strategy and action, underdeveloped institutional arrangements, and absence of financing and accountability mechanisms. The chapter also introduced the World Bank's Country Climate and Institutional Assessment as a diagnostic tool to identify governance entry points where long-term objectives must align with planning, budgeting, and decision-making systems. It emphasized that analytical rigor and institutional integration are complementary; robust analysis is essential for effective prioritization but is insufficient alone to drive real-world change.

Chapter 3 operationalized these insights by outlining a flexible, five-stage formulation process encompassing initiation and visioning, technical elaboration, finalization, and early operationalization. The principal contribution of Chapter 3 lies not only in the process itself, but also in demonstrating that formulation decisions have significant institutional consequences. Decisions regarding stakeholder engagement, communication of modeling outputs, and selection of planning instruments directly influence the governance conditions that can support or hinder implementation. Thus, effective formulation constitutes a foundational element of institutional development.

Chapter 4 examined the institutional conditions that determine whether a well-formulated LTS influences decision making over time. The five principles introduced—institutional legitimacy, national alignment, participatory coalitions, capacity-coupled resource mobilization, adaptive governance—constitute a mutually reinforcing framework rather than a simple checklist. Legal recognition without fiscal alignment results in mandates lacking resources, and broad coalitions without adaptive mechanisms yield ownership without long-term durability. Chapter 4 highlights that institutionalization is inherently incremental and context specific; early decisions regarding mandates, coordination structures, and budget linkages significantly influence implementation trajectories. Therefore, it is essential to prioritize governance design from the outset.

Ultimately, the report shows that operationalizing an LTS is fundamentally a governance challenge. Institutionalization is an ongoing process that extends throughout the entire LTS lifecycle, rather than a single step at the conclusion of strategy preparation. This guide serves as a practical starting point for governments and development partners aiming to transition from ambition to sustained implementation. Ongoing learning, capacity building, and institutional innovation are essential to ensure that LTSs progress from aspirational strategies to durable instruments for resilient, inclusive, low-emission development.

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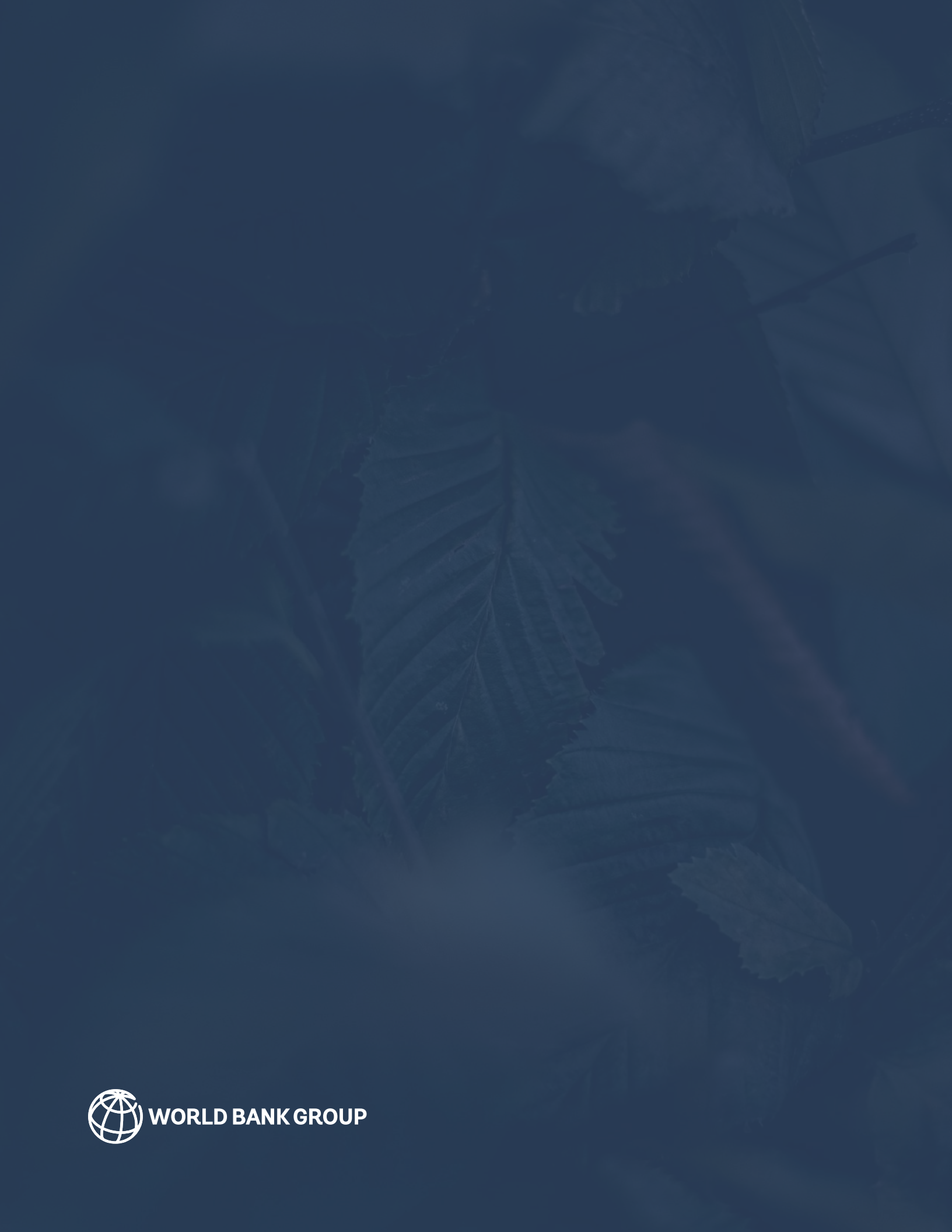

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