

## TC ABSTRACT

### I. Basic Project Data

▪ Country/Region:	HONDURAS/CID - Isthmus & DR
▪ TC Name:	Smart grid assessment for Guanaja Island as part of "Guanaja Green Island Program"
▪ TC Number:	HO-T1406
▪ Team Leader/Members:	JACOME MONTENEGRO, CARLOS ALBERTO (INE/ENE) Team Leader; CONTIN STEINEMANN, CHRISTIAN ALBERTO (VPC/FMP); MORAN MATUTE, CARLOS GILBERTO (CID/CHO); BARRAGAN CRESPO, ENRIQUE IGNACIO (LEG/SGO); MEJIA REYES, EDWIN ORLANDO (INE/ENE); MARZOLF, NATACHA (INE/ENE); KIM, JONGWOO (INE/ENE); URQUIA ERAZO, LILIAM NINOSKA (INE/ENE); PAREDES, JUAN ROBERTO (INE/ENE); DEL PUERTO CORREA, MARIA CECILIA (VPC/FMP); LOANA VEGA (INE/ENE)
▪ Taxonomy:	Client Support
▪ Number and name of operation supported by the TC:	N/A
▪ Date of TC Abstract:	14 Feb 2022
▪ Beneficiary:	Republic of Honduras
▪ Executing Agency:	Inter-American Development Bank
▪ IDB funding requested:	US\$500,000.00
▪ Local counterpart funding:	US\$0.00
▪ Disbursement period:	18 months
▪ Types of consultants:	Individuals; Firms
▪ Prepared by Unit:	INE/ENE - Energy
▪ Unit of Disbursement Responsibility:	CID/CHO - Country Office Honduras
▪ TC included in Country Strategy (y/n):	Yes
▪ TC included in CPD (y/n):	No
▪ Alignment to the Update to the Institutional Strategy 2010-2020:	Productivity and innovation; Environmental sustainability

### II. Objective and Justification

- 2.1 The objective of this Technical Cooperation (TC) is to support the government of Honduras (GoH) in planning the Guanaja Green Island Program (GGIP) in order to: (i) evaluate the existing distribution grid infrastructure; (ii) conduct energy demand-side management assessments, including the evaluation of terrestrial and maritime electric mobility options; (iii) evaluate the applicability of smart grid technologies considering (i) and (ii) as inputs, as well as the expansion and investment plans for renewable energy generation; and (iv) document lessons learned and make suggestions on regulatory and legal considerations that can be implemented at the national level.
- 2.2 Currently, the GoH, through the Social Fund for Electrical Development (FOSODE) of the National Electric Energy Company (ENEE), is executing the Guanaja Green Island Program, which seeks to increase the penetration of renewable energies up to 75% on the Caribbean Island of Guanaja and carry out a capacity building program for the design, construction, operation, and maintenance of microgrids. The program consists of two phases to reduce gradually the use of fossil fuels. The first phase of the project is funded by the Scaling up Renewable Energy in Low-Income Countries Program (SREP) administrated by IDB and involves building a photovoltaic microgrid of 600 kWp

with energy storage to reduce at least 15% of diesel consumption. The second phase will increase the participation of renewable energy and storage and it is financed by the Korean Institute for Advancement of Technology (KIAT). With the support of the Bank and other international cooperation programs, Honduras has made significant progress in the recent past regarding the implementation of a series of actions, which demonstrate the existence of a comprehensive planning for the development of an investment program on Guanaja island. The GGIP will be an exhibition project so that the GoH can show the potential and impact of microgrids in rural and/or isolated areas, contributing to the National Program for Universal Access to Electric Power in Honduras. This TC will contribute to the expansion of the ongoing actions in the program by building a baseline and a future scenario assessment, evaluating smart grid technology options, and disseminating knowledge and suggestions for regulatory proposals to be implemented at the national level.

### III. Description of Activities and Outputs

- 3.1 **Component I. Baseline and future scenario assessment.** This component will finance the generation and distribution infrastructure evaluation of Guanaja island. Based on the results of these studies and local surveys, a technical and economic evaluation will be carried out to develop energy efficiency programs for energy users on this island. These programs will include electricity uses, heating & cooling, water pumping, electric transportation applications (land and maritime solutions) and their impact on the electricity demand.
- 3.2 **Component II. Smart grid technology option assessment.** Based on the results of Component I, this component will support the identification and proposal for the next-generation distribution grid requirements. Also, suggestions to implement a smart grid program in Guanaja will be incorporated. The investment plan will include: (i) Advanced Metering Infrastructure (AMI); (ii) Energy Management Systems (EMS); and (iii) Electric Vehicle (EV) charging infrastructure and distributed energy resource management. The results will be used to prepare future IDB loan operations.
- 3.3 **Component III. Knowledge dissemination and regulatory suggestion to implement nationwide.** This component will finance the preparation of technical information to systematize lessons learned, share knowledge and technological improvements, and share experiences with South Korea. Furthermore, as part of the National Strategy for Energy Transition, this TC will provide energy decision makers, including regulatory and planning agencies, a roadmap to improve the existing legal and regulatory framework to foster the development of smart grid technologies.
- 3.4 **Component IV. Administrative support.** This will finance local coordination needs.

### IV. Budget

#### Indicative Budget

Activity/Component	IDB/Fund Funding	Counterpart Funding	Total Funding
Component I. Baseline and future scenario assessment	US\$150,000.00	US\$0.00	US\$150,000.00
Component II. Smart grid technology option assessment	US\$285,000.00	US\$0.00	US\$285,000.00
Component III. Knowledge dissemination and regulatory suggestion to implement nationwide	US\$45,000.00	US\$0.00	US\$45,000.00
Component IV. Administrative support	US\$20,000.00	US\$0.00	US\$20,000.00
<b>Total</b>	<b>US\$500,000.00</b>	<b>US\$0.00</b>	<b>US\$500,000.00</b>

## **V. Executing Agency and Execution Structure**

- 5.1 Upon the request of the GoH and in accordance with the guidelines established in the Operational Guidelines for Technical Cooperation Products (GN-2629-2), the IDB through the Energy Division (ENE/CHO) will act as the Executing Agency.
- 5.2 The Bank acting as the Executing Agency will allow a better coordination with the operation HO-G1247 (under execution), given the importance of addressing technical and environmental issues in a timely manner. In addition, it will guarantee the technical quality of the products and the compliance with the standards necessary for execution of the aforementioned investment grant. The activities to be executed under this operation will be included in the Procurement Plan and will be carried out in accordance with the Bank's established procurement methods, namely: (i) hiring of individual consultants, as established in the regulations AM-650; (ii) Policy for the Selection and Contracting of Consulting Firms for Bank-executed Operational Work according to GN-2765-4 and its associated operational guidelines (OP-1155-4); and (iii) contracting of logistics services and other services other than consulting, according to the policy GN-2303-20.

## **VI. Project Risks and Issues**

- 6.1 The main risk will be to carry out the consultancies in the proper time and visit the island of Guanaja due to COVID-19 restrictions.

## **VII. Environmental and Social Classification**

- 7.1 This TC will not finance feasibility or pre-feasibility studies of investment projects with associated environmental and social studies; therefore, it falls outside the scope of the Bank's Environmental and Social Policy Framework (ESPF).