Investment Mobilization Measures Roadmap for the Dominican Republic

September 2020

Draft document developed by NREL for SouthSouthNorth, Lead Implementer for the German International Climate Initiative Mobilizing Private Investment Grant
Introduction

The Mobilising Investment (MI) project for Nationally Determined Contribution (NDC) implementation is a three-year program funded by the German International Climate Initiative (IKI) that was initiated in 2017. The purpose of the program is to work with public and private sector and other development and civil society stakeholders to identify priority opportunities for mobilizing private sector investment into NDC areas. The MI project was jointly implemented by SouthSouthNorth (SSN), PwC, and NREL with each organization taking the lead in 2-3 countries. NREL’s lead countries included Vietnam, the Philippines, and the Dominican Republic (DR).

The intent of this report is to develop a high-level roadmap that can offer guidance for the implementation of measures to drive private sector capital into priority clean energy sectors within the DR. It has been prepared for use by government and development partner counterparts to promote investment in clean energy. Similar reports have been authored for each of the other seven MI project countries (Bangladesh, Ethiopia, Kenya, Peru, the Philippines, and Vietnam). The opportunities identified within this roadmap build off of the past three years of in-country NREL engagement and leverage the knowledge and resources developed by the team since the inception of our work in the DR. Our insights have been shaped primarily as an outcome of extensive stakeholder consultations with the public sector, utilities, the private sector, civil society, development organizations, and financial institutions. This document leverages heavily the forthcoming 2020 NREL technical report, “Assessment of the Dominican Republic’s Commercial and Industrial Energy Efficiency Sector,” authored by Jonathan Morgenstein, Bethany Speer, and Ricardo Castillo.

The investment mobilization measures highlighted within this report are largely not technology focused, but center on mobilizing investment towards energy efficiency (EE) and other clean energy technologies, such as distributed solar. The measures include a combination of follow-on activities that NREL and/or other development partners could support through technical assistance or capacity building programs as well as specific actions for government power sector stakeholders to implement. Given that previous deliverables under NREL’s subgrant to SSN described relevant business models and investment cases, this report does not go into great depth on those aspects. The measures identified here center on those that are most feasible for near-term implementation and in some cases include measures towards which initial progress has been made. As this report is being drafted in September 2020, the implications of the COVID-19 pandemic and economic downturn are also considered.

Country Context

In 2015, the DR submitted its NDC with a conditional emissions reduction target of 25% from base year emissions by 2030.¹ On 11 December 2018, in the context of the COP 24 conference in Katowice, Poland, the Dominican government released an official NDC Plan of Action articulating their “priorities for the 2019-2021 period regarding legislation, finance and budgeting, monitoring and evaluation, and capacity

¹ Intended Nationally Determined Contributions - DR (INDC-DR)
https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Dominican%20Republic%20First/INDC-DR%20August%202015%20(unofficial%20translation).pdf
https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Dominican%20Republic%20First/INDC-DR%20August%202015%20(unofficial%20translation).pdf
building to strengthen climate action." While the action plan includes some promising goals and programs, the plan has yet to be implemented, partly due to ongoing revisions to the NDC. An updated NDC Plan of Action is anticipated to be released in the first half of 2021.

The DR also has a 2007 Law on Incentives for Development of Renewable Energy Sources and its Special Regimes. A 2013 law established the Ministry of Energy and Mines and the Vice Ministry of Governmental Energy Savings. In 2018, the DR government announced several key clean energy actions, including prohibiting fluorescent lightbulbs, and transitioning to LEDs and improving the efficiency of electricity distribution systems. More recently, the Ministry of Energy and Mines (MEM) drafted legislation on an EE goal to reduce energy consumption by 13.2% by 2030. As of September 2020, the legislation was being considered, although the ongoing transition to a new administration may slow the process for further review and debate.

Achieving these clean energy targets will not only help the DR to reduce emissions, but also to lower its reliance on imported oil and natural gas and reduce related costs. To mitigate the effects of high oil prices and volatile oil and natural gas prices on electricity end-users, the DR government subsidizes utility tariffs. In 2018 and 2019 alone, the DR government spent 2.5% of its budget on power subsidies. Despite the subsidies, high electricity prices continue to impact the local business environment. Companies in the DR report that electricity costs are the most significant obstacle to their operations, second only to corruption. Thus, there is significant opportunity for the DR to not only utilize lower emission fuel sources, but by doing so, to also reduce public sector expenditures on subsidies and private sector business electricity costs.

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5 Email exchange with Consejo Nacional para el Cambio Climático y el Mecanismo de Desarrollo Limpio’s Planning and Development Division. July 17, 2020


9 Source: Dirección de Regulación. “Evolución del Fondo de Estabilización de la Tarifa (Decreto 302-03).” Provided via email on June 29, 2020 by Senior Economist from Dominican Republic Ministry of Energy’s Dirección de Regulación, Superintendencia de Electricidad.


Summary of Key NREL Efforts in the DR

NREL has been actively working in the DR since 2017, beginning with conducting scoping trips from fall of that year through early 2018. The purpose of the trips was to convene with key stakeholders, understand the main market challenges and past successes, and identify ongoing activities and opportunities for partnership. Example engagements include meetings with Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, the Climate Change Office, the National Energy Commission, Ministry of Energy (MEM), a utility, the Ministry of Environment, the British and U.S. embassies as well as the French Development Agency (AfD), the World Bank, the Inter-American Development Bank (IADB) and local clean energy businesses and business associations. NREL also met with local financial institutions to explore potential mechanisms and funds that could support local green energy investments. One key outcome from these initial meetings was establishing a joint work plan with GIZ that complemented their German IKI supported efforts in the DR to advance clean energy deployment. A second key outcome was initial agreement with the local association of industrials (AIRD) to jointly develop an EE training program for its member companies.

A key learning from these engagements was that despite the potential for energy and monetary savings through EE upgrades in the DR commercial and industrial (C&I) sector, very few private sector companies have explored such investments. There appear to be multiple reasons behind the lack of interest in EE investments. One such factor is limited capacity by companies to self-identify EE improvements. Additionally, there is only a limited energy services sector, indicated by a very small number of active energy services companies (ESCOs) successfully developing robust project pipelines. A third challenge is one faced by C&I ESCOs in any environment but appears especially pronounced within the Dominican business culture: EE investments are seen to compete with other corporate investments that may be viewed as more central to a business’s success. Lastly, there is a lack of cost-effective financial instruments. Financing costs in the DR are reportedly relatively high to comparable markets, and banks may not provide sufficiently long tenors to appeal to companies in the DR; this is exacerbated by the common practice of requiring fixed time periods on return on investment without much consideration to the cash flow savings throughout the lifespan of the project. Also, while development banks may offer private sector support mechanisms, often project sizes in the C&I sector may be too small meet a larger bank’s minimum project size requirements.

Through its work under the MI project, NREL has engaged in an ongoing series of workshops to educate the market on EE investment financing and its monetary benefits to all parties involved. In our inaugural on-site workshop, co-hosted with DR’s largest business group, AIRD, NREL worked directly with 37 representatives of potential major private sector EE investors, and two of the top financing institutions in the country. NREL also co-launched a new green finance task force that seeks to mobilize new resources to facilitate clean energy investments. The consortium brings together the DR government, international and local finance institutions, and bilateral partners that have agreed on the viability of green investment opportunities in the DR and that jointly recognize gaps in the current finance offerings. It includes groups such as the Stock Market Superintendent, the Stock Market Exchange, the International Finance Corporation, GIZ, the Ministry of Energy and Mines, the Inter-American Development Bank, and the French Development Agency. The partners are coordinating capacity building and green finance standards development to further the advancement of new banking and green bond facilities in the country.

Additionally, NREL worked with GIZ, the DR government, and others to produce techno-economic analysis of compensation mechanisms for solar distributed energy in the DR. The government has long viewed their current net metering compensation scheme as requiring adjustment in order to make it a long-term,
sustainable policy that can support increasing solar development. NREL worked with several stakeholders to analyze the net metering and other incentive structures. The results are aimed at influencing some of the financing mechanisms for the installation of distributed generation solar systems in the residential, commercial, and small industrial subsectors, while ensuring the solvency of the government long-term incentive.

Barrier Identification

Several barriers to mobilizing investment in NDC priority areas, with a focus on clean energy, have been identified through extensive ongoing engagement with key stakeholders and were detailed in the previous section. Table 1 below outlines these barriers, provides a description, and offers measures and suggests key stakeholders that may play a role in addressing these barriers.

Table 1. Investment Mobilization Barriers in the DR

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Description</th>
<th>Investment Mobilization Measure</th>
<th>Stakeholders Responsible</th>
</tr>
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<tbody>
<tr>
<td>Lack of access to capital</td>
<td>There are limited affordable debt financing and loan structures specific to clean energy</td>
<td>Provision of local green financing through 1) loan guarantees and other mechanisms to reduce underwriting risks to local banks; 2) Issuance of green bonds to provide additional sources of capital; 3) Training for local banks</td>
<td>MEM, Stockmarket Superintendent, local financing institutions, IADB, International Finance Corporation, AfD</td>
</tr>
<tr>
<td>Nascent EE services sector</td>
<td>Lack of locally-based, comprehensive ESCOs (especially that provide third-party financing for EE upgrades)</td>
<td>National EE procurement programs to attract development of ESCOs, including through aggregated procurements</td>
<td>MEM</td>
</tr>
<tr>
<td>Lack of incentives or other enablers</td>
<td>Companies are not incentivized through public support mechanisms</td>
<td>Development of incentives to attract private sector investment in EE with opportunities identified and supported through: 1) Training government partners on best practices for creating the legal and regulatory environment that can support private sector investments in clean energy and 2) Providing deep-dive, objective</td>
<td>MEM, Dominican Tax Administration, Instituto Dominicana para Calidad (INDOCAL)</td>
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Lack of local qualified energy auditors

Energy auditors are required to identify viable and appropriate cost savings opportunity

Development of a technical training curriculum together with a local educational or training institution

MEM

Limited private sector capacity to identify projects

Limited capacity among regional EE professionals to assess more complex investment opportunities.

Continued capacity building among private sector industry groups

MEM, AIRD, EcoRed, NREL

Development and Prioritization of Investment Mobilization Measures

NREL has identified several key areas for mobilizing additional private sector investment in the DR. Table 2 summarizes these measures and lists them in order of perceived potential impact. The barriers addressed, intermediate and medium-term steps, the long-term goals, and the stakeholders responsible are also described. The investment mobilization measures are detailed in the following section.

Table 2. Shortlist of Investment Mobilization Measures for Clean Energy in the DR

<table>
<thead>
<tr>
<th>Implementation Measure</th>
<th>Barrier Addressed</th>
<th>Immediate- and Medium-Term Steps</th>
<th>Long Term Goal</th>
<th>Stakeholders Responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure 1: Provision of local green financing</td>
<td>Lack of access to capital</td>
<td>Assess opportunities for new mechanisms such as loan guarantees, green bonds, and training for banks to improve the availability of green energy loans</td>
<td>Businesses in the DR can access affordable financing for a variety of clean energy projects</td>
<td>MEM, Stockmarket Superintendent, local financing institutions, IADB, IFC, AfD</td>
</tr>
<tr>
<td>Measure 2: Government procurements of EE services sector</td>
<td>Nascent EE services sector</td>
<td>Identify government EE pipelines</td>
<td>The DR government has tapped all low-cost, quick-payback EE investments for public uses and has helped spur a more robust EE services market through clear demand signals</td>
<td>MEM</td>
</tr>
</tbody>
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Measure 3: Development of incentives to attract private sector investment in EE

| Measure 3: Development of incentives to attract private sector investment in EE | Lack of incentives or other enablers | Identify gaps in current policy framework and programs that could best leverage limited public funds | Commercial and industrial customers utilize available support mechanisms and eventually create markets with economies of scale that drive down costs, reducing the need for incentives | MEM, Dominican Tax Administration, INDCAL |

Measure 4: Development of a technical EE training program

| Measure 4: Development of a technical EE training program | Lack of local qualified energy auditors | Training partners are identified, and a curriculum is developed and implemented | Multiple well-qualified and experienced EE service companies exist in the market and create competition, ensuring cost effective provision of energy savings contracts | MEM |

Measure 5: Continued capacity building among private sector industry groups

| Measure 5: Continued capacity building among private sector industry groups | Limited private sector capacity to identify projects | Training partners are identified, and a curriculum is developed and implemented | Commercial and industrial customers actively manage energy use and self-identify potential investment opportunities | MEM, AIRD, EcoRED, NREL |

**Measure 1: Provision of Local Green Financing**

The local banking sector in the DR can play an important role in enabling private sector investment in clean energy. However, through ongoing consultations with stakeholders, NREL has learned from industry groups that there is limited availability of affordable long-term clean energy financing mechanisms within the DR. There may be opportunities for government, development and financial institutions, and bilateral collaborations with other foreign governments to work with the DR government and the local banking sector to improve availability of clean energy finance mechanisms. Three key mechanisms that could be utilized include:

1. **Training for Local Banks:** Given limited experience in the DR with clean energy finance, many banks may not have had the opportunity to create in-house expertise that can advise on the risks and financial profiles of green loans. Development, financial, and bilateral partners can work with local banks in the DR to provide training on the latest information and best practices for clean energy investments, including recent cost trends, common business models, project risks, and risk mitigation approaches. Trainings could also support utilization of tools, such as term sheet templates as well as adoption of The Green Loan Principles, which promote transparency in project selection, fund allocation, and reporting.  

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1.B. Loan Guarantees and Other Credit Enhancement Mechanisms: Loan guarantees can be provided by a third party to a local bank as an assurance of partial or full loan repayment in the event the borrower defaults, thereby reducing the underwriting risks to local banks. International, regional, or national development banks could work with local banks in the DR to provide such a guarantee for an identified group of qualifying clean energy loans.

1B. Issuance of Green Bonds: Green bonds can provide an additional source of capital to local debt issuers including the national government, national development banks, companies, and local financial institutions. Financial regulators and central banks can incentivize or require local banks to provide green financing through a mix of “regulations, guidelines, taxation, fiscal and non-fiscal incentives, and award schemes” (World Bank 2020).

Within this investment roadmap, NREL has identified Measure 1.A. Training for Local Banks as a priority measure and further detailed it in the subsequent section of this report.

Measure 2: Government Procurements of EE
Not only do governments set energy policy and national plans, but they are also significant energy consumers. For example, governments use energy for building HVAC systems and lighting, outdoor lighting (e.g., along roadways), and police and military facilities. Many government entities inhabit the same buildings for multiple decades, and thus these buildings often present opportunities to upgrade to more efficient systems that use less energy. In the United States, federal and state governments have utilized Energy Savings Performance Contracting (ESPC) to enter into performance-based contracts with an ESCO. The government entity does not pay up front, but instead pays for the contract through energy savings, and receives additional savings through lower energy bills. The U.S. Department of Energy estimated that ESPCs can save government entities in the U.S. between 15 to 35% off their energy bills (U.S. DOE). Of course, these numbers may be different for entities in the DR, depending on how efficient existing systems are, how much entities are spending on their energy bills, etc.

By procuring EE investments through ESPCs, the DR government can not only save money on government energy expenditures, but it can also help create a demand signal to the market, attracting qualified energy providers and demonstrating projects that could be replicated by other large, private sector entities. ESPCs can also be combined with water efficiency and solar energy installations for more holistic sustainability improvements.

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15 Examples of state ESPCs can be found here: [https://database.aceee.org/state/energy-savings-performance](https://database.aceee.org/state/energy-savings-performance)
There are several steps the DR government could undertake to support public EE procurement, including:

- Providing a revolving loan fund to support qualifying ESPC contracts
- Developing guides, best practices, and toolkits on ESPCs for government entities to support project replication
- Developing standardized ESPC mechanisms for use by government agencies
- Providing a team of technical experts to help government agencies navigate the ESPC process (ACEEE 2020)
- Training to building management staff to ensure that EE improvements are maximized
- Providing financing through green bonds or other bond issuances

Measure 3: Development of Incentives to Attract Private Sector Investment

One of the key drivers for EE investments are utility electricity retail rates. In the DR, these rates are subsidized and thus the rates that commercial and industrial end-users pay may not reflect the actual cost of energy. A key enabler to EE investments in the DR would be removal of subsidies to encourage investments in energy cost savings. However, this is often a politically contentious decision.

In lieu of subsidy removal, there are a variety of other enablers that governments can use to promote clean energy investments by the private sector.

- Tax benefits: Tax benefits can include reductions in sales or income tax and have been widely used by many governments. One challenge with tax benefits is that they do not reduce the upfront cost of investments, which the consumer must still pay in full.
- Rebates and cash grants: Rebates and cash grants can be provided to encourage consumers to replace older appliances and equipment with more efficient versions and help cover a portion of the total cost. It is important that older equipment is not resold on the market as that could result in a rebound effect of increased energy usage and associated emissions.

Measure 4: Development of a Technical EE Training Program

Energy auditors fill a vital role in the energy services market. Energy auditors can identify key opportunities for improving the EE of facilities by measuring energy usage and determining areas where energy is being wasted. Energy auditors can also help ensure that energy improvements that are made are operating as expected and that the estimated energy saving levels are being achieved. Energy auditors require training to understand building construction, electronics, and energy conversion. It is important that energy auditors are well trained, otherwise they could recommend improvements that may not be cost effective or may not recognize projects that are underachieving. If customers have a poor experience with energy services contracts, it could put the market reputation at risk and deter future investments.
Given the relative nascency of the energy savings contracting market in the DR, there are likely few well trained energy auditors in the country. It also does not appear that there are any existing energy auditor training programs. The DR together with local educational institutions could work with international organizations to develop an energy auditor training and certification program. Additionally, these training efforts could be tied with other investment mobilization measures. For example, public procurements of EE contracting should only be with those firms that have achieved certification from the local DR training institution or an equivalent international organization. Similarly, incentive programs, especially for any larger incentives for significant energy improvements by commercial or industrial end-users, could include a requirement that energy improvements are identified by a qualified energy auditor.

**Measure 5: Continued Capacity Building among Private Sector Industry Groups**

NREL initiated training with companies in the DR through a 2019 workshop with AIRD as well as via feasibility assessments and consultations. While these trainings and technical assistance were effective in helping local companies to understand the opportunities for investing in EE and other clean energy and water technologies, only a limited number of companies were reached during these initial efforts. Additional trainings as well as project pipeline development support could be provided to more companies and through additional industry groups, such as EcoRED which is a network of environmentally minded corporates in the DR. This effort could feed into the first investment mobilization measure by working with local banks to connect them with companies that have identified viable clean energy projects.

**Investment Mobilization Measure Roadmap**

NREL has identified building capacity of the local banking sector as a priority investment mobilization measure given:

- Repeated refrains of the lack of access to capital as a major barrier to clean energy investment by the private sector
- Ongoing efforts by the DR government to further develop the enabling environment and a desire to await the outcomes of the emerging EE legislation before identifying further opportunities to develop that framework
- Initial momentum among development partners to collaborate on furthering a green finance market within the DR, as demonstrated through formulation of the green finance task force

Most of the local clean energy finance that has taken place to date in the DR has been for distributed energy projects. Many larger RE projects are financed by international institutions, but domestic banks must be included in the financing for RE and EE projects. However, for this to work much more training and capacity building for banks is required. It also requires sufficient trust by local investors that the cost of financing for new technologies are declining. Processes need to be transparent for national investors in the same way they are for international investors. With the example of net metering, investment only materialized after technical issues were identified and solved. The private sector can buy or acquire more RE when there is more to invest in easily.

There are several steps needed to develop a clean energy finance training program for local banks, which are detailed below.
Step 1: Validate investment opportunities with local stakeholders
NREL has previously assessed viable investment opportunities, which are described in the 2020 NREL technical report, “Assessment of the DR’s Commercial and Industrial EE Sector.” However, these warrant validation with local and development stakeholders to ensure that there have not been recent changes to the investment environment and that these opportunities are confirmed to have the most potential to attract private sector borrowers within the DR. Based on previous consultations with the private sector, focus should be put on those types of investment that can offer short payback periods, e.g., 1-3 years. This may exclude projects such as new HVAC systems or energy management systems that require longer repayment terms (EPA 2017).

Step 2: Identify training partners
In order for the training program to be effective, it will be vital to engage the appropriate local stakeholders and development partners. An initial list of potential partners includes the Inter-American Development Bank, IFC, Stock Market Superintendent, GIZ, MEM, AfD, local banking institutions and NREL.

Step 3: Assess institutional readiness
Once the core group of training partners has been established, this group can work together to further assess the readiness of local banks. A readiness assessment should consider:

1) The current roles of the financial institutions within the market
2) The short- and long-term objectives of the financial institutions
3) The business model that the institution would need to utilize to achieve stated goals

Additionally, further assessment regarding clean energy capabilities should be undertaken and could include understanding the financing institutions’:

1) Experience and challenges with clean energy finance to date
2) Internal structure and approach to assessing new technologies and business models
3) View of clean energy risks and mitigation approaches
4) Existing clientele and demand for clean energy financing to date

Step 4: Develop a training approach
Based on the aforementioned steps of validating priority investment opportunities, developing a training implementation team, and assessing local banks’ capabilities, the team will be well suited to then define a training approach. NREL has generally found that ongoing, in-person trainings implemented together with local partners is the most effective means for building long-term capacity. However, in-person trainings could also be supplemented with virtual engagements, especially those that may include international peer exchanges, such as enabling DR financial institutions to learn from experiences from other banks within the Caribbean or Latin America.

In addition to in-person and virtual trainings, knowledge products and tools can be developed that can enable partners to more quickly institutionalize new financial product offerings. Examples include sample term sheets for clean energy projects; case studies; green lending standards; frameworks and handbooks; and data and tools for assessing risk; and risk mitigation best practices. Training could also cover how to integrate green financing programs with marketing to ensure that customers utilize the programs and understand how energy audits and project installation can be integrated with the
financing process. Although originally put together with a focus on Southeast Asia, this toolkit from Allotrope Partners that was developed as part of a Greening the Banks initiative serves as a good example of a starting point for providing local banks in the DR with a set of knowledge resources: https://www.allotropepartners.com/greenfinanceresources/#Risk.

Step 5: Implement training and provide ongoing support

The implementation team will need to work with the trainees to understand and cater to their preferences in terms of training lengths, timing, and cadence. An intensive training program delivered over 1-2 years may be sufficient to build initial local capacity, especially if that can be supplemented by ongoing support. Ongoing support could take the form of virtual consultations with development bank partners, peer exchanges, and technical reviews of draft lending documentation.

Next Steps and Conclusion

The DR government has taken initial important steps to providing a positive enabling environment for clean energy by setting key targets. However, there is a need to build on existing frameworks to provide additional incentives, regulations, and program that can further spur investment. Sustained capacity building programs with local banks and companies can help ensure that the private sector is actively engaged in the energy transition and that limited government funding is effectively leveraged.

Building on existing efforts, the new DR government has already announced additional clean energy plans, such as merging the three electricity distribution companies into one consolidated entity. This would harmonize all pertaining regulations and avoid different interpretations of the existing mechanisms that allow for the interconnection of renewable energy systems. Another consideration the government is making is potentially converting the Punta Catalina coal power plant into a biomass plant.

While these new announcements are important and provide indication that the new DR government is interested in advancing clean energy, additional support is still needed in order to further development the national clean energy market. As noted in the report, there are many international, regional, and local stakeholders that are keen to advance shared clean energy objectives. It will be vital for these partners to continue to work with the DR government to build local capacities to ensure that national clean energy goals are met and that the economic benefits can be widely experienced throughout the country.

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