

## LESSONS FROM LOW-EMISSION DEVELOPMENT STRATEGIES TO SUPPORT LONG-TERM STRATEGY DEVELOPMENT AND IMPLEMENTATION

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*Case Studies contain preliminary research, analysis, findings, and recommendations on previous long-term planning exercises. They are circulated to stimulate timely discussion and critical feedback and to influence ongoing debate on emerging issues.*

All the interpretations and findings set forth in this case study are those of the authors alone.

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Long-term strategies (LTSs) can enable enduring economic growth and sustainable development while also aligning with climate objectives in the Paris Agreement. It is increasingly recognized that, when developing LTSs, many countries are not starting from scratch but can build on existing complementary climate and development processes and approaches, such as low-emission development strategies (LEDSs). As countries around the world consider their approach to developing long-term strategies or mainstreaming long-term planning in other climate or development strategies, they can draw on lessons and frameworks created through LEDSS and similar processes.

LTSs are described in the Paris Agreement as “mid-century long-term low GHG emissions development strategies” (UNFCCC 2016). The Paris Agreement invites Parties to prepare LTSs by 2020. According to WRI (n.d.), “Not only do long-term strategies present an opportunity to bring national action in line with needed ambition, they also encourage countries to avoid costly investments in the wrong technologies.” Thus far, six countries have submitted LTSs, and many others are starting work to develop LTSs or to mainstream long-term planning in current LEDSS or broader national development plans.

LEDSs have various names, such as national climate change action plans, green growth strategies, and so on. They were first mentioned by the United Nations Framework Convention on Climate Change (UNFCCC) in 2008 and were noted as “indispensable to sustainable development” in the 2009 Copenhagen Accord. LEDSS do not have a set definition but are often considered development plans that simultaneously enable reductions in greenhouse gas emissions, increased resilience to climate change impacts, and achievement of social, economic, and environmental development goals. These strategies can include national climate change laws, green growth strategies and plans, and cross-sectoral and sectoral plans for low-emissions development. In the cases studies selected for this essay, each plan, strategy, and policy mentioned falls under the broader category of LEDSS. LEDSS can be transformed into LTSs through consideration of a longer time frame and integration of key considerations that we will examine here.

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LEDSS and LTSs have several benefits in common:

- ◆ Setting a vision for socioeconomic development
- ◆ Setting a framework for inclusive stakeholder engagement to enable a climate-resilient, low-carbon future with sustained economic growth
- ◆ Providing an approach to aligning goals over different time horizons
- ◆ Guiding near-term actions, especially those that would help avoid lock-in and stranded assets
- ◆ Managing transition processes proactively to minimize and mitigate risks that might result from disruptions during the transition
- ◆ Capitalizing on opportunities for countries to be inspirational leaders through innovation, development, and application of new technologies and business models, as well as other impactful actions

The following section presents lessons from case studies of leading cross-sectoral and sectoral LEDSS work globally that can inform LTS development and implementation. Many of these cases were drawn from peer-learning activities of the LEDSS

Global Partnership. While there are many other examples of leading LEDSS work around the world, the cases in this essay were chosen based on regional diversity and learning that has occurred through the LEDSS Global Partnership and its partner networks and institutions.

The cases are organized around the following themes: (1) integration into development plans and goals; (2) governance and stakeholder engagement; (3) scenario building, analysis, and prioritizing policies and actions; and (4) enabling near-term action, implementation, and finance. In many instances, although the cases are presented under a certain theme, they also encompass lessons and good practices aligned with the other themes. Based on the case studies, in the final section, recommendations for ways LTSs can **build upon** and **improve upon** LEDSS are presented.

## INTEGRATION INTO NATIONAL DEVELOPMENT PLANS AND GOALS

Many countries, such as Colombia, Costa Rica, Kenya, Nepal, the Philippines, South Africa, and Uganda, have undertaken efforts or have already integrated their LEDSS into national and sectoral development planning processes. This is a key area where countries pursuing LTSs can build on this work to enable integration over a longer time horizon. Lessons from efforts in Kenya and Uganda to integrate climate change into development planning that can inform LTS efforts are highlighted below.

### Uganda's integration of climate change into development planning

The Government of Uganda serves as a model for integrating climate change into development planning. Through a partnership of the National Planning Authority, the Ministry of Finance, Planning and Economic Development, the Ministry of Water and Environment, and the Climate and Development Knowledge Network, a study was undertaken to assess the economic costs of inaction on climate change versus near-term action. The study found that climate action was necessary to meet key development goals for the country and that the cost of inaction was approximately 20 times higher than the cost of adaptation action in the near-term. Based on this assessment, climate change considerations, including required policies, regulations, and investments, were directly integrated into the

country's Second National Development Plan out to 2020. In addition, all subnational governments and sectoral agencies were instructed to integrate climate change action into local and sectoral plans and, crucially, budgets. This case underscored several lessons and good practices:

- ◆ **High-level leadership:** Engagement and strong leadership from ministries of planning, finance, and development is critical in supporting integration of climate change into development planning.
- ◆ **Effective and diverse stakeholder engagement:** Inclusive and diverse stakeholder engagement and outreach builds awareness, credibility, and ownership of processes to integrate climate change into development.
- ◆ **Building a strong evidence base:** Developing a strong evidence base, communicated in a way that resonates (financially, economically, etc.) with ministries of planning, finance, and development, as well as other stakeholders, is an important early stage in the integration of climate change into development planning. In addition, assessing cobenefits of climate actions allows for stronger buy-in, as links across sectors are more clearly understood in relation to development.

**Sectoral and subnational integration:** To enable implementation, integration and mainstreaming must go beyond national development plans and processes to also include sectoral and subnational plans where budget planning and finance for key actions occurs at a more granular and targeted level. Sector and subnational entities are also best able to understand key stakeholders, complementary policies and investments, and potential barriers to overcome to support climate actions presented in a national development plan (Bird et al. 2017).

## Kenya's approach to mainstream climate planning and goals in development

Kenya is a leader in integrating its LEDS and broader climate efforts into development planning. The country's 2016 Climate Change Act requires that national and subnational governments mainstream climate actions in development and sectoral planning. To inform the mainstreaming process, the national government develops five-year National Climate Change Action Plans (NCCAPs) that present key areas for investment and policy implementation. The action plans are informed by a broader low-carbon, climate-resilient pathway analysis out to 2030. This pathway analysis is aligned with the country's national development priorities and Vision 2030,

Kenya's medium-term development plan. The analyses and action plans also look across and prioritize both mitigation and adaptation measures. A number of key lessons from Kenya's LEDS process can inform LTS planning:

- ◆ **Legislation as a key tool:** Legislation can be a powerful tool to enable mainstreaming of climate change in development. In Kenya, the 2016 Climate Change Act was critical in supporting mainstreaming of climate change in development plans, budgets, and sectoral implementation.
- ◆ **High-level leadership and coordination:** High-level government support can provide a strong impetus for action across ministries and sectors. In Kenya, a National Climate Change Council, led by the country's president, was established to oversee the integration of climate change into planning processes at all levels of government. Establishing a cross-ministerial body to support coordination is an integral aspect of climate mainstreaming.
- ◆ **Effective and diverse stakeholder engagement:** Robust stakeholder engagement across many disciplines in the climate and development arenas is essential to support climate and development mainstreaming. Various working groups bringing together public and private sector stakeholders were established to inform all processes and actions to mainstream climate change in Kenya through the Climate Change Act and NCCAPs.
- ◆ **Linking with near-term action:** LEDS planning processes must also be connected to crucial near-term action. In Kenya, a national climate finance policy was developed by the National Treasury to support implementation of key actions in the NCCAP, such as geothermal development.
- ◆ **Sectoral integration:** Climate and development mainstreaming can also enable integration into sectoral plans and greater support for implementation at the sectoral level. Building on the NCCAP, the Ministry of Agriculture, Livestock, and Fisheries developed the Kenya Climate Smart Agriculture Framework Programme 2015–30 and worked to mainstream climate change through the Agricultural Sector Development Strategy (MENP 2016).
- ◆ **Tracking progress:** Tracking progress allows for improvement of action over time and is especially important when connecting multifaceted areas such as climate and development. The Ministry of Devolution and Planning developed indicators to track the mainstreaming of climate change in the country's

Medium-Term Plans (for development) and in many of Kenya’s County Integrated Development Plans (UKaid 2017). For further information on the indicators developed for the country’s second Medium-Term Plan (2013–17), see MDP (2014).

## GOVERNANCE AND STAKEHOLDER ENGAGEMENT

Through LEDES development processes, many countries have established robust systems to support governance, stakeholder engagement, and coordination across ministries. This particular aspect of LEDES work provides a strong foundation for countries pursuing LTSs to build upon. In particular, countries such as Chile, Colombia, Costa Rica, the Dominican Republic, Fiji, Georgia, Indonesia, Kenya, Mexico, Peru, the Philippines, South Africa, Thailand, and Vietnam have shown good practices in LEDES governance and stakeholder engagement that could provide models for replication in other countries (Partnership on Transparency n.d.). Cases for Mexico and Vietnam, as well as lessons and good practices, are highlighted below.

## Mexico’s national climate change governance framework

In 2012, the Government of Mexico established the National System for Climate Change to support coordination and governance across climate actions at the national and subnational levels. The system provides the foundation for the country’s LEDES (National Climate Change Strategy and Special Program on Climate Change), midcentury strategy (SEMARNAT-INECC 2016), and nationally determined contribution (NDC) and supports consistency and coherence across these related efforts. At the national level, the system brings together an Interministerial Commission for Climate Change (CICC) consisting of 13 cross-cutting (e.g., the Ministries of Environment, Foreign Affairs, and Social Development) as well as sectoral ministries. This body provides the highest level of support for design and implementation of climate change policies and enables coordination across the national ministries. The CICC also plays a critical role in supporting mainstreaming of climate policies in sectoral plans and actions and developing criteria to assess cross-cutting policies. The National Institute of Ecology and Climate Change (INECC) is another important national-level entity that focuses on scientific and technological research to support climate change decisions and policymaking.

Figure 1: Mexico’s National System for Climate Change



Source: SEMARNAT-INECC (2016).

INECC also coordinates and collaborates with several technical and nongovernmental institutions and civil society in designing, performing, and validating the analysis. As a final element of the national level players, the Climate Change Council (C3) is a permanent consultative entity made up of world-class experts in the public and private sectors that provides recommendations on studies, policies, and actions to consider and leads public engagement processes on climate change issues.

The jurisdictional level of the National System for Climate Change encompasses the federal Congress, states, and the National Association of Municipal Officials. Each of these entities is critical to assessing, developing, and implementing policies and actions at the subnational level based on coordination with the national government and the key entities noted above. Figure 1 shows the various elements of Mexico’s National System for Climate Change.

Two principle good practices and lessons associated with Mexico’s National System for Climate Change can inform LTS efforts:

- ◆ **Strong and effective governance structure:** Mexico’s National System for Climate Change was originally developed to support the country’s LEDES (National Climate Change Strategy and Special Program on Climate Change). To support consistency and leadership across related efforts, the national system now also serves as the foundation for the country’s NDC and long-term strategy. This model allows the system’s strong governance framework, diverse stakeholder

engagement, analysis, and implementation efforts to be well aligned across the various strategies, taking into account learning from work on the country’s LEDES, and leveraging this for the NDC and LTS.

- ◆ **Aligning goals over different time frames:** Effective coordination across entities engaged with various climate activities in the country has allowed the alignment of goals in the medium, near, and long term, and in specific sectors. For instance, Mexico’s LTS presents near-term goals (drawn from the NDC), medium-term goals (drawn from the LEDES), and long-term goals (within the LTS). Goals for the energy sector, presented in the country’s LTS, are highlighted in Figure 2.
- ◆ **Sectoral and subnational integration:** The National System for Climate Change also provides a strong model for enabling links across sectoral and subnational efforts. For instance, the CICC, which brings together several ministries, supports the mainstreaming of climate policies in sectoral plans, and many of Mexico’s sectors have integrated climate metrics into their planning processes and/or developed sectoral LEDESs, such as the National Energy Transition Strategy developed by the Ministry of Energy.
- ◆ **Linking with near-term action:** Mexico’s governance structure and coordination across ministries has also allowed longer-term planning to be linked to near-term action. For example, Mexico’s National Energy Transition Strategy (sectoral LEDES), puts forth plans and policies to implement actions evaluated through the LTS process, such as the

**Figure 2. Mexico’s LTS energy sector goals informed by the country’s NDC and National Climate Change Strategy**

| AREA   | 10 YEARS  | 20 YEARS   | 40 YEARS   |
|--------|---|--|--|
| Energy | <ul style="list-style-type: none"> <li>● Clean technologies are deployed and start advancing the energy transition, with a goal of 35% of clean energy in the power sector</li> <li>● Specific schemes are developed to incentivize clean energy, energy efficiency and saving, and sustainable public transportation, reducing our use of fossil fuels.</li> </ul> | <ul style="list-style-type: none"> <li>● At least 40% of electric power generation comes from clean energy resources.</li> <li>● Power generation through clean sources creates jobs, including jobs for the vulnerable population.</li> <li>● Residential, tourism, and industrial sectors use clean energy resources, energy efficiency and power saving schemes.</li> </ul> | <ul style="list-style-type: none"> <li>● Clean energy generation supports economic development of every sector in a sustainable way.</li> <li>● At least 50% of energy generation comes from clean sources.</li> </ul> |

Source: SEMARNAT-INECC (2016).



development of clean energy certificates, annual clean energy target compliance by electricity suppliers, and international collaboration to analyze design needs and implement integration of renewables into the grid.

- ◆ **Leveraging complementary analysis:** INECC and C3 also supported iterative and complementary analysis across work on the NDC, National Climate Change Strategy, and midcentury strategy. Engagement of these entities across various efforts helps ensure that analysis can be leveraged and integrated in ways that support and build upon near-, medium-, and long-term planning (SEMARNAT-INECC 2016).

## The Philippines' strong governance to enable long- and near-term planning and implementation

The governance structure for design and implementation of the Philippines' National Climate Change Action Plan (NCCAP) provides a model to build on as countries consider LTSS.

Although high-level political priorities in the Philippines have shifted in recent years, the NCCAP and supporting policies provide a strong foundation for the future. As a key action, in 2009, the Philippines' Climate Change Act (CCA) was established, providing a framework for integrating climate change into development plans, sectoral plans, and policies. Under the CCA, the national Climate Change Commission was developed to support design and implementation of low-carbon activities in the country. The CCA championed efforts to mainstream climate change in development planning and coordinate with local entities to enable implementation. The Philippines' experience exemplifies a number of good practices and lessons:

- ◆ **High-level leadership:** High-level leadership was an important aspect of climate change governance in the Philippines. At the time of the CCA adoption, the nation's president was a champion of the Climate Change Commission and raised the profile of climate change mitigation and adaptation as national priorities. In addition, the commissioner of the Climate Change Commission held a ministerial rank, allowing for greater access to high-level ministerial officials to build collaboration and support.

- ◆ **Strong policy framework:** The Philippines' Climate Change Act provided a high-level framework for integration and prioritization of policies and topics across sectors and development areas. Before the adoption of the act, government planning was highly fragmented. The CCA provided an overarching governance structure that looked across climate change mitigation, adaptation, and development as the principal objectives.
- ◆ **Effective and diverse stakeholder engagement:** Stakeholder engagement was an essential element of climate change planning and implementation in the Philippines. Key actors were brought into the process early, including the Department of Finance, the Department of Budget and Management, local governments, many sectoral agencies, civil society, and international partners.
- ◆ **Integration into national development planning:** The NCCAP was designed with phases that spanned six years to align with the time frames of the Philippines Development Plan (PDP). The first NCCAP was developed in 2011 in parallel with the PDP, allowing for integration of several climate actions (also seen as development actions) into the development plan. This stage represented an initial integration of climate into the PDP, and it was understood that further work would be needed. However, the Climate Change Commission and other stakeholders wanted to take timely action to address urgent needs despite the longer planning processes and institutional reforms that would ultimately be required. The action plan was developed as a "living document," allowing for iteration and improvement over time as objectives, needs, and other circumstances arose.
- ◆ **Subnational coordination:** Coordination with subnational entities was another important element of the broader governance structure. To support this piece, the CCA required that local governments develop climate action plans to implement activities outlined in the National Climate Change Action Plan.
- ◆ **Allocating budget:** Funding for the Climate Change Act and related policies and actions was also prioritized. A fund was set up to support these efforts through budget allocations and disbursements to the local governments implementing the work. These localized budget allocations also emphasized the critical need for subnational engagement and action.

- ◆ **Linking with near-term action:** The government also prioritized near-term actions in the context of the longer-term action plan. In particular, actions to address climate vulnerabilities and extreme weather events were prioritized. As one key example, in 2012, the People’s Survival Fund (US\$160 million) was established to implement crucial near-term actions related to climate vulnerability and adaptation (International Partnership 2013; UNDP n.d.; Prevention Web 2012).

## SCENARIO BUILDING, ANALYSIS, AND PRIORITIZING POLICIES AND ACTIONS

Scenario building and analysis is a critical component of developing LEDSS. In many cases, analysis undertaken through LEDSS processes can feed into and support long-term strategies. Several LEDSS countries have created strong and diverse teams to build scenarios and undertake analysis through transparent and inclusive processes. Examples include Chile, Colombia, Costa Rica, Côte d’Ivoire, the Dominican Republic, Fiji, Indonesia, Kenya, the Philippines, South Africa, Vietnam, and Zambia, among many others. Chile’s notable work in this area is presented below, as are lessons and good practices that could inform LTSSs.

### Chile’s transparent and technically robust scenario development and analysis process to support low-carbon development

Beginning in 2011, the Government of Chile, in partnership with the Mitigation Action Plans and Scenarios (MAPS) program, established a strong analytical process to support low-carbon development. To inform the development of scenarios and analysis, over 300 stakeholders and experts were convened regularly through a highly transparent process. The robustness of stakeholder engagement for the scenario analysis was seen as unprecedented in Chile and offered a strong model for other countries (GGBP 2014). At the highest level, scenario building was overseen by a steering committee that brought together seven cross-cutting (Finance, Foreign Affairs, and Environment) and sectoral ministries (Agriculture, Energy, Mining, and Transport) and was tasked with reviewing preliminary and final results and linking analysis with policies and decision-making. The Scenario Building Team brought together many stakeholders across sectors and public and private institutions

to design scenarios that included “packages” of mitigation measures for consideration and to provide input throughout the process. Technical working groups and international consultants also informed the analysis, which was led by research teams in the country. Chile’s MAPS (n.d.) analysis offers several key lessons and good practices that can inform LTSSs:

- ◆ **Diverse and robust stakeholder engagement:** Chile’s scenario building and analysis process provides a strong example of an inclusive process bringing together over 300 stakeholders to inform analysis and develop mitigation scenarios. This is critical to ensuring that pathways are informed by key information across sectors and topics and to supporting buy-in for scenarios and actions considered.
- ◆ **Effective data collection:** Formal interministerial arrangements were also established to support data collection. Ministries were mandated to provide data to build scenarios and analyze impacts, which enabled robust analysis. The broader group of stakeholders highlighted above was also crucial, providing many key datasets.
- ◆ **Sectoral integration of analysis:** Broader scenario-building approaches and participatory processes can also inform more granular action at the sector level. Notably, Chile’s Energy 2050 Plan used the MAPS process as a model for its broader strategic framework, engaged similar actors and stakeholders, and incorporated key modeling aspects.
- ◆ **Linking with near-term action:** Although Chile’s LEDSS analysis looked to 2030, it was also used to inform near-term actions, including development of four nationally appropriate mitigation actions, design of the Metropolitan Region Atmospheric Decontamination Plan to reduce local air pollutants in Santiago, and various actions through the World Bank Partnership for Market Readiness.
- ◆ **Innovative analysis:** Chile’s process also analyzed several areas that are critical for climate planning but sometimes overlooked. For instance, questions related to poverty alleviation, international market competitiveness, and connections across mitigation and adaptation measures were prioritized to align with broader national goals. Exploring these areas and the analytical rigor of the MAPS analysis process overall has made Chile a leader in LEDSS technical analysis (GGBP 2014).

## JUST TRANSITION ANALYSIS

As one key analysis topic of interest for LTSs, some work has been done by LEDCs countries to assess “winners and losers” associated with low-carbon pathways and to plan for just transitions within LEDCs processes. However, this is one area where long-term strategies could improve upon LEDCs, as many countries have not yet considered the just transition topic in great detail. In particular, many LEDCs have looked at potential benefits or positive impacts of climate actions but have focused less on assessing possible negative impacts on certain industries. In addition, within LEDCs processes, little work has been done to develop policies and actions to enable retraining and support for transitioning workers. Indonesia is one country that has taken action to integrate just transition considerations into its LEDCs processes. Work in Indonesia illustrates how this important area is improved through LTS processes.

### Indonesia’s analysis to support a green and just transition

As part of the country’s broader LEDCs process, the Government of Indonesia undertook a novel analysis to look specifically at the potential income impacts of climate actions on the poor. This analysis was particularly important for Indonesia, since the country emphasized just transition in its climate change planning process. It also recognized that the great dependence of poor communities on natural resources and ecosystem services required a targeted analysis of potential impacts. An analysis tool called the Indonesia Green Economy Model was used in specific provinces to look at income impacts related to natural resource degradation and depletion, as well as the green jobs that could be created. The analysis built on the Decent Green Jobs Indicator, developed by the International Labor Organization (ILO), and calculated green gross domestic product, which accounts for loss of natural capital due to environmental degradation and brings in specific indicators related to the incomes of poor communities (LECBP n.d.). In addition, Indonesia has also done targeted analysis to determine the impacts of fossil fuel reform on various communities and has been recognized as a leader in this area. The country has also ensured that this analysis does not sit on the shelf, using it to inform subsidy reallocations to social development

programs to support a more just transition, as shown in Figure 3 (IISD 2017). Based on these and other analyses, Indonesia is now fully integrating low-emission development into its next five-year national development plan, which is expected to be framed in the context of low-carbon development (New Climate Economy 2017). Over a longer time horizon, Indonesia will also be integrating climate planning into its Vision 2045 roadmap. Indonesia’s efforts to support just transition suggest several good practices and lessons that can inform LTSs:

- ◆ **Just transition analysis:** As demonstrated in Indonesia, analyses can be undertaken to support just transitions and show the impacts of climate action and inaction on the poorest communities. These analyses can bring together work through the ILO and other institutions to support development of country-specific models targeted at specific needs.
- ◆ **Effective stakeholder engagement:** Stakeholder engagement is key to informing analysis. In Indonesia, a diverse set of stakeholders from government, academia, the private sector, and nongovernmental organizations was brought together to inform the Indonesia Green Economy study, which took place over a six-month period (LECBP n.d.).
- ◆ **High-level leadership:** Following the fossil fuel subsidy analysis, strong presidential leadership helped link economic and social policy reforms. Through a whole economy approach, the president worked across various ministries and with civil society and the private sector to build support for the reforms. The reforms were also closely linked to the country’s broader LEDCs and national development plans.
- ◆ **Further work on monitoring and evaluation:** Further work is needed to monitor and evaluate the reforms over time and as international fossil fuel market prices fluctuate (LECBP 2014).

## ENABLING NEAR-TERM ACTION, FINANCE, AND IMPLEMENTATION

In medium- and long-term low-carbon planning, it is critical to link back and enable near-term action. Several countries developing LEDCs and sectoral low-carbon strategies have lessons to offer in this regard. In particular, many LEDCs countries are supporting actions to enable investment and



finance in technologies that are already cost-competitive, such as solar and wind. Cases from South Africa and Ethiopia provide lessons for linking climate plans back to near-term action.

## South Africa’s power sector plan linking with near-term action at the subnational level

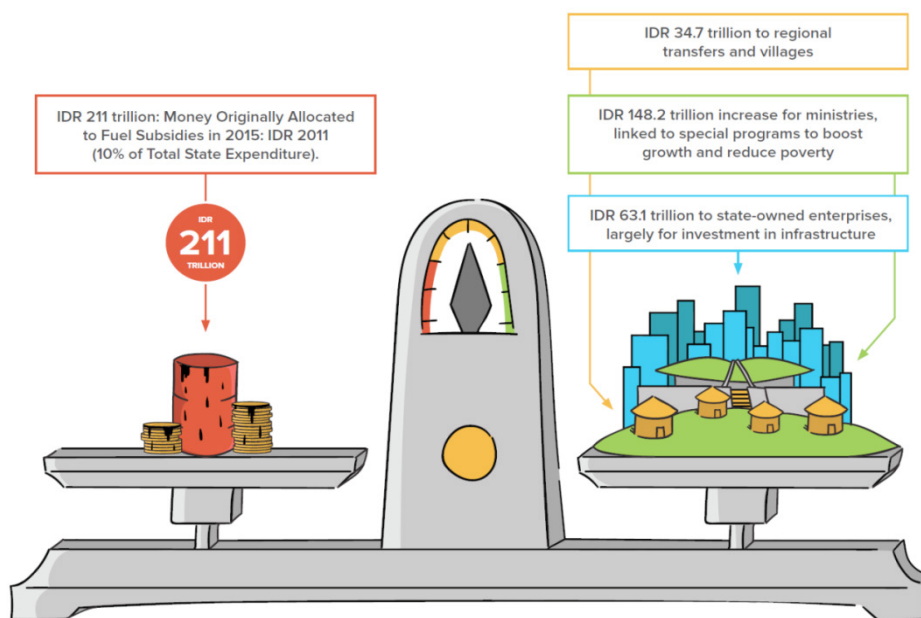
South Africa’s Integrated Resource Plan (IRP) set a target of 17.8 gigawatts of renewable electricity by 2030. The IRP integrates both development indicators (such as job creation) and climate indicators (i.e., GHG emissions) to support prioritization of future energy pathways and generation capacity mixes. As a complement to the IRP and RE target, the Renewable Energy Independent Power Producer Programme (REIPPP) was set up in 2011 to support private sector production of renewable energy and an auction process for procurement. In 2010, to support implementation of South Africa’s IRP and plan for the REIPPP, the Western Cape subnational government developed a green technology sector development agency called GreenCape, formerly called the Green Technology special purpose vehicle (SPV). The Western Cape government coordinated closely with

the national Ministry of Economic Development to establish the development agency, with many functions to enable implementation and investment in renewable energy projects, presented in Figure 4. The functions of GreenCape, which was established as an independent nongovernment entity, are closely aligned with the jurisdiction’s Green Economy Goals. The activities and roles of GreenCape have also changed over time in relation to evolving markets and technologies as presented in Figure 4. This case provides a clear example of linking power sector planning with near-term action to enable implementation and to support evolving implementation needs over time.

Work through GreenCape is estimated to have supported 17 billion rand (US\$1.2 billion) and the addition of over 2,700 jobs between 2010 and 2015. This case provides a strong example of a sectoral power plan leading to significant near-term action. It offers the following lessons and examples of good practices (LEDS Global Partnership 2016):

- ◆ **Enabling policy environment:** To enable near-term action linked with longer-term power sector planning, it is important to design and implement supportive renewable energy (RE) policies. In South Africa, the REIPPP has sent

**Figure 3. Fossil fuel subsidy reforms in Indonesia linked with broader LEDS and development plans**



Note: IDR = Indonesian rupiah.

Source: Pradipto et al. (2016).

investors a strong signal to support RE project development. However, the timely finalization of power purchase agreements, also a critical area, could be improved upon in South Africa (Climate Action Tracker 2019).

- ◆ **Local leadership:** Strong leadership and support from subnational governments can play a key role in linking power sector planning with near-term action. In the case of GreenCape, the Western Cape government aligned establishment of the agency closely with its Green Economy goals and overarching objective to become “the lowest carbon province in South Africa and the leading green economic hub of the African continent.” Western Cape effectively aligned goals within the national power sector plan and related policies with local goals to support implementation.
- ◆ **Diverse stakeholder engagement:** GreenCape prioritized creating strong links with local industry, government, and civil society to support diverse stakeholder engagement in planning for and implementing renewable energy activities. As a nongovernmental entity, GreenCape has been able to support implementation from a politically neutral and technically focused perspective.
- ◆ **Addressing evolving needs over time:** A strong focus was also placed on supporting evolving green economy needs over time. While GreenCape built its reputation initially on support for renewable energy projects, it has expanded

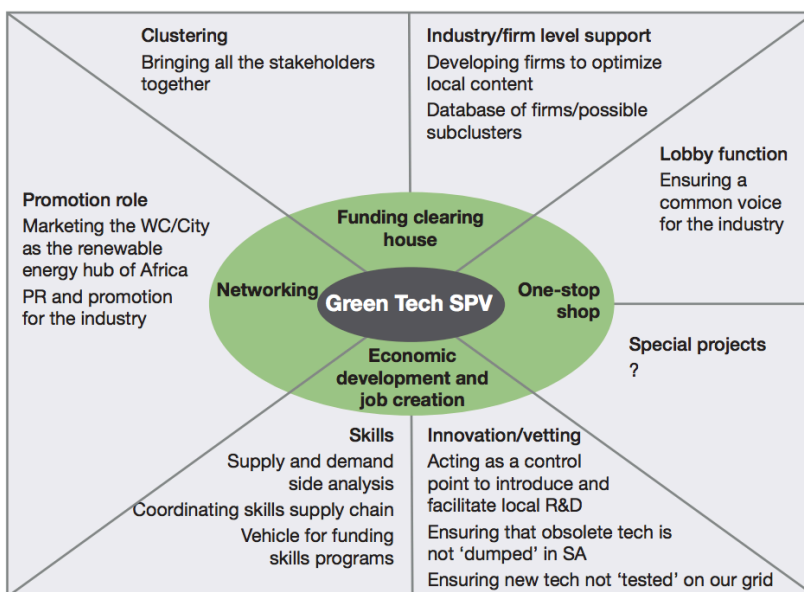
its scope over time to address other topics that intersect with renewable energy, such as action in the agriculture, water, and building sectors. This sector-coupling approach and dynamic business model has supported near-term action linked with broader power sector planning goals and objectives.

- ◆ **Further improvements:** While South Africa’s IRP has integrated climate metrics to analyze power generation portfolios, analysis shows that greater emphasis on greenhouse gas (GHG) emissions and a more ambitious renewable energy target would set the country on a stronger path toward low-carbon development (Climate Action Tracker 2019). Sector plans can be improved upon over time to raise ambition and align with broader long-term visions.

## Ethiopia’s establishment of a dedicated facility for near-term action implementation

As an important element of the country’s Climate Resilient Green Economy (GRGE) strategy, the Government of Ethiopia created a targeted pool of funds for implementation of actions in the strategy called the CRGE Facility. This facility allows for coordinated disbursement of funds based on priority actions in the strategy and mobilizes domestic and international funding. The facility was initially funded by domestic sources

Figure 4: GreenCape’s roles to enable near-term implementation of power sector actions



Notes: SA= South Africa; SPV = special purpose vehicle; WC = Western Cape.

Source: LEDS Global Partnership (2016).

and international partners and has created a process to submit proposals for “fast track investments,” with 20 investments currently funded (Partnership on Transparency 2014). Ethiopia’s experience with the CRGE Facility offers examples of good practices and lessons for countries to consider as they develop LTSs (Bird et al. 2017):

- ◆ **Enabling high-impact, near-term action:** Ethiopia’s CRGE Facility provides a mechanism to link longer-term planning with near-term action. Through a process to fund high-impact “fast track investments,” stakeholders in Ethiopia can access domestic and international funds for activities that must happen now to avoid lock-in of technologies and to support critical near-term investments.
- ◆ **Prioritizing across mitigation and adaptation:** The facility looks across mitigation and adaptation, providing an opportunity for linkage through actions that look holistically across these two areas. For instance, funding can be prioritized for projects that have a positive impact on both mitigation and adaptation.
- ◆ **High-level leadership:** The Ministry of Finance’s engagement for the Climate Resilient Green Economy Strategy more broadly provided an opportunity to develop this fund and set the stage for the ministry to lead implementation.
- ◆ **Effective stakeholder engagement:** The facility provides a common financial platform for many stakeholders across the public and private sectors and civil society to engage and consider funding for projects across many perspectives. The ability to leverage public funds through the facility also provides an attractive starting point for private investors.
- ◆ **Linking across funding mechanisms:** The facility also creates a strong platform for linking with the Adaptation Fund and the Green Climate Fund, with \$10 million approved by the Adaptation Fund in 2017 for a project on climate-smart integrated rural development.

## REFLECTIONS ON LEARNING FROM LEDSS TO SUPPORT LONG-TERM STRATEGIES

Based on the country experiences highlighted above as well as many others, LEDSS and sectoral strategies and processes can be built upon to support development of robust LTSs. In some cases, LEDSS may even be transformed into LTSs (also taking

into account the improvement areas noted below). A number of key LEDSS and sectoral strategy elements provide a strong foundation for LTSs to build upon:

- ◆ **Integration into development plans and goals:** Several LEDSS’ processes have enabled integration of climate goals into development planning. These achievements can be built upon through LTS efforts to, in some cases, further “solidify” the integration through explicit budget allocations, monitoring and reporting processes, and so on. LTSs can also support countries by considering even loftier development visions that align with a longer time period (e.g., out to 2050).
- ◆ **Stakeholder engagement and governance:** Robust stakeholder engagement and multilevel governance approaches and structures have been established through many LEDSS and sectoral planning processes. These governance frameworks and the actors engaged can provide a strong foundation for development of LTSs.
- ◆ **Scenario building, analysis, and prioritizing actions:** Scenario development and impact analysis through LEDSS can be built upon to consider a longer time frame. In many cases, robust analysis has been undertaken through LEDSS that can provide useful data, information, and modeling inputs and outputs for LTS development. In addition, technical teams engaged with LEDSS scenario development and analysis can also be engaged and serve as leaders for LTS processes. In some cases, LEDSS analyses have also considered just transitions, but this is an area that can be improved upon through LTSs, as described below.
- ◆ **Near-term action, finance, and implementation:** Many LEDSS and sector strategies have also effectively linked up with and supported near-term action. In many cases, these actions have focused on implementation of technologies that are already cost-competitive, such as wind and solar. However, and as noted below, there is an opportunity for LTSs to improve upon LEDSS in this area to further consider innovations over time and more explicitly support investments to avoid lock-in of carbon-intensive technologies.

Building on the elements noted above, LTSs can also **improve upon** LEDS efforts in key areas:

- ◆ **More ambitious visioning:** While LEDSs often provide a strong vision for medium-term planning (e.g., out to 2030), LTSs offer an opportunity to develop even “bigger/ loftier” visions for large-scale transformation and deep decarbonization over the long term (e.g., out to 2050 or beyond).
- ◆ **Scenario building, analysis, and prioritizing actions:** While LEDSs provide a good starting point for climate- and development-focused pathway design and analysis, even further data collection and granularity is needed. Specifically, through LTSs, deeper analysis can be undertaken on the evolution of technologies (e.g., anticipated technology costs over time under different scenarios), business models and markets to ensure flexibility (especially considering current and potential innovations in business models and markets related to digitalization, etc.), and ways to avoid lock-in and support large-scale transformation (e.g., consideration of innovative disruptions over the longer term).
- ◆ **Resilience:** Several countries have developed high-level visions and goals to support both climate mitigation and resilience under broader low-emission, climate-resilient development plans. However, these two elements need to be further integrated. For example, more integrated analytical processes could consider technologies and measures that will maximize both mitigation and resilience benefits. While actions and measures to support mitigation and resilience are proposed in many LEDSs, the stakeholders and analytical processes to consider the measures are still largely siloed. LTSs can provide an approach to further link up these two critical areas and maximize benefits over the long and near term.
- ◆ **Just transition:** While some countries have started to consider just transitions through LEDSs and sectoral strategies, there is a need for much deeper analysis of “winners and losers” and other equity issues related to climate and development plans. This will require further engagement of stakeholders who could be negatively impacted by climate measures as well as more in-depth analysis of potential positive and negative impacts across various societal groups. In addition, and based on analysis,

design and implementation of key activities to support just transitions (e.g., worker retraining, redistribution of fossil fuel subsidy reform funds, etc.) should be a dedicated element of LTS plans and processes.

- ◆ **Near-term action, finance, and implementation:** While many countries have effectively linked LEDSs with near-term action to enable implementation of cost-competitive technologies, there is a need for further support of near-term actions that will avoid stranded assets, support flexibility for uptake of new and transformative innovations, and enable research and development as well as workforce development. LTSs offer a unique opportunity to enable these near-term actions, which are related to longer-term planning. For instance, large-scale carbon intensive technologies, such as coal-fired power plants, often have a very long lifespan and thus can be effectively assessed through LTS processes. In addition, looking into the future to consider technology innovations and the need for flexible systems to accommodate these technologies also lends itself to longer-term planning processes. Finally, research, development, and deployment; building business capacity; and workforce development will be critical in developing long-term and sustained innovation ecosystems at the local level and can be further evaluated and integrated into LTSs.

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