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SIMULTANEOUS DISCLOSURE

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

DOMINICAN REPUBLIC

IMPLEMENTATION OF THE DOMINICAN REPUBLIC'S ENERGY EFFICIENCY PROGRAM

(DR-L1122)

LOAN PROPOSAL

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LINKS

REQUIRED

1. Multiyear project execution plan and Annual work plan
2. Monitoring and evaluation plan
3. Environmental and social management report
4. Procurement plan

OPTIONAL

1. Economic evaluation
2. Documentary and exploratory evaluation
3. Expansion of the technical evaluation
4. National Development Strategy 2030
5. Environmental and social analysis
6. Program Operations Manual
7. Safeguard policy filter and Safeguard screening form

ABBREVIATIONS

CDEEE	Corporación Dominicana de Empresas Eléctricas Estatales [Dominican Corporation of State-owned Electric Power Companies]
CGRD	Contraloría General de la República Dominicana [Office of the Comptroller General of the Dominican Republic]
CNE	Comisión Nacional de Energía [National Energy Commission]
CORE	Cofinanciamiento para Energía Renovable y Eficiencia Energética [Co-financing for Renewable Energy and Energy Efficiency]
ECLAC	Economic Commission for Latin America and the Caribbean
EDE	Empresa de Distribución Eléctrica [Power distribution company]
ESA	Environmental and social analysis
ESMP	Environmental and Social Management Plan
GWh	Gigawatt-hour
ICB	International competitive bidding
IPP	Independent power producer
JICA	Japan International Cooperation Agency
$ktCO_2e$	Kilotons of carbon dioxide equivalent
LED	Light-emitting diode
LGE	Ley General de Electricidad [General Electric Power Law]
MEM	Ministry of Energy and Mines
MSMEs	Micro, small, and medium-sized enterprises
O&M	Operation and maintenance
PNEE	Plan Nacional de Eficiencia Energética [National Energy Efficiency Plan]
QCBS	Quality- and cost-based selection
SENI	Sistema Eléctrico Nacional Interconectado [National Interconnected Electric Power System]
SGFP	Sistemas de gestión de las finanzas públicas [Public finance management systems]
SIE	Superintendencia de Electricidad [Superintendency of Electric Power]
SIEN	Sistema de Información Energética Nacional [National Energy Information System]
SNCC-RD	Sistema Nacional de Compras y Contrataciones Públicas [National Public Procurement and Contracting System]
tCO_2e	Tons of carbon dioxide equivalent

PROJECT SUMMARY

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<table>
<tr><th colspan="5">Financial Terms and Conditions</th></tr>
<tr><td colspan="3" rowspan="2">Borrower: Dominican Republic</td><td colspan="2">Flexible Financing Facility[a]</td></tr>
<tr><td>Amortization period:</td><td>25 years</td></tr>
<tr><td colspan="3" rowspan="2">Executing Agency: Dominican Corporation of State-owned Electric Power Companies (CDEEE)</td><td>Disbursement period:</td><td>4 years</td></tr>
<tr><td>Grace period:</td><td>5.5 years</td></tr>
<tr><td>Source</td><td>Amount (US$)</td><td>%</td><td>Interest rate:</td><td>LIBOR-based</td></tr>
<tr><td>IDB (Ordinary Capital):</td><td>39,000,000</td><td>52.0</td><td>Credit fee:</td><td>[b]</td></tr>
<tr><td rowspan="2">Additional resources – Japan International Cooperation Agency (JICA): [e]</td><td rowspan="2">36,000,000</td><td rowspan="2">48.0</td><td>Inspection and supervision fee:</td><td>[b]</td></tr>
<tr><td>Original weighted average life:</td><td>15.25 years</td></tr>
<tr><td>Total</td><td>75,000,000</td><td>100</td><td>Approval currency:</td><td>U.S. dollar</td></tr>
<tr><th colspan="5">Project at a Glance</th></tr>
<tr><td colspan="5">Project objective/description: The general objective of the program is to reduce the public sector's electricity consumption and contribute to the reduction of greenhouse gas emissions, by performing technology upgrades and implementing energy efficiency measures in street lighting in priority areas to support citizen security and tourism. The specific objectives are: (i) to reduce the consumption of imported fossil fuels for power generation and, consequently, public expenditure; (ii) to deploy digital or other technologies to improve management of street lighting; and (iii) to build capacity for the management of efficient technology among personnel at government institutions.</td></tr>
<tr><td colspan="5">Special contractual conditions precedent to the first disbursement of the loan: As conditions precedent to the first disbursement: (i) the program Operations Manual has been prepared and is in effect, pursuant to the terms agreed upon with the Bank (paragraph 3.6); and (ii) a technical specialist in street lighting has been hired for the project execution unit (paragraph 3.3).
Special contractual conditions of execution: (i) Prior to initiating the tendering process for services to prepare the technical designs for component I of the program, the CDEEE will confirm the priority citizen security and tourism areas for the installation of luminaires, in accordance with the information provided by the competent authorities (paragraph 3.4); and (ii) prior to installing luminaires, the CDEEE will present evidence of having identified ownership, maintenance obligations, and the cost associated with the street lighting (paragraph 2.10). See the environmental and social conditions in Annex B to the Environmental and Social Management Report as well as in Annex III (Fiduciary Agreements and Requirements).</td></tr>
<tr><td colspan="5">Exceptions to Bank policies: None.</td></tr>
<tr><th colspan="5">Strategic Alignment</th></tr>
<tr><td colspan="2">Challenges:[c]</td><td colspan="3">SI ☐ PI ☑ EI ☐</td></tr>
<tr><td colspan="2">Crosscutting themes:[d]</td><td colspan="3">GD ☐ CC ☑ IC ☑</td></tr>
</table>

[a] Under the terms of the Flexible Financing Facility (document FN-655-1), the borrower has the option of requesting changes to the amortization schedule as well as currency and interest rate conversions. The Bank will take operational and risk management considerations into account when reviewing such requests.

[b] The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors as part of its review of the Bank's lending charges, in accordance with the applicable policies.

[c] SI (Social Inclusion and Equality); PI (Productivity and Innovation); and EI (Economic Integration).

[d] GD (Gender Equality and Diversity); CC (Climate Change and Environmental Sustainability); and IC (Institutional Capacity and Rule of Law).

[e] This is joint co-financing under the IDB-JICA framework agreement "Co-financing for Renewable Energy and Energy Efficiency (CORE)," signed on 16 March 2012, and its subsequent amendments. Approval of JICA co-financing is scheduled for the first quarter of 2020.

I. DESCRIPTION AND RESULTS MONITORING

A. Background, problem addressed, rationale

1.1 **Macroeconomic and fiscal situation.** The Dominican Republic has recorded economic growth of 5.3% in real terms over the last decade,[1] outpacing Latin America and the Caribbean as a whole, which grew by an average of 1.8%. Cumulative growth in 2018 ended at 7%, compared to official estimates of 5.5% to 6%. By May 2019, however the pace had slackened to 5.1% owing to the heightened international and domestic uncertainty that has impaired the investment climate and hindered aggregate demand. By year-end, growth is expected to be around the 5.0% to 5.5% target, supported by the monetary stimulus provided by the authorities to confront the slowdown; however, the balance of risk remains on the upside, given greater international uncertainty, exogenous shocks to the tourism sector, and a larger-than-planned hike in oil prices. The country is also highly vulnerable to natural disasters[2] and depends on the course of the economy of its main trading partner, the United States. In the medium term, government projections see real GDP moderating to rates averaging 5% between 2020 and 2022.[3]

1.2 The fiscal consolidation process that was launched in 2012 is currently stalled. The consolidated public sector deficit came in at 3.8% of GDP in 2018 (4.5% in 2017), which brought the consolidated public debt to 50.6% of GDP in late 2018. One of the chief sources of fiscal pressure is the electric power sector, which posted deficits averaging 1.2% of GDP between 2000 and 2014. Since then, the fall in international oil prices caused current transfers to decline by as much as 0.4% of GDP in 2018. Although major hikes in crude oil prices are not expected in 2019, unforeseen price shocks resulting from rising international tensions could put pressure on the country's fiscal accounts.

1.3 **Regulatory and institutional framework of the sector.** The legal, regulatory, and institutional framework of the electric power sector is defined by the General Electric Power Law (LGE) 125-01, which eliminated vertical integration and gave the green light for new private investments in the generation, transmission, and distribution segments. In addition, the participation of renewables was promoted by the Law on Incentives for the Development of Renewable Energy and its Special Regimes (Law 57-07), through which the government reduced dependency on imported fossil fuels.

1.4 These moves to make the sector efficient were strengthened in 2010 by the launch of the National Energy Plan 2010-2025, in which the strategic objectives include increasing energy efficiency and promoting rational energy use; and the proposed National Energy Efficiency Plan (PNEE) to: (i) promote the passing of the Energy Efficiency Law;[4] (ii) implement energy efficiency programs in government

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1 Period 2009-2018, *World Economic Outlook* data (April 2019).

2 Hurricanes Irma and Maria, two Category 5 storms, passed close to the country in September 2017, wreaking damage in production zones.

3 Ministry of Economy, Planning and Development. *Marco Macroeconómico 2018-2020* (June 2018).

4 In 2018, the draft Law on Energy Efficiency and Rational Energy Use has completed the public consultation process and is currently being reviewed by the Ministry of Energy and Mines (MEM).

institutions; and (iii) sensitize the public at large on rational energy use of through awareness-raising campaigns.

1.5 The key actors in the electric power sector are: (i) the Ministry of Energy and Mines (MEM), which is responsible for formulating and administering energy and mining policy; (ii) the Superintendency of Electric Power (SIE), an independent agency that promotes, regulates, and supervises the electricity sector; (iii) the National Energy Commission (CNE), which prepares and coordinates draft legal and regulatory standards for the proper functioning and development of the energy sector, and oversees compliance; (iv) the Dominican Corporation of State-owned Electric Power Companies (CDEEE), which is responsible for developing strategies and plans for State-owned electric power companies, as well as directing and coordinating them; and (v) the Coordinating Body of the National Interconnected Electric Power System (SENI), a private nonprofit entity, which coordinates power dispatch (see Figure 1).

1.6 Electric power is generated by private,[5] public-private,[6] and public firms,[7] and independent power producers (IPPs);[8] and it is transmitted by the Dominican Electric Power Transmission Company, which is publicly owned. There are three State-owned firms in the distribution segment: (i) Empresa Distribuidora de Electricidad del Norte S.A. (EdeNorte); (ii) Empresa Distribuidora de Electricidad del Sur S.A. (EdeSur); and (iii) Empresa Distribuidora de Electricidad del Este S.A. (EdeEste).[9]

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5 These include: AES Dominicana, San Felipe, Compañía de Electricidad de San Pedro de Macorís, Compañía de Electricidad de Puerto Plata, Generadora Palamara-La Vega, Consorcio Laesa Limited, Complejo Metalúrgico Dominicano, SeaBoard, Pueblo Viejo Dominicana Corp., and Falcondo.

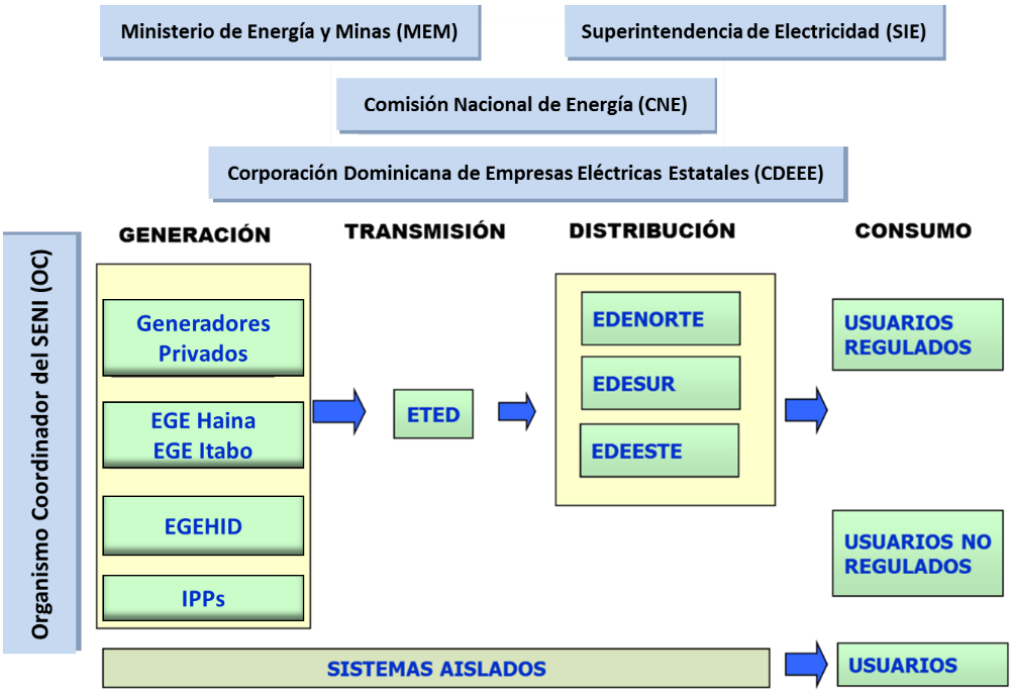
6 The power generators EGE Haina and EGE Itabo, in which the government holds stakes through the Reformed Companies Capital Fund.

7 Empresa de Generación Hidroeléctrica Dominicana.

8 86% of generation capacity is privately owned and/or operated (excluding self-generation), and 14% is public. The system comprises a total of 15 generators, including two IPPs.

9 These supply 98% of the national electricity market and are required to provide the design, materials, installation and maintenance of the street lighting in each municipio and its municipal districts (Art. 134 General Electric Power Law).

Figure 1. Structure of the Dominican electric power sector



Prepared by the authors based on Laws 125-01, 143-13, and 100-13.

1.7 **Electric power sector.** The chief characteristics of the Dominican electric power sector, as of December 2018, are as follows: (i) installed generating capacity of 3,981 megawatts *(*MW); (ii) maximum annual demand of 2,219 MW; (iii) generation matrix formed by: liquid fuels (45.7%), natural gas (26.7%), hydroelectric (10.5%), coal (12.6%), and nonconventional renewables—wind, biomass, and solar—(4.5%);[10] (iv) 86.3% of demand supplied in the system, with an average service availability of 89.6%; (v) a pricing model that does not reflect the real cost of supply, with billing at the distribution stage equivalent to 86% of the value of the energy purchased; (vi) generalized subsidies benefiting 90% of residential customers and 50% of commercial ones; (vii) operating deficits caused by high energy losses at the distribution stage, amounting to 28.4%,[11] caused largely by problems of commercial management and informal connections estimated at 22% of the user base.[12]

1.8 In 2018, the sectors with the highest electricity consumption were: industrial (35.3%), residential (31.5%), and commercial/services/public (26.2%), followed by agriculture (6.7%), and transportation (0.3%).

1.9 **Electricity consumption in the public sector.** In 2018 the public sector (national and municipal governments) consumed 1,336 GWh,[13] representing 13.1% of the

[10] SENI. Annual Report 2018.

[11] Every percentage point of electric power loss costs US$19 million.

[12] Jimenez, Raul Alberto. *Are Blackout Days Free of Charge? Valuation of Individual Preferences for Improved Electricity Services.* IDB-WP-822. July 2017.

[13] National Energy Information System (SIEN).

total energy that the electric power distribution companies (EDEs) supplied to their customers. Public sector consumption has more potential for energy savings (estimated at 32%), than other sectors: industrial (potential savings of 17.3%), residential (27%), and commerce/services (15.5%). An analysis of public sector consumption[14] found that interventions in street lighting had the potential to generate savings of 54%.

1.10 **Street lighting.** The electricity consumed by streetlighting places a heavy burden on the country's public finances. According to the EDEs, its annual consumption is calculated at 238.3 gigawatt hours (GWh) per year,[15] equivalent to 2.5% of total consumption and representing a bill of US$38.1 million in 2017.[16] High-pressure sodium or mercury vapor lamps predominate on public roads; but they are obsolete and consume large amounts of energy. The best energy saving practice is to replace them with of light-emitting diode (LED) lamps which provide energy savings of up to 54%, together with lower operation and maintenance (O&M) costs and a longer life. In the Dominican Republic, streetlamps are replaced in coordination with the municipal authorities and the CDEEE.[17]

1.11 **Greenhouse gas emissions.** According to the Dominican National Emissions Inventory (base year 2010), the country's emissions totaled 34.14 million tons of carbon dioxide equivalent (tCO_2e), with the energy sector being the leading contributor (61.9%); followed by agriculture (20.0%), waste disposal (12.9%), and industry (5.2%).[18] Emissions from electric power generation totaled 7.8 million tCO_2e, representing 22.8% of total base year emissions.[19] In its nationally determined contribution to the United Nations Framework Convention on Climate Change,[20] the Dominican Republic aspires to reducing base year emissions by 25% by 2030. This target informs public policy in the country's development pillars through the National Development Strategy 2030.

1.12 **Rationale.** In line with the PNEE, this program proposes implementation of the Dominican Republic's energy efficiency program, in which improving energy efficiency is viewed as one of the ways to achieve reduction targets in terms of: (i) public sector electricity consumption; (ii) greenhouse gas emissions (one of the country's aspirational climate action commitments);[21] and (iii) dependence on fossil fuels for power generation. It also fosters training to enhance the sustainability of energy efficiency projects and better use of energy, through awareness-raising workshops on energy efficiency in street lighting systems. More efficient energy use will reduce the consumption of imported fossil fuels for power generation,[22]

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14 JICA. Study to collect data on energy efficiency in the Dominican Republic (2016).

15 According to the EDE invoicing process and adjustments pursuant to resolution SIE 63-2004.

16 CDEEE. Performance Report, 2017.

17 LGE. Article 134.

18 SENI CO_2 emissions index, prepared by the CNE (only edition available - 2012).

19 In the base year 2010, the system generated 12,271.6 GWh, with a power grid emissions index of 636.7 tCO_2e/GWh; in 2018 emissions totaled 10.0 million tCO_2e for 15,701.7 GWh generated.

20 Intended nationally determined contributions (INDC) of the Dominican Republic, 2015.

21 Idem.

22 The reduction in energy consumption obtained from energy efficiency measures is reflected in an automatic shift away from the system's more expensive thermal generation, since power is dispatched at lowest marginal cost, thus leading to a reduction in fossil fuel consumption.

which will help the government reduce public spending. Making this program sustainable and replicable requires investing in adequate planning, management, and supervision, to it includes systems for managing consumption and strengthening the capacities of public institutions to promote and implement energy efficiency. Lastly, the program will demonstrate the benefits of these energy efficiency measures in other consumption sectors, by disseminating the results and characteristics of the new technologies implemented.

1.13 In 2016 under the auspices of the PNEE and with support from the Japan International Cooperation Agency (JICA), the CNE and CDEEE prepared a road map for achieving energy efficiency in the Dominican Republic. The roadmap's guidelines were used to identify and design this program.

1.14 **Reducing energy demand in the public sector.** With the vision set out in the National Development Strategy for innovative and sustainable resource management, together with the PNEE's objective of increasing energy efficiency, the government has taken steps to reduce electricity demand in the public sector. The announcement of the Energy Efficiency Implementation Plan in 2015, and financial support from the Bank and JICA to promote efficient energy systems and the use of renewable energy sources, established this program's energy efficiency activities.

1.15 By implementing this program, the government aims to make total savings of US$11.58 million per year in the electricity bill for street lighting nationwide. Moreover, the reduction in electricity demand will also decrease fuel consumption in thermal generation plants, by 158,591 barrels per year, resulting in a reduction in greenhouse gas emissions of 63,500 tCO_2e/year.

1.16 **Effectiveness of energy efficiency investments.** Globally, the deployment of energy efficiency in the primary energy consumption matrix produced savings of 38% between 1980 and 2014,[23] based on investment in increasingly efficient technologies. In addition, progress in high-efficiency technologies for street lighting, such as LED lamps, sensors, and monitoring and control systems, offset the higher initial investment with benefits of greater efficiency, longer service life, and lower maintenance costs.

1.17 Replacing luminaires with more efficient technologies could reduce CO_2 emissions and energy consumption considerably, as the latter are up to 60% more efficient. This has been the experience of Brazil in a project undertaken in small and medium-sized municipios.[24] In Nicaragua, 51,245 luminaires have been installed under the National Sustainable Electrification and Renewable Energy Program (PNESER), achieving energy savings of 50%, worth US$3.5 million per year. In general, energy efficiency investments in street lighting through replacement with more efficient luminaires are financially profitable, since the savings in electricity expenses pay for the investment in three to nine years.[25]

1.18 **Innovation and digitization.** For this intervention to represent a comprehensive change that produces energy saving and also enhances the quality of street

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[23] IEA. *Energy Efficiency Potential in Buildings*.

[24] IDB. Análisis del potencial de EE en iluminación pública.

[25] IDB. Energy efficiency in street lighting. Technical Note (2017).

lighting, the program also incorporates digital technologies to manage this equipment in a smart, efficient, safe, and sustainable manner. These have not been installed previously in the Dominican Republic. The program therefore envisages the installation of systems for remote-management of street lighting, which incorporate smart nodes in each luminaire that report its operating status, register consumption in real time, and enable dimming, thus allowing for light levels to be reduced at certain times. This system also optimizes maintenance by facilitating preventive and corrective actions, and enables instantaneous and remote monitoring and operation of the street lighting infrastructure. The design of remote street lighting management systems envisages centralized control architectures to be incorporated in the systems that currently exist in each EDE. To mitigate security and data privacy risks in the new systems, the design criteria will include the application of cybersecurity software standards.[26]

1.19 **Productive local development.** The program requires that the waste generated by the luminaires to be replaced, along with any chemical components that require special treatment through to final disposal, be disposed of appropriately. Accordingly, the firms contracted to replace the street lighting will be required to subcontract micro, small, and medium-sized enterprises (MSMEs) certified in the use and disposal of waste materials, as a contractual condition.

1.20 This requirement will be supported by IDB Lab, which will head up a program[27] to train and certify MSMEs in the final disposal of the replaced luminaires according to Ministry of Environment requirements. This program will train and certify small firms (3–10 employees) to recycle any usable components in a secondary market under a circular economy rationale. The certification would enable the firms in question to continue providing their services in similar programs to the public and private sectors.

1.21 **Country strategy with the sector.** The sector policy is governed by the government's strategic plan, National Development Strategy 2030, which specifies the economic, social, institutional, and environmental objectives that guide the policy until 2030. One of the strategy's lines of action is to promote an energy efficiency culture among citizens and businesses, by inculcating rational electricity use practices and the use of equipment and processes that make it possible to reduce or improve energy use. Under this strategy, the lines of action of the Comprehensive Strategic Plan of the CDEEE and the Dominican Government 2017-2020 include strengthening commercial management in the EDEs, with the aim of reducing: (i) electricity consumption in the grid; (ii) emissions of gaseous pollutants into the atmosphere; and (iii) the EDEs' deficits caused by losses and operating expenses.

1.22 **The Bank's experience in energy efficiency projects and lessons learned**. The Bank has experience in energy efficiency for street lighting, including the following: (i) Sustainable Energy Investment Program (Smart Fund) (2485/OC-BA);

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[26] Standards considered: ANSI/UL2900-1, standard for software cybersecurity for network-connectable products; ISO 27000, best practices and recommendations in information security management, covering aspects of cybersecurity; and the NIST Cybersecurity Framework—a voluntary framework of standards and guidelines on best practices in risk cybersecurity management.

[27] IDB Lab project scheduled for Donor Committee approval in February 2020, the date on which it is planned to start of the detailed design of this project.

(ii) Public Sector Smart Energy (PSSE) Program (2748/OC-BA) in Barbados; (iii) National Sustainable Electrification and Renewable Energy Program – PNESER (2342/BL-NI) in Nicaragua; and (iv) nonreimbursable financing from the Global Environment Facility (GEF) for the Sustainable Energy Facility (SEF) for the Eastern Caribbean (GRT/FM-15208-RG). The Bank has identified applicable lessons learned from these programs, such as: (i) provide technical training to underpin the project's sustainability; (ii) hire the necessary technical staff to avoid delays or mistakes at the start of the project; (iii) make sure project implementation plans are coherent and consider all stakeholders' policy expectations; and (iv) build flexibility into the execution plan to enable it to adapt as new technologies become available. A final lesson concerns the need to consider technical, economic, and environmental aspects in energy efficiency implementation programs.

1.23 **The Bank's country strategy.** The program aligns with the IDB Group country strategy 2017-2020 (document GN-2908) by prioritizing investments to enhance the efficiency and financial sustainability of the electricity sector, through the reduction of electricity consumption in street lighting, thereby helping to reduce its impact on public finances in a context of growing challenges in the spheres of innovation and climate change. This program contributes to the expected outcome of reducing the fiscal burden associated with the power sector. The Bank also approved the second operation of the programmatic policy-based loan Power Sector Sustainability and Efficiency Program II (4649/OC-DR),[28] which seeks to: (i) strengthen the MEM's institutional capacity to develop energy efficiency programs; and (ii) preparation and public consultation of a new draft law containing the legal framework to develop the PNEE. The Bank also approved the investment project Program to Expand Electricity Networks and Reduce Technical Losses in Distribution Systems (4711/OC-DR),[29] which seeks to: (i) strengthen the institutional and supervisory capacity of the power sector; (ii) strengthen sector planning and regulation; and (iii) support management and operational improvements at electricity companies. In addition to these initiatives, the Bank continues to provide technical support to the sector in order to maintain progress in its transformation. Having played an important role since 2009 through cooperation and technical dialogue, and investment financing and political reform initiatives, such as: (i) Electricity Distribution Network Rehabilitation Project (2042/OC-DR);[30] (ii) Support for the Power Distribution Network Modernization and Loss Reduction Program (3182/OC-DR);[31] and (iii) Power Sector Sustainability and Efficiency Program (2610/OC-DR).[32] It also provided nonreimbursable technical cooperations (ATN/OC-12212-DR; ATN/OC-14499-DR; ATN/MC-15375-DR) to support the development of energy efficiency, loss reduction, and the development of rural energy potential.

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28 Loan contract signed on 16 September 2019.

29 Loan contract signed on 21 October 2019.

30 Approved in 2008 for US$40 million and co-financed with the Fund for International Development of the Organization of Petroleum Exporting Countries (OPEC) in the amount of US$78 million.

31 Approved in 2014 for US$78 million.

32 Policy-based loan (PBL) approved in 2011, for US$200 million to implement the measures established between the Government of the Dominican Republic, the International Monetary Fund (IMF) and multilateral banks, within the framework of the Plan of Action for the Electric Power Sector 2010-2015, for which the second individual operation was approved by the Bank in November 2018.

1.24 **Strategic alignment.** The program is included in Annex III of the 2019 Operational Program Report (document GN-2948-2) and is consistent with the Update to the Institutional Strategy 2010-2020 (document AB-3008). In particular, it aligns with the development challenge of Productivity and Innovation, through the following: (a) the reduction of public expenditure for the payment of electricity bills (due to the replacement of street lamps); and (b) the installation of remote management systems that will enable real-time monitoring to improve consumption efficiency. In addition, the program is aligned with the crosscutting themes of: (i) Institutional Capacity and Rule of Law, through its support for improvements in the legal framework governing the street lighting system and for capacity-building via workshops to raise awareness about energy efficiency for street lighting systems; and (ii) Climate Change and Environmental Sustainability, by reducing greenhouse gas emissions. A full 100% the operation's resources are invested in energy efficiency and the reduction of electricity consumption, which represent climate change mitigation measures according to the joint methodology of the multilateral development banks for tracking climate change adaptation finance. These resources contribute to the IDB Group target of increasing financing for climate-related projects to 30% of approvals by the end of 2020. The program is therefore consistent with the Climate Change Sector Framework Document (document GN-2835-8), which states that increasing energy efficiency has multiple climate-related and development benefits.

1.25 The program is also aligned with the 2016-2019 Corporate Results Framework (document GN-2727-6) through: (i) cutting emissions (tCO_2e/year) with support from Bank financing to reduce power generation from thermal plants; and (ii) strengthening institutional capacity by training public employees in the management of energy efficiency programs.

1.26 The program is aligned with the Strategy on Sustainable Infrastructure for Competitiveness and Inclusive Growth (document GN-2710-5), since it supports infrastructure modernization that contributes toward meeting energy demand in a sustainable manner. It is also consistent with the Energy Sector Framework Document (document GN-2830-8) in the following thematic areas: (i) energy sustainability, by lowering the bill for public electricity consumption resulting from energy efficiency and supporting climate change adaptation; and (ii) energy security, by enhancing the efficiency of infrastructure investments.

1.27 **Sustainable infrastructure.** The program includes measures that are consistent with sustainable infrastructure principles, in particular: (i) economic and financial sustainability, by promoting investments that generate savings in energy and in the O&M costs of street lighting systems; (ii) environmental sustainability, by adequately disposing of the waste material generated by the program; and (iii) institutional sustainability, by training EDE personnel in state-of-the-art technologies for O&M in street lighting and remote systems.

B. Objectives, components, and cost

1.28 **Objectives.** The general objective of the program is to reduce the public sector's electricity consumption and contribute to the reduction of greenhouse gas emissions, by performing technology upgrades and implementing energy efficiency measures in street lighting in priority areas to support citizen security and tourism. The specific objectives are: (i) to reduce the consumption of imported fossil fuels

for power generation and, consequently, public expenditure; (ii) to deploy digital or other technologies to improve management of street lighting; and (iii) to build capacity for the management of efficient technology among personnel at government institutions.

1.29 **Component I. Replacement of lamps and upgrading of street lighting infrastructure (US$72.80 million).** This component will finance the replacement of lamps and upgrades to bring street lighting up to current regulatory standards, targeting priority areas to support citizen security and tourism as a main criterion. Approximately 190,500 streetlamps will be replaced, equivalent to 60.6% of the EDEs' priority stock comprised as follows: (i) 85.2% in high-pressure sodium or mercury vapor lamps with power ratings of 150-250 watts; and (ii) 14.8% in technologies such as 40-100 watt fluorescent, 200 watt incandescent lamps, and others. In addition, the infrastructure of the street lighting systems will be improved with the installation of approximately 52,200 luminaires, through code upgrades. For replacements and upgrades, LED lamps will be used, providing energy savings of up to 54%, with substantially lower maintenance costs and a service life of three to four times that of the lamps being replaced. The activities of this component include: (i) design, supply, installation, and O&M training in LED lamps, street lighting electrical infrastructure and monitoring systems for information management and energy consumption; (ii) appropriate final disposal of the replaced luminaires; and (iii) supervision of the supply and installation of lamps and standardized electrical infrastructure.

1.30 **Component II. Capacity-building (US$0.58 million).** This component will finance: (i) a proposal to complete the legal framework of the street lighting system; and (ii) workshops to raise energy efficiency awareness with respect to street lighting systems, fostering their appropriate maintenance by the municipios.

1.31 **Administration (US$1.6 million).** Financing will be provided for: (i) the auditing and evaluation expenses; (ii) the operating costs of the execution unit at the CDEEE, including the hiring qualified staff for technical coordination, procurement, financial management, and environmental and social management; and (iii) the costs to implement social management.

C. Key results indicators

1.32 **Beneficiary population.** This program will specifically benefit the government and the municipal authorities, through a reduction in the street lighting bill; and it will benefit both citizens and economic activity in general through improvements to the street lighting service and its impact on improving public safety and access to tourism areas.

1.33 **Expected results.** The main expected impacts are: (i) a reduction in CO_2e emissions through energy efficiency in street lighting (-63,500 tCO_2e); and (ii) a reduction in fossil fuel consumption through energy efficient power generation for street lighting (-158,591 barrels). Specifically, the program is expected to contribute to the following outcomes: (i) electricity consumption reduced by 100.13 GWh/year through energy efficiency in street lighting; and (ii) new efficient technology (17,232 kW capacity) installed for street lighting. See Results Matrix.

1.34 **Economic evaluation.** The economic evaluation of the project consisted of: (i) a cost-benefit analysis of the measures to be implemented; (ii) a viability

assessment; and (iii) a sensitivity analysis of the components. The resulting indicators are as follows:

Table 1. Economic viability indicators

	Base scenario	Alternative scenario 1	Alternative scenario 2	Alternative scenario 3
Economic net present value	**28,787,996**	**23,842,583**	**18,913,295**	**15,887,154**
Economic internal rate of return	**35%**	**29%**	**27%**	**30%**

1.35 The results of the evaluation proved robust to changes in fuel prices, in the prices of the equipment to be installed, and in their useful lives. The results were also positive irrespective of the approach considered; spending on electricity consumption for street lighting could be reduced by about US$15 million, such that the US$75 million budgeted for the program would be recouped in about five years.

II. Financing Structure and Main Risks

A. Financing instruments

2.1 The program is structured as an investment loan for specific works, with a total cost of US$75.0 million, of which US$39.0 million will be financed by the Bank with resources from the Ordinary Capital, and US$36.0 million will come from a JICA loan to the Dominican Republic. This financing will be provided within the framework of the IDB-JICA agreement.[33] [34]

2.2 Table 1 shows the consolidated budget by component, which is itemized in the multiyear execution plan. The expenditure categories to be covered by the program include the procurement of goods, works, and both consulting and nonconsulting services.

Table 1. Program costs and financing (US$ million)

Components	IDB	Additional resources (JICA)	Total
Component I. Lamp replacement and upgrading of street lighting Infrastructure	37.87	34.96	72.82
Component II. Capacity-building	0.30	0.28	0.58
Administration	0.83	0.77	1.60
Total	**39.00**	**36.00**	**75.00**

[33] Framework agreement on Co-financing for Renewable Energy and Energy Efficiency (CORE), which was signed in March 2012 and amended in March 2014, and April 2015. The agreement promotes energy investments aimed at mitigating the impact of climate change in Latin America and the Caribbean. Under the CORE joint financing modality, the borrower signs a separate loan contract with JICA directly for the financing of goods and services common to those of the program and in a proportion agreed upon between the parties, while the Bank provides supervision services.

[34] Currently JICA's letter of conditional acceptance to the program is available; this must be complemented with an exchange of IDB-JICA confirmation letters under the CORE program. JICA funding is expected to be approved in the first quarter of 2020.

2.3 **Disbursement period.** Disbursements will be made over a four-year period, according to the schedule shown in Table 2.

Table 2. Projected disbursement schedule (US$ million)

Financing	Year 1	Year 2	Year 3	Year 4	Total
IDB	8.0	8.0	15.6	7.5	39.0
Additional resources – Counterpart (JICA)	7.4	7.3	14.4	6.9	36.0
Total	15.4	15.3	29.9	14.4	75.0
Percentage (Disbursement/Total)	20.5%	20.4%	39.9%	19.2%	100.0%

B. Environmental and social risks

2.4 In accordance with the provisions of the Bank's Environment and Safeguards Compliance Policy (OP-703), the program has been classified as a category "B" operation.

2.5 The program will generate localized negative socioenvironmental impacts, which can be mitigated. The energy efficiency solutions to be financed are expected to generate additional energy savings and reduce greenhouse gas emissions in the Dominican Republic. An environmental and social analysis (ESA) was conducted and an environmental and social management plan (ESMP) was also produced. A public consultation was held with the main stakeholders in April 2019, which found that not all suppliers certified by the Ministry of the Environment have the expected quality and management. To ensure that this will be available, the ESMP includes a procedure for evaluating supplier performance.

2.6 One of the key environmental impacts is the production of hazardous waste as a result of the removal of mercury vapor lamps. In this case, the country has experience with mercury extraction processes and proper handling by contractors. The CDEEE will ensure that the firms contracted fulfill these processes and the provisions of the ESMP. The occurrence of natural disasters that would potentially delay the delivery times envisaged in the project is also considered an environmental impact risk. To mitigate this, potentially vulnerable zones will be identified in the design and engineering stage, with a view to activating a contingency plan during execution.

2.7 The ESA-ESMP, which includes the recommendations arising from the public consultation, has been posted on the Bank and executing agency websites, pursuant to the Bank's policies.

C. Fiduciary risks

2.8 In 2018, a fiduciary capacity assessment was made of the project executing agency. Based on the results of both this assessment and the entity's project management experiences, it was decided that the project has a generally low level of fiduciary risk.

D. Other key issues and risks

2.9 During the design of the program, a risk management analysis was conducted with participation by the executing agency. The following risks were identified:

(i) monitoring and accountability risks: even if the detailed engineering designs are prepared in accordance with the new requirements of national street lighting regulations, the Results Matrix targets may need to be changed based on the adjustments made as a result of the engineering design phase (medium-high). To mitigate this, the project execution unit will adjust the expected impacts, outcomes, and outputs to the results of the engineering phase; and (ii) governance and public management risks: poor coordination between the EDEs and the municipios could generate sustainability problems with the street lighting structures, affecting the expected results (medium-high). To mitigate these risks, prior to installing the luminaires, the executing agency will present evidence to the Bank of having identified ownership, maintenance obligations, and the cost associated with the street lighting.

2.10 **Sustainability.** The evidence presented prior to installation of the luminaires that identifies ownership, maintenance obligations, and the cost associated with the street lighting will minimize the risk to project sustainability. Similarly, the planned training in O&M for the EDEs' technical teams will bolster sustainability over time.

III. Implementation and Management Plan

A. Summary of implementation arrangements

3.1 The borrower will be the Dominican Republic and the executing agency will be the CDEEE,[35] which will act through its existing project execution unit.

3.2 Program execution will be the responsibility of the project execution unit, which has experience with implementing energy projects, having recently completed execution, in two and a half years, of the project Support for the Power Distribution Network Modernization and Loss Reduction (3182/OC-DR). The project execution unit will fulfill its functions using its existing structure, with a general coordinator and the hiring of: (i) a technical coordinator; (ii) a procurement specialist; (iii) a financial specialist; (iv) a street lighting technical specialist; and (v) an environmental and social management specialist. The project execution unit will be responsible for the follow-up, evaluation, audit, and integrated management of the program, with the aim of monitoring correct execution and achievement of the objectives and results.

3.3 **Special contractual conditions precedent to the first disbursement of the loan: (i) the program Operations Manual has been prepared and is in effect, pursuant to the terms agreed upon with the Bank (paragraph 3.6)**, which is necessary to ensure effective execution of the program, describing the processes and cycles to follow; and **(ii) a technical specialist in street lighting has been hired for the project execution unit**, which is necessary to ensure that the program is executed as specified in the program Operations Manual, the multiyear execution plan, and the annual work plan.

3.4 **Special contractual conditions of execution.** (i) Prior to initiating the tendering process for services to prepare the technical designs for component I of the program, the CDEEE will confirm the priority citizen security and tourism areas for

[35] The CDEEE is an autonomous public service company with legal status and its own assets, attached to the MEM under Law 100-13.

the installation of luminaires, in accordance with the information provided by the competent authorities; and (ii) prior to installing luminaires, the CDEEE will present evidence of having identified ownership, maintenance obligations, and the cost associated with the street lighting, which is necessary to minimize the sustainability risks of the street lighting investments (paragraph 2.10).

3.5 The annual national budget is prepared by the Ministry of Finance, through the Directorate General of Budget, in coordination with the Ministry of Economy, Planning and Development. Decentralized entities, such as the CDEEE, prepare their own budget which is attached to the national budget. The borrower will transfer the loan proceeds to the CDEEE, which is responsible for managing resources and conducting the respective procurement processes. The responsibilities of the executing agency, to be fulfilled through the project execution unit, include the following at least: (i) preparation and presentation of the semiannual progress reports required by the Bank; (ii) preparation, implementation, and updating of the: annual work plan, multiyear execution plan, procurement plan, and monitoring and evaluation plan; (iii) adequate establishment and effective internal control of the program's financial management according to accepted accounting principles; (iv) preparation and presentation of audited financial statements; (v) assurance of the quality and effectiveness of the procurement process and its commitments to both Bank and government policies; (vi) consistent alignment of the program's expected results with its day-to-day execution; (vii) compilation, storage, and retention of the information and parameters necessary to measure the Results Matrix indicators, prepare the midterm and final evaluations, the completion report, and any other evaluations that may be necessary; and (viii) serving as the program's liaison with the Bank.

3.6 **Program Operations Manual.** This will describe the following: (i) functions, procedures, and rules for the execution of all components, specifying the functions of the project execution unit of the CDEEE; (ii) operational and contractual relations between the parties involved in the program; and (iii) the standard framework for preparation of the reports that will be presented semiannually to the Bank.

3.7 The CDEEE will use the official accounting and budgetary control system known as the "Project Execution Units with External Financing / Integrated Financial Management System," which, in addition to recording accounting transactions and performing budgetary control, also has the capacity to generate the financial statements required under the Bank's regulations and policy. Accounting records will be kept on a cash basis. The Ministry of Finance is currently in the process of implementing the International Public Sector Accounting Standards (IPSAS).

3.8 **Procurement.** The procurement of works, goods, and consulting services for the program will adhere to the Policies for the Procurement of Goods and Works Financed by the Inter-American Development Bank (document GN-2349-9); and consulting services will be contracted pursuant to the Policies for the Selection and Contracting of Consultants Financed by the Inter-American Development Bank (document GN-2350-9), as updated. The provisions and the agreements are included in Annex III.

3.9 **Procurement plan.** This is prepared by the executing agency and includes details of the program's procurements for the first 18 months of implementation. Activities

may be adjusted accordingly, by agreement between the executing agency and the Bank. The executing agency will update the procurement plan at least once every 12 months. The procurement supervision method will be determined by the Bank for each selection process and will initially be ex ante. Ex post review is feasible once the activities are proceeding as indicated in Annex III.

3.10 **Multiyear execution plan.** The program activities will adhere to a schedule implemented through the multiyear execution plan and its annual review, as indicated in the annual work plan. The multiyear execution plan contains detail equivalent to that of the annual work plan for each year of execution. However, it will be updated annually to take account of the program's actual progress. The annual review of the multiyear execution plan will be submitted to the Bank.

3.11 **Fiduciary agreements and requirements.** The fiduciary agreements and requirements (Annex III) contain financial management and procurement guidelines to be applied in program execution. They are based mainly on the institutional analysis of the executing agency and the fiduciary context of the Dominican Republic. They also take account of the risk workshop with personnel from the participating entities, meetings with executing agency staff, and ongoing meetings with the project team and key personnel from the participating entities.

3.12 **External control and reporting.** The external audit will be performed by an independent firm of public accountants acceptable to the Bank, and will abide by the Financial Management Guidelines for IDB-financed Projects (document OP-273-12) and the Guide for Financial Reports and External Audits for Operations financed by the Inter-American Development Bank. The requirements of the Bank's Annual Financial System will be applicable, including: (i) audited annual financial statements, delivered to the Bank within 120 calendar days following the executing agency's fiscal year-end; and (ii) the date of the last disbursement of the loan proceeds. Audit costs will be financed from program funds.

B. Summary of arrangements for monitoring results

3.13 The monitoring and evaluation plan includes monitoring and reporting requirements, as well as program evaluation mechanisms. Administrative control and monitoring will focus on complying with procedural regulations governing administrative, financial, accounting, and legal matters, in accordance with national guidelines, those of the Bank, and those specified in the program Operations Manual.

3.14 **Semiannual progress report.** The executing agency, through the project execution unit, will send the Bank a semiannual progress report no later than 60 days after the end of each semester, as indicated in the monitoring and evaluation plan. These reports will explain the degree of compliance with the outcome indicators and progress made toward the Results Matrix outputs, to enable the Bank to monitor those indicators using its program monitoring report tool. The reports will also include the multiyear execution plan, annual work plan, and procurement plan.

3.15 **Program evaluation.** In the monitoring and evaluation plan, the project execution unit will select and contract external consulting services to prepare the midterm evaluation of the program, once 50% of the loan proceeds have been disbursed and substantiated, or 2.5 years after the date of the first disbursement, whichever occurs first. The borrower will present an evaluation report three months later. This

evaluation will include: (i) an analysis of the progress attained; (ii) coordination and implementation issues; (iii) recommendations to achieve the proposed objectives; and (iv) sustainability of the investment.

3.16 A final evaluation report will be delivered to the Bank no later than four months after the last disbursement has been substantiated or within the timeframe agreed upon by the parties. It will cover the following: (i) degree of fulfillment of the objectives specified in the Results Matrix; (ii) an ex post economic evaluation; (iii) an assessment of the executing agency's performance; (iv) factors affecting implementation; and (v) lessons learned and recommendations for the design of future operations. The final evaluation will enable the Bank to finalize the program completion report.

Development Effectiveness Matrix		
Summary	DR-L1122	
I. Corporate and Country Priorities		
1. IDB Development Objectives		
Development Challenges & Cross-cutting Themes	-Productivity and Innovation -Climate Change and Environmental Sustainability -Institutional Capacity and the Rule of Law	
Country Development Results Indicators	-Reduction of emissions with support of IDBG financing (annual million tons CO2 e)* -Government agencies benefited by projects that strengthen technological and managerial tools to improve public service delivery (#)* -Companies supported in innovation activities (#)*	
2. Country Development Objectives		
Country Strategy Results Matrix	GN-2908	Operative and tariff efficiency improvement in the electricity sector
Country Program Results Matrix	GN-2948-2	The intervention is included in the 2019 Operational Program.
Relevance of this project to country development challenges (If not aligned to country strategy or country program)		
II. Development Outcomes - Evaluability		Evaluable
3. Evidence-based Assessment & Solution		7.7
3.1 Program Diagnosis		3.0
3.2 Proposed Interventions or Solutions		1.7
3.3 Results Matrix Quality		3.0
4. Ex ante Economic Analysis		10.0
4.1 Program has an ERR/NPV, or key outcomes identified for CEA		3.0
4.2 Identified and Quantified Benefits and Costs		3.0
4.3 Reasonable Assumptions		1.0
4.4 Sensitivity Analysis		2.0
4.5 Consistency with results matrix		1.0
5. Monitoring and Evaluation		8.5
5.1 Monitoring Mechanisms		2.5
5.2 Evaluation Plan		6.0
III. Risks & Mitigation Monitoring Matrix		
Overall risks rate = magnitude of risks*likelihood		Low
Identified risks have been rated for magnitude and likelihood		Yes
Mitigation measures have been identified for major risks		Yes
Mitigation measures have indicators for tracking their implementation		Yes
Environmental & social risk classification		B
IV. IDB´s Role - Additionality		
The project relies on the use of country systems		
Fiduciary (VPC/FMP Criteria)	Yes	Financial Management: Budget, Treasury, Accounting and Reporting. Procurement: Information System, Price Comparison.
Non-Fiduciary		
The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:		
Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project		

Note: (*) Indicates contribution to the corresponding CRF's Country Development Results Indicator.

The objective of the project is to reduce electricity consumption in the public sector through technological innovations and the implementation of energy efficiency measures in public lighting in prioritized zones to support citizen security and tourism. The program diagnosis appropriately assesses the situation of the energy sector in the country which in general backs up the proposed interventions. In this regard, quantitative evidence is provided regarding the electricity consumption in the country and the potential savings that could be generated in the public sector —with respect to the industrial or residential sector for example— from the implementation of more efficient energy measurements. Neither the POD nor its annexes present empirical evidence about the effectiveness of this type of energy efficiency programs based on rigorous impact evaluations. In general, the results matrix reflects the vertical logic described in the POD, covering the inputs, outcomes and results. The indicators in the results matrix meet the SMART criteria and include the sources and means of verification that will be used to measure them. For the economic analysis, the project proposes a cost-benefit analysis with the costs and benefits quantified for the life of the project. The economic benefits are adequate for this type of projects as in this case they are estimated as the reduction of CO2 emissions, the reduction of the import bill of petroleum-derived fuels and the savings from replacement of current equipment by more efficient technology. The assumptions of the analysis are supported by references and a sensitivity analysis is included with the most relevant parameters for such an intervention. Finally, the program will evaluate the results achieved using the before-after comparison without attribution.

RESULTS MATRIX

Project objective:	The general objective of the program is to reduce the public sector's electricity consumption and contribute to the reduction of greenhouse gas emissions, by performing technology upgrades and implementing energy efficiency measures in street lighting in priority areas. The specific objectives are: (i) to reduce the consumption of imported fossil fuels for power generation and, consequently, public expenditure; (ii) to deploy digital or other technologies to improve management of street lighting; and (iii) to build capacity for the management of efficient technology among personnel at government institutions.

EXPECTED IMPACTS

Indicators	Unit of measure	Baseline	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	Final target[1]	Means of verification[2]	Comments
IMPACT 1. Reduction of CO_2e emissions[3]											
Reduction of CO_2e emissions through energy efficiency in street lighting	Kilotons of carbon dioxide equivalent ($ktCO_2e$)	0	2018	0	2.6	26.1	51.3	63.5	63.5	Report of the Dominican Corporation of State-owned Electric Power Companies (CDEEE)	Execution concludes in year 4, so the total benefits from the reduction of CO_2e emissions are reported as from year 5 at a level of 63.5 $ktCO_2e$.
IMPACT 2. Reduction of fossil fuel consumption for electric power generation[4]											
Reduction of fossil fuel consumption for through energy efficient power generation for street lighting	No. of barrels	0	2018	0	6,534	65,344	128,304	158,591	158,591	CDEEE Report	Execution concludes in year 4, so the total benefits from the reduction of fossil fuel consumption are reported as from year 5 at a level of 158,591 barrels.

1 For the emissions reduction component, execution ends in year 4 and total benefits are reported as from year 5.

2 The information contained in the annual reports of the National Energy Commission (CNE) and of the CDEEE will be checked against the program's midterm and final evaluation reports.

3 The value of 0.6337 $ktCO_2e/GWh$) is used to calculate emissions reduction.

4 The value of 1,584.90 barrels/GWh is used to calculate fossil fuel consumption.

EXPECTED OUTCOMES

Indicators	Unit of measure	Baseline	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	Final target	Means of verification	Comments
OUTCOME 1: Reduction of electricity consumption											
Reduction of electricity consumption through energy efficiency in street lighting	GWh/year	184.0	2018	184.0	179.8	142.7	103.0	83.8	83.8	CDEEE report	Execution concludes in year 4, so the total benefits from energy reduction are reported as from year 5 with a consumption of 83.8 GWh.
OUTCOME 2: New efficient technology capacity installed											
New efficient technology capacity installed for street lighting	Kilowatt	0	2018	0	3,550	10,650	17,232	0	17,232	CDEEE report	

OUTPUTS

Outputs	Unit of measure	Baseline	Baseline Year	Year 1	Year 2	Year 3	Year 4	Final target	Means of verification	Comments[2]
Component I: Replacement of lamps and upgrading of street lighting infrastructure										
Technical designs prepared	No. of designs	0	2018	6	0	0	0	6	Semiannual CDEEE report	Two for each EDE: replacement and improvement.
Luminaires installed[5]	No. of luminaires	0	2018	0	42,700	100,000	100,000	242,700		Efficient replacement.
Consumption management systems installed (hardware and software)	No. of systems	0	2018	0	1	2	0	3		One system for each EDE.
Nodes of the consumption management system installed	No. of nodes	0	2018	0	42,700	100,000	100,000	242,700		For efficient replacement.
Length of electric power grid with standardized street lighting	km	0	2018	0	500	900	900	2,300		
Workshops held on street lighting management systems	No. of workshops	0	2018	0	1	2	0	3		One workshop for each EDE.
Component II: Capacity-building										
Proposal to supplement the legal framework of the street lighting system	No. of proposals	0	2018	0	0	1	0	1	Proposal approved by CDEEE and EDEs	
Energy efficiency awareness workshops for street lighting systems	No. of workshops	0	2018	0	8	30	12	50	Semiannual CDEEE report	One workshop for each municipio targeted.

[5] Streetlamps: 190,500 luminaires for replacement, plus 52,200 for standardization, for a total of 242,700.

FIDUCIARY AGREEMENTS AND REQUIREMENTS

Country:	Dominican Republic
Project:	Implementation of the Dominican Republic's Energy Efficiency Program (DR-L1122)
Executing agency:	Dominican Corporation of State-owned Electric Power Companies (CDEEE)
Fiduciary team:	Romina Kirkagacli, Procurement Specialist, and Denise Salabie, Lead Financial Management Specialist (FMP/CDR)

I. EXECUTIVE SUMMARY

1.1 In 2018, a fiduciary capacity assessment was made of the project executing agency, the CDEEE. Based on the results of both this assessment and the entity's project management experiences, it was decided that the project has a generally low level of fiduciary risk.

1.2 An evaluation was made of the Dominican Republic's public financial management systems (SGFP)[1] in August 2017, and a PEFA[2] report on the country was issued in 2016 (delivered in October). These found that, in general, the country's SGFP is partially aligned with international good practices.

1.3 In February 2016, the diagnostic assessment of the Dominican public procurement system was updated using the methodology of the Development Assistance Committee of the Organisation for Economic Co-operation and Development (OECD). Areas identified for improvement are: (i) the regulatory framework, to make it more inclusive; (ii) the institutional framework; (iii) management capacity; and (iv) information systems. Other desirable improvements include a change of vision in market practices and major efforts to promote access to information and eliminate entry barriers to the public procurement market. Other opportunities for future strengthening are identified in the integrity and transparency pillar, particularly through the implementation of resolutions and follow-up of the findings and recommendations of the control framework.

1.4 The total cost of the project is US$75 million, financed with a US$39 million loan from the Bank and additional resources of US$36 million in financing from the Japan International Cooperation Agency (JICA) to the Dominican Republic.

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[1] Evaluation of the internal control, budget, treasury, accounting and reporting subsystems, using the methodology set out in the Bank's instruction for determining the level of development and use of public financial management systems (Guide for Acceptance of the Use of Country Procurement Systems – GUS).

[2] Public Expenditure and Financial Accountability.

II. FIDUCIARY CONTEXT OF THE EXECUTING AGENCY

2.1 The CDEEE will serve as the project's executing agency, acting through the project execution unit. As the project execution unit has previously executed loans financed by the Bank, it is familiar with the Bank's procedures and uses tools to plan and monitor operations. It has also demonstrated sound implementation and fiduciary management capacity. It recently executed loan 3182/OC-DR, Support for the Power Distribution Network Modernization and Loss Reduction Program (US$78 million), which was completed within the original disbursement period without extensions.

2.2 This project uses the country's financial management systems, specifically the treasury, budget and accounting, and reporting subsystems. With respect to country procurement systems, in November 2016 the Bank's Board of Executive Directors issued document GN-2538-19, approving partial use of the Dominican Republic's National Public Procurement and Contracting System (SNCC-RD),[3] specifically for: (i) all contracts for goods and nonconsulting services approved for the use of the small procurement or shopping subsystem as established by the SNCC-RD, in amounts below the threshold set by the Bank for application of the shopping method for custom goods and/or services (indicatively US$50,000); and (ii) all civil works contracts, subject to the use of the shopping subsystem as provided for by the SNCC-RD, in amounts below the threshold set by the Bank for application of the shopping method for custom civil works (indicatively US$250,000), in operations financed by the Bank that are negotiated after said approval, as well as for projects under execution when requested by the Dominican government. The approved subsystems may be used in Bank-financed operations provided they adopt the implementation provisions set forth in the Guide for Acceptance of the Use of Country Procurement Systems and the technical reports for Acceptance of Partial Use of the Procurement System.

III. FIDUCIARY RISK ASSESSMENT AND MITIGATION ACTIONS

3.1 The CDEEE, acting through the project execution unit, displays adequate fiduciary capacity and low fiduciary risk for project implementation, given its extensive experience in managing projects financed by the Bank and other multilateral agencies.

IV. CONSIDERATIONS FOR THE SPECIAL PROVISIONS OF THE LOAN CONTRACT

4.1 The following agreements and requirements should be considered in the special provisions:

(i) Precedent to the first disbursement of the loan, a subsidiary contract will have been signed (in force) between the CDEEE and the borrower, represented by the Ministry of Finance, specifying the terms under which the funds assigned to the project will be transferred, both from

[3] The Guide defines partial use of a country procurement system as using at least one of the subsystems for all goods and service procurements below the threshold set by the Bank for ICB. Contracts for amounts above the threshold will be governed by the provisions of the relevant Bank policies (GN-2349-9 and GN-2350-9).

the loan and from the additional resources, as well as the other execution obligations of the parties in the Project.

(ii) Before starting the bidding process for equipment to be financed with project funds, evidence will be presented that the loan contract with JICA has been signed and is in force.

4.2 **Exchange rate agreed upon with the executing agency for accounting purposes.** For purposes of determining the equivalence of expenses incurred in local currency to be charged against the local contribution, or the reimbursement of expenses against the loan, the exchange rate agreed upon will be that prevailing on the effective date on which the borrower, the executing agency, or any other natural or legal person to whom the authority to incur expenses has been delegated, makes the respective payments in favor of the contractor, supplier, or beneficiary.

4.3 **Audited financial statements and other reports:** during project execution, the executing agency will deliver the following:

(i) Annually, the audited financial statements of the project, no later than 120 days after each fiscal year-end.

(ii) At the end of the first semester of each period, the corresponding unaudited financial execution report within 60 days after the end of the semester.

(iii) Upon project completion, the project's final audited financial statements, no later than 120 days after the date of the last disbursement.

V. AGREEMENTS AND REQUIREMENTS FOR PROCUREMENT EXECUTION

A. Procurement execution

5.1 Procurements will be conducted in accordance with the Bank's policies, as set out in documents GN-2349-9 and GN-2350-9, and will be executed by the project execution unit at the CDEEE.

5.2 **Procurement of works, goods, and nonconsulting services:**[4] In this category, procurement subject to international competitive bidding (ICB) will be executed using the standard bidding documents issued by the Bank; and procurement subject to national competitive bidding (NCB) will be executed using national bidding documents agreed upon with the Bank (or satisfactory to it). On the Bank side, the technical specifications will be reviewed/approved by the Sector Specialist/Project Team Leader.

5.3 **Selection and contracting of consultants.** Irrespective of the contract amount, consulting service contracts will be executed using the standard request for proposals issued by the Bank. On the Bank side, the terms of reference for contracting services will be reviewed/approved by the Sector Specialist/Project Team Leader.

[4] Policies for the Procurement of Goods and Works Financed by the Inter-American Development Bank (document GN-2349-9) paragraph 1.1. Nonconsulting services are treated as goods.

5.4 **Selection of individual consultants.** Individual consultants will be selected by comparing at least three candidates in terms of their qualifications to perform the work. When the situation so requires, advertisements will be published in the local or international press, or in UN Development Business, to obtain background information on qualified consultants. On the Bank side, the terms of reference for the contracting of services will be reviewed/approved by the project's sector specialist.

5.5 **Recurrent expenses.** The loan may finance recurrent expenses, following consideration and approval by the Project Team Leader based on the project objectives. The expenses in question may include all operating expenses necessary to execute the project during its useful life (i.e. consumables, logistics expenses for events, and other similar expenses insofar as they are directly related to the project). The associated processes will be flagged in the relevant section of the procurement plan.

5.6 **Procurement planning.** The executing agency will publish the project procurement plan in the Procurement Plans Management System (SEPA) and update it annually at least, or as necessary to reflect actual project implementation needs and the progress achieved.

5.7 **National preference.** For the execution of this operation, no national preference will be considered in the goods procurement processes envisaged.

B. Threshold amounts

5.8 The thresholds set for the use of ICB and for including international consultants on the short list will be made available to the executing agency through the Bank's website.[5] The selection method will be determined according to the complexity and characteristics of the procurement or contracting in question, which will be indicated in the procurement plan approved by the Bank.

C. Main procurements

5.9 The executing agency will prepare the project procurement plan. The procurement specialist will help to ensure that the procedures in question are compliant with the Bank's procurement policies, by issuing the mandatory guidelines for consideration by the Sector Specialist/Project Team Leader. The main procurements envisaged in this operation are detailed below:

[5] Project procurements - IDB.

Activity	Procurement type	Estimated date	Estimated amount (US$)
Goods			
Contracting for streetlamp replacement and management systems	ICB	Q4, 2020	44.9 million
Contracting for electricity network with street lighting brought up to code	ICB	Q3, 2021	25.8 million
Consulting services (Firms)			
Consulting services to prepare street lighting technical designs	QCBS	Q4, 2020	0.6 million
External supervision	QCBS	Q4, 2020	1.6 million
Consulting services on potential street lighting ownership alternatives	QCBS	Q4, 2020	0.2 million
Consulting services (Individual consultants)			
Support consultants at the project execution unit (CDEEE)	3CVs	Q4, 2020	1.2 million
Awareness-raising workshops on energy efficiency in street lighting systems	CQS	Q4, 2020	0.4 million
* Procurement plan for the first 18 months.			

D. Procurement supervision

5.10 The supervision method, either ex ante or ex post, will depend on the level of fiduciary risk identified for the specific project and process. Ex post reviews will be conducted according to the Annual Supervision Plan. Ex post review reports will include at least one visit for physical inspection of the procurement processes subject to such review.

E. Records and files

5.11 The executing agency will keep all the files and documentation supporting procurement processes, as well as vouchers for all payments made with project funds, and will ensure that the established procedures are followed.

VI. Financial Management

6.1 **Programming and budget.** The annual budget is prepared by Ministry of Finance, through the Directorate General of Budget, in coordination with the Ministry of the Economy, Planning, and Development (MEPyD), as well as with the other government entities involved in the process. The CDEEE is an entity with its own legal status and budgetary and financial autonomy. Since the loan is being extended to the State, a fund transfer agreement will be signed, as indicated in Section IV, precedent to its disbursement to the executing agency. The executing agency will be responsible for planning and managing the project budget.

6.2 **Accounting and financial information systems.** The CDEEE will use the official accounting and budgetary control system—Executing Units of Projects with External Financing / Integrated Financial Management System (UEPEX/SIGEF). Accounting records will be kept on a cash basis.

6.3 **Disbursements and cash flow.** Disbursements will be made through advances of funds to the executing agency, based on financial planning for up to six months.

Subsequent advances may be disbursed once 80% of the cumulative balance to be justified has been submitted and accepted by the Bank. Disbursements will be deposited at the central bank in special bank accounts in the name of the project in U.S. dollars and managed through subaccounts in the National Treasury Single Account.

6.4 **Internal control and audit.** The governmental internal audit function will be performed by the Office of the Comptroller General of the Dominican Republic (CGRD), assisted by internal audit units in each Dominican government agency.

6.5 **External control.** The project will need to hire independent auditors for the project's external financial audits. The latter will be based on terms of reference previously agreed upon with the Bank and on the requirements of the Bank's applicable policies and procedures. Project audit costs will be charged against the loan proceeds.

6.6 **Financial supervision plan.** Financial supervision will be conducted through inspection visits and ex post reviews, together with constant dialogue and communication, and through the contracted external auditors. Project risks will be monitored permanently by the project team, especially during the first year of execution.

6.7 **Execution mechanism.** As noted above, to fulfill its functions, the CDEEE will execute the project through the project execution unit. The executing agency will have the following minimum fiduciary staff: (i) a procurement specialist; and (ii) financial specialist. It will also designate the staff responsible for managing the project's contracts.

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/19

Dominican Republic. Loan ____/OC-DR to the Dominican Republic
Implementation of the Dominican Republic's Energy Efficiency Program

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Dominican Republic, as borrower, for the purpose of granting it a financing to cooperate in the execution of a project for the "Implementation of the Dominican Republic's Energy Efficiency Program''. Such financing will be for the amount of up to US$39,000,000 from the resources of the Bank's Ordinary Capital and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Project Summary of the Loan Proposal.

(Adopted on __ _____ 2019)

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