Marching Toward 2050: Purpose and Elements of Long-term Low Greenhouse Gas Emission Development Strategies

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PARIS AGREEMENT AND LONG-TERM STRATEGIES

According to the Paris Agreement's Article 4.19, "All Parties should strive to formulate and communicate long-term low greenhouse gas emission development strategies, mindful of Article 2, taking into account their common but differentiated responsibilities and respective capabilities, in the light of different national circumstances." The Conference of Parties (COP), by its decision 1/CP 21, paragraph 35, invited Parties to communicate to the Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC) by 2020 long-term development strategies that reduce greenhouse gas (GHG) emissions. So far, only six countries—France, Benin, Germany, Canada, Mexico, and the United States—have formally done so. It is expected that countries will propose creative and innovative pathways toward the common goal of reducing GHG emissions. The long-term strategies can guide the implementation and development of the next nationally determined contributions (NDCs). This short piece discusses the objectives, benefits, and key elements of long-

term strategies and is intended to be a brief guide for countries embarking on the development process to implement Article 4.19.

PURPOSE, OBJECTIVES, AND BENEFITS OF LONG-TERM STRATEGIES

Long-term strategies help countries align their short-term planning with long-term vision. The process sets a clear path for conducting long-term planning in the context of climate risks, and informs planning and investments to mitigate and adapt to climate change. The long-term planning and stakeholder consultations and engagements help countries identify the opportunities and challenges associated with low-carbon and climate-resilient development. At the heart of every long-term strategy is the setting of goals for deep GHG emission reductions by 2050. Once these goals are set and communicated, concerted efforts will be made to ensure that all key players align their plans and activities to meet the national goals and targets. Long-term strategies help align the goals and targets with national, regional, and international objectives such as national development plans, regional development plans, and sustainable development goals (SDGs). They also help countries save money by avoiding

investments inconsistent with achieving a low-carbon economy. The development of long-term strategies sends the right signals to the private sector, enhancing opportunities for innovation and allowing institutions to reap the benefits of early action. The process provides an opportunity to integrate the considerations and pathways of multiple development objectives and actors—all relevant ministries, sectors, different governance levels (municipalities, cities, regions), and a broad array of stakeholders.

KEY CONSIDERATIONS AND ELEMENTS OF LONG-TERM STRATEGIES

A long-term vision or goal: The strategy should clearly state the vision for achieving low-carbon and climate-resilient development by 2050, focusing on an economy-wide, quantitative vision for emission reductions that takes into account the long-term temperature goals of the Paris Agreement in light of national circumstances. Sector-specific mitigation targets and pathways as well as key areas of action to realize long-term goals (e.g., developing a low-carbon energy system, reducing non–carbon dioxide emissions, and sequestering carbon through forests, soils, and carbon-dioxide removal technologies) should be covered in the strategy. Identifying the key areas that drive emissions will be an important step. In its long-term strategy, Mexico identified society and population, ecosystems, energy, emissions, productive systems, the private sector, and mobility as the key areas that drive emissions and therefore need urgent attention. Strategic measures for every area of action and the overall guiding principles should be clearly outlined. Articulating milestones for the next ten, twenty, thirty, and forty years, especially in the key areas that drive emissions and preparedness for low-carbon economy, helps develop the long-term vision.

Scenario development and modeling: Establishing quantitative projections supported by appropriate analytical tools and articulating policy and technology assumptions are important first steps in developing long-term strategies. The United States, for example, carried out an analysis combining state-of-the-art modeling tools and the best available data on the evolution of the energy and land sectors. Based on the decarbonization analysis,

and insights from available country-specific studies on various sectors, the possible pathways, models, and scenarios toward a low-carbon economy can be developed. In addition to these mathematical models, qualitative storylines are crucial to give a clear picture of the different scenarios; reflect the assumptions, major drivers of change, and consequences of different scenarios; and address key questions arising from the long-term strategy development process. Developing countries that lack the tools and data needed to undertake long-term quantitative projections and modeling could consider collaborating with climate modeling centers in developed countries to build their own capacity and exchange tools, methodological approaches, and models. Developing countries can also use publicly accessible tools, such as the World Bank's Climate Knowledge Portal and the IPCC Data Distribution Center. Although not meant specifically for quantitative projections and modeling, these tools provide historical data, observations, simulations, and data synthesis that may be useful to countries developing long-term strategies.

Aligning with national development objectives: The long-term strategy should focus on integrating economic development with a country's long-term climate goals, identifying overlap and synergies with existing national development strategies, and articulating sustainable development plans and technology needs assessment. The results of the long-term quantitative projections and modeling inform policy priorities for mitigation and adaptation in the context of development. The long-term strategy can help to structure policy debate at the national level, the implications for different sectors, and the action needed to translate short-term actions into pathways toward transformational change. Long-term strategies complement the NDCs by focusing on the long-term vision for achieving a low-carbon economy by 2050.

Aligning short-, medium-, and long-term objectives: Aligning long-term goals with short-term policy, planning, targets, and milestones is a core element of long-term strategies (for example, Canada's midcentury strategy emphasizes that long-term objectives will be ultimately realized through

short-term concrete action). This also involves aligning the country goals with Paris Agreement's goal of limiting global temperature increase to 1.5°C to 2°C, thus integrating climate change objectives into long-term planning processes. The strategy provides an opportunity to weigh the effects of short-term policy decisions on long-term transformations toward zero emissions and make strategic decisions and policy priorities.

Adaptation: Goals to enhance adaptive capacity, strengthen resilience, and reduce vulnerability across all sectors should be detailed in the long-term strategy. Equally important is to link national adaptation plans to the long-term strategy. Vulnerability assessments focus on temperature and precipitation changes, and on the different scenarios and actions to be taken to enhance adaptive capacity and reduce vulnerability in the short and long term. The long-term of strategies Mexico and Benin submitted to the UNFCCC Secretariat give equal prominence to adaptation and mitigation.

Institutional arrangements: The roles and responsibilities for implementing agencies, and coordination across multiple government departments, should be clarified in the long-term strategy. This may entail setting up a body or unit to bring together the work of different government departments, municipalities, businesses and industries, trade unions, indigenous people, and other key stakeholders. Equally important is strengthening institutional capacity among key public sector (national, regional, and local) and civil society organizations in the country working to advance low-carbon development.

Resources and capacity: This covers the means to address climate change and development within the context of capacity, financial, and technological resources. The low-carbon transition requires significant shifts in resources in line with analysis and modeling that indicate pathways to developing a low-carbon economy by 2050. To appeal to the international community for resources and capacity, any gaps should be identified. Climate financing institutions such as multilateral development banks, the Climate Investment Funds,

the Green Climate Fund, the Adaptation Fund, and the Global Environment Facility have various climate financing instruments—including grants, concessional loans, risk mitigation instruments, and equity to leverage financing from the private sector—that are useful in plugging resources and capacity gaps.

Governance and stakeholder engagements: The process of developing long-term strategies should be inclusive and transparent. Voices normally ignored or not consulted should be part of this process. Civil society, indigenous people, local communities, women, and youth should all have an opportunity to offer proposals and policy options in a bottom-up approach that looks at all sectors, including energy, forests, transportation, water, agriculture, and clean technology. Engagement of all stakeholders will build strong and durable country ownership and support for long-term strategies.

Arenas of intervention: In addition to the above key considerations and elements, countries may consider looking at the eight arenas of intervention to guide their plans to achieve a low-carbon economy. An arena of intervention is an entry point to take action to alter the course of events so that a low-carbon and climate-resilient economy can be achieved by 2050. The arenas are (1) technologies and infrastructure, (2) financing, (3) markets, (4) policies, (5) institutions, (6) governance and engagement, (7) knowledge and information, and (8) practices and mindsets. Knowledge and information consists of interventions that generate, share, or diffuse information to enhance knowledge and expertise to support accelerated and scaled implementation of low-carbon and climate-resilient development. These interventions include research and analysis, measurement and evaluation, learning partnerships, and training and capacity building for local populations and institutions. Practices and mindsets consist of actions to influence individual or private-sector practices, decisions, and behaviors using tools and techniques drawn from social marketing and other fields, and often involve shifting mindsets and individual appreciation of opportunities and benefits, while recognizing the power of social bonds and relationships in establishing and reinforcing norms and practices.

While the list is not exhaustive, these arenas can be key drivers of the transformation needed to meet the targets of the 2050 vision. The arenas of intervention could guide countries in developing long-term strategies by providing possible entry points to address capacity gaps and the key areas that drive emissions.

HOW TO MAKE A LONG-TERM STRATEGY A LIVING DOCUMENT

A long-term strategy is a living document that should be updated regularly as new insights, research, data, and analyses become available. A continuous learning process with inputs from all stakeholders and sharing of strategies and experiences with other countries help make the strategy a living document. Convening regular national and subnational knowledge-sharing meetings and collaborative online mechanisms to sustain the conversation on how to achieve a low-carbon economy and meet the goals of the 2050 vision can be coordinated by a central climate change unit within the government. The scientific community will have a key role to play in this continuous learning process by producing analytical studies on priority questions. For example, as part of its long-term strategy, Germany established a learning process that enables the progressive raising of ambition and targets to keep up with scientific, technical, societal, political, social, and economic developments. Mexico's General Law on Climate Change requires updating mitigation policies at least every ten years and adaptation policies at least every six. Knowledge is an important intervention that should be addressed in the long-term strategy. The generation, dissemination, and utilization of actionable information that supports accelerated and scaled implementation of low-carbon development is crucial. Measurement, research, evaluation, and learning processes and partnerships at the levels of the community, country, region, and globe will help unclog blockages and accelerate progress toward a low-carbon economy by 2050.