

TC Document

I. Basic Information for TC

▪ Country/Region:	DOMINICAN REPUBLIC
▪ TC Name:	Supporting the implementation of the Dominican Republic's energy efficiency program
▪ TC Number:	DR-T1167
▪ Team Leader/Members:	Héctor Baldovinos (INE/ENE), Team Leader; Claudio Alatorre (CSD/CCS), Alternate Team Leader; Odile Johnson Naveo; Issei Aoki; Juan Herrera; Stephanie Suber; Fidel Márquez (INE/ENE); Awilda Castillo; Yonaida M. Encarnacion; Yocauris Del Carmen García; Jan Carlo Roque; Jenniffer Marmolejos; Elizabeth Nolasco (CID/CDR); Roberto Leal; Leyson Guillen; Sarah Mangones (VPS/ESG); Romina Kirkagacli; Denise Salabie (VPC/FMP); María C. Landazuri-Levey (LEG/SGO).
▪ Taxonomy:	Operational Support
▪ Operation Supported by the TC:	DR-L1122.
▪ Date of TC Abstract authorization:	09 Dec 2020.
▪ Beneficiary:	Dominican Republic
▪ Executing Agency and contact name:	Corporacion Dominicana De Empresas Electricas Estatales
▪ Donors providing funding:	Japan Special Fund(JSF)
▪ IDB Funding Requested:	US\$465,000.00
▪ Local counterpart funding, if any:	US\$0
▪ Disbursement period (which includes Execution period):	24 months
▪ Required start date:	May 15, 2021
▪ Types of consultants:	Firms; Individuals
▪ Prepared by Unit:	INE/ENE-Energy
▪ Unit of Disbursement Responsibility:	INE/ENE-Energy
▪ TC included in Country Strategy (y/n):	No
▪ TC included in CPD (y/n):	No
▪ Alignment to the Update to the Institutional Strategy 2010-2020:	Productivity and innovation; Environmental sustainability

II. Description of the Associated Loan/Guarantee

- 2.1 This Technical Cooperation (TC) will support the Implementation of the Dominican Republic's energy efficiency program (4962/OC-DR) approved in December 2019. 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.

III. Objectives and Justification of the TC

- 3.1 The overall objective of this TC is to support the Government of the Dominican Republic (GDR) in implementing the EE program. To achieve this objective, the TC will support the preparation of detailed technical design and preparation of bidding documents for street lighting technology upgrades and efficiency improvement in priority areas to support citizen security and tourism.
- 3.2 The Dominican Republic (DR) is highly dependent on fossil fuels for power generation with 2018 reporting 46.2% liquid fuels; 26.6% natural gas; and 12.1% coal, while the remaining generation mix included 10.5% hydroelectric; and 4.6% other non-conventional renewables (wind, biomass, solar).
- 3.3 In 2018 the public sector (national and municipal governments) consumed 1,336 GWh, representing 13.1% of the total supplied by the three Electricity Distribution Companies (EDEs – its Spanish acronym) to their customers. With regards to energy consumption in street lighting, it is calculated at 238.3 GWh/year equivalent to 2.5% of DR's total electricity consumption and representing a bill of US\$38.1 million in 2017. High pressure sodium or mercury vapor lamps predominate in public streets and roads; being obsolete and with high power consumption.
- 3.4 The electricity sector, one of the largest recipients of the Government of DR, covers the operating deficit of administration of the EDEs. In 2016 and 2017, the deficit of the EDEs was US\$551 and US\$774 million, respectively (including investment costs), and in 2018 the deficit rose to US\$1,026 million. The variation in value of the deficit is mainly due to the fluctuation of fuel prices used in generation. However, there are factors that continually influence the deficit, and those are: (i) high level of distribution losses, reaching 28.4% in 2018, through inefficiencies in measuring and billing mechanisms as well as network obsolescence; (ii) high operating costs of the EDEs, when compared to similar utilities in the region; (iii) non-optimum cost of new generation due to lack of competitive processes; and (iv) low implementation of energy efficiency measures at national level.
- 3.5 To face the challenges in the electricity sector, in 2010 the Government established the National Energy Efficiency Plan (PNEE), which seeks to reduce costs and achieve energy savings. Among its multiple scope, the PNEE contemplates the management of energy demand in government institutions and training in energy saving and Energy Efficiency (EE). With this program, the government seeks to improve energy performance under the PNEE framework. EE actions proposed in public facilities will be catalyzed for actions in the private sector, through the creation of markets for goods and services in EE.
- 3.6 The National Energy Commission (CNE) and the Dominican Corporation of State Electrical Companies (CDEEE), under the PNEE framework and with the support of the Japan International Cooperation Agency (JICA), prepared in 2014 the Roadmap to the EE, characterizing power consumption of the public sector and identifying the largest consumers, as well as the critical areas of intervention that would help to reduce consumption. The measures of EE in air conditioning systems, water pumping, and street lighting were highlighted as the ones with higher potential for energy savings. Accordingly, the Government of the Dominican Republic requested an investment loan to the Bank (4962/OC-DR) and JICA in the amount of US\$75 million for the implementation of an EE Program that was approved under the Co-financing for Renewable Energy and Energy Efficiency (CORE) mechanism, which was agreed

between JICA and the Bank with an aim of promoting and extending support toward renewable energy and EE through investment in quality infrastructure.

- 3.7 The operation 4962/OC-DR will finance the replacement of lamps and upgrading of street lighting infrastructure, as well as a proposal to complete the legal framework of the street lighting system; and workshops to raise energy efficiency awareness. An analysis of public sector consumption¹ found that interventions in street lighting had the potential to generate savings of 54%. The program approved is expected to contribute to reduce the electricity consumption by 100.13 GWh/year through energy efficiency in street lighting, which means that the 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.
- 3.8 **Strategic alignment.** The TC is consistent with the Update to the Institutional Strategy 2010-2020 (document AB-3008). It aligns with the development challenge of Productivity and Innovation, since it supports: (a) the replacement of streetlamps that will reduce the public expenditure for the payment of electricity bills; and (b) the installation of remote management systems that will enable real-time monitoring to improve consumption efficiency. In addition, the TC is aligned with the crosscutting theme of Climate Change and Environmental Sustainability, by supporting the reduction of greenhouse gas emissions with an EE initiative. Moreover, this TC is also 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.

IV. Description of activities/components and budget

- 4.1 **Component I: Public lighting efficiency improvement.** Technical design for the public lighting work, including the detailed engineering studies, as well as preparation of technical tender documents to replace approx. 190,500 street lighting lamps and new monitoring systems for consumption management. Now, lamps are 85.2% high-pressure sodium or mercury vapor lamps (power rating of 150-250 W); and 14.8% in technologies like 40-100 W fluorescent, 200 W incandescent, etc. LED lamps (lead & mercury free) will be installed, providing up to 54% of energy savings, lower maintenance cost and service life 3-4 times that of the replaced lamps.
- 4.2 **Component II: Public lighting grid upgrade.** Technical design and preparation of technical bidding documents for the upgrading of street lighting grid infrastructure to current regulatory standards for approximately 52,200 street lighting lamps. For the upgrading, LED lamps (lead and mercury free) will be used, along with new monitoring systems for energy consumption management, and the required street lighting infrastructure – new poles, cabling, and accessories – for regulatory compliance.

¹ JICA. Study to collect data on energy efficiency in the Dominican Republic (2016).

- 4.3 **Component III: Monitoring and administration costs.** Consulting services for:
 (i) technical monitoring and supervision of the design activities under the project; and
 (ii) project financial audit.

Indicative Budget

Activity/Component	Description	IDB/Fund Funding	Counterpart Funding	Total Funding
Public lighting efficiency improvement	Preparation of technical design and preparation of technical tender documents for 190,500 street lighting lamps	US\$290,000.00	US\$0.00	US\$290,000.00
Public lighting grid upgrade	Preparation of technical design and technical bidding documents for the upgrading of 52,200 street lighting grid infrastructure to current regulatory standards	US\$145,000.00	US\$0.00	US\$145,000.00
Monitoring and administration costs	Technical monitoring and supervision of the design activities and project financial audit	US\$30,000.00	US\$0.00	US\$30,000.00
Total		US\$465,000.00	US\$0.00	US\$465,000.00

- 4.4 **Reporting, Monitoring and Evaluation.** The progress of this TC will be monitored through its expected results, as defined in the Results Matrix (RM). The RM also defines the indicators and their expected timing. The Project Execution Unit (PEU) will send the Bank a progress report no later than 60 days after the end of each semester. These reports will describe the progress toward completing each of the TC Components throughout its duration, presenting the degree of fulfillment of the output indicators and progress toward the outcomes of the RM as recorded in the updated Procurement Plan. Problems encountered will be identified and corrective measures will be proposed. It will also provide relevant information to identify any areas that require improvement and lessons learned.
- 4.5 Based on the progress reports, the project team will record the required information in Convergence and will be responsible for reporting the progress (or completion, when applicable) annually through the use of IDB systems and following the deadlines set forth therein. The completion or final report must be submitted according to the schedule established in the convergence. The PEU is responsible for submitting the evaluations and forms set forth in the Guidelines for Externally Funded Consultants. Project team must also submit to the JSF Fund Coordinator any additional information needed for the JSF annual reports to the Donor. ORP/GCM is responsible for sending the JSF annual report to the Donor. In addition, ORP/GCM is responsible for sending semi-annual status reports to the EXD Office. The semi-annual reports will include a snapshot of the status of the TC implementation in addition to the status of the project supported by the TC, if applicable².

² Operating Guidance for Application and Implementation of Japan Special Fund (JSF), including the Japan Enhanced Initiative for Quality Infrastructure, Resilience against Disaster and Health (JEI), and Japanese Trust Fund for Consultancy Services (JCF).

- 4.6 **Visibility.** In line with the donor operative guidance, in order to maintain the visibility of the JSF, the project team will: (a) promote awareness of the donor's contribution; (b) invite the Japanese embassy to the kick-off meeting and other events related to the TC; and (c) share non-confidential information about TC – both approved and under preparation – with Japanese aid agencies.

V. Executing agency and execution structure

- 5.1 CDEEE will execute the Project through the UEP and will coordinate technical support with the three EDEs. The CDEEE is responsible for developing strategies and plans for State-owned electric power companies, as well as directing and coordinating them. This institution is also the executing agency for the operation 4962/OC-DR and will act through its existing project execution unit. It is important to highlight that the CDEEE has extensive technical and fiduciary experience in the implementation of energy projects. The has prior experience managing other projects financed by the Bank and other multilateral development organizations. For instance, the CDEEE executed operation 3182/OC-DR, Support for the Power Distribution Network Modernization and Loss Reduction Program (US\$78 million), the operation 2042/OC-DR, Loss Reduction and Business Improvement Program (PRPMC), in support of the electricity sector and the rehabilitation of the electric power distribution companies (US\$152.1 million), among others.
- 5.2 The UEP has and shall maintain during project execution the following personnel: a General Coordinator, a Technical Coordinator, an Environmental and Social Coordinator, and Procurement and Financial Specialists.
- 5.3 The UEP has the responsibility of Project execution, including resource administration, administration of procurement processes, overall supervision, quality acceptance of products delivered, and the preparation and submittal to the Bank of technical and financial reports, and disbursement requests with the associated supporting documentation.
- 5.4 **Procurement.** The activities to be executed are included in the Procurement Plan (Annex IV) and will be contracted pursuant to the Policies for the Selection and Contracting of Consultants financed by the Inter-American Development Bank (GN-2350-15), as updated.

VI. Major issues

- 6.1 Given the COVID situation and the transportation restrictions for consultants, delays could be expected during the implementation, however, the work plan will be maximizing the use of virtual coordination and monitoring to mitigate the risk of delays.

VII. Exceptions to Bank policy

- 7.1 There are no exceptions to Bank policies in this operation.

VIII. Environmental and Social Strategy

- 8.1 This TC will finance consultancy products, technical studies and workshops and will not be financing any infrastructure components nor environmental and social studies.

Nevertheless, since the TC is associated with the project 4962/OC-DR which has a category B., therefore it has been classified as "B". Based on the scope of the TC it has been determined that the TC does not require an Environmental and Social Assessment nor a consultation process. For additional information, please see the Safeguard Policy Filter ([SPF](#)) and the Safeguard Screening Form ([SSF](#)).

Required Annexes:

[Request from the Client - DR-T1167](#)

[Results Matrix - DR-T1167](#)

[Terms of Reference - DR-T1167](#)

[Procurement Plan - DR-T1167](#)