

Cover Page for Project/Program Approval Request

1. Country/Region:	Honduras	2. CIF Project ID#:	
3. Source of Funding:	<input type="checkbox"/> FIP	<input type="checkbox"/> PPCR	<input checked="" type="checkbox"/> SREP
4. Project/Program Title:	<i>Project Preparation - Renewable Energy Transmission in West and North Zones</i>		
5. Type of CIF Investment:	<input checked="" type="checkbox"/> Public	<input type="checkbox"/> Private	<input type="checkbox"/> Mixed
6. Funding Request in million USD equivalent:	<i>Grant: 0.5</i>		<i>Non-Grant:0</i>
7. Implementing MDB(s):	<i>IDB</i>		
8. National Implementing Agency:	<i>N/A</i>		
9. MDB Focal Point and Project/Program Task Team Leader (TTL):	<i>Headquarters- Focal Point: Claudio Alatorre, Climate Change and Sustainability Division</i>		<i>TTL: Carlos Jácome, Energy Division</i>

10. **Project/Program Description** (including objectives and expected outcomes):

Grid-Connected RE Development Support (*Apoyo al Desarrollo de las Energías Renovables en Conexión con la Red*, or ADERC) is the second component of the Investment Plan of Honduras for the SREP. ADERC includes three sub-components financed by SREP resources: a private sector generation sub-component, a public sector transmission sub-component (infrastructure to access the renewable energy potential), and a studies and capacity building sub-component.

This Technical Cooperation activity (TC) seeks to utilize resources allocated under the studies and capacity building subcomponent, in order to prepare the execution of the public sector transmission sub-component, called “Transmission Program for Renewable Energy in the West and North Zones” (hereinafter the Program).

In particular, the TC aims to assist the National Power Utility (ENEE) in the execution of the technical and environmental studies necessary for the preparation and execution of the Program, by means of: (i) preparation of technical studies of the stability of the Honduran electricity system, considering the incorporation of the new Non-conventional Renewable Energy (NCRE) projects; (ii) preparation of the Environmental Impact Studies (EISs) of the planned works; (iii) development of capacities of the staff of ENEE and the environmental authority for determination and compliance with environmental policies in developing power projects; and (iv) dissemination in the region of the Honduran experience in NCRE development and diversification of the energy matrix.

The objective of the Program is to expand and improve the power transmission infrastructure in order to connect several NCRE generation projects, currently under development in the West and North zones of the country, to the grid (National Interconnected System, SIN); and to strengthen interconnection capacity with the Regional Electricity Market (MER). The specific objectives of the Program are to: (i) guarantee connection to the grid of generation projects with NCRE; (ii) diversify the generation matrix, and (iii) reduce generation costs in the long term.

The TC is expected to have the following results: (i) support for the ENEE in the correct operation of the Honduran electricity system with integration of NCRE generating sources; (ii) compliance with environmental regulations and obtaining environmental permits for execution of the Program works; (iii) improvement of the EIA system for renewable energy projects; and (iv) sharing the knowledge

and experience of Honduras in NCRE development and diversification of its generation matrix.

11. Consistency with Investment Criteria:

The proposed Technical Cooperation will enable the Government of Honduras to prepare the transmission investment Program. An explanation about the consistency of SREP investment criteria of this Program will be provided when it is submitted (November 2015).

12. Stakeholder engagement:

The main stakeholders engaged in the design of this TC have been ENEE and the Ministry of the Environment (SERNA) in coordination with the SREP Focal Point the Ministry of Infrastructure and Public Services (INSEP). Project consultations with local populations are envisioned as part of the Environmental Impact Assessments (EIA) activity.

13. Gender considerations:

The Environmental Impact Assessments (EIA) activities will assess potential impacts on local communities with a gender focus. Component 3 will promote the active participation of women in the capacity building activities.

14. Indicators and Targets (consistent with results framework):

Core indicators will be provided when the Program proposal is submitted. Specific targets of this TC include the stability analysis of the power system, and the guidelines and procedures for the implementation of environmental standards in the electricity sector.

15. Co-Financing:

	<i>Amount (in USD million):</i>	<i>Type of contribution:</i>
• Government	0	N/A
• MDB	0	N/A
Co-Financing Total:	0	

16. Expected MDB Management approval date:

Approval of TC	May 2015
Submission of Program to SREP	Nov 2015
IDB Board approval of Program	Dec 2015

Technical Cooperation Document

I. Basic project data

▪ Country/Region:	Honduras
▪ TC Name:	Support Program for Renewable Energy Transmission in West and North Zones
▪ TC Number:	HO-T1221
▪ Team Leader/Members:	Carlos Jácome (ENE/CHO) Team Leader; Adriana Valencia (INE/ENE) Alternate Team Leader; Nancy Jesurun-Clements (INE/ENE); Carlos Trujillo (INE/ENE); Edwin Malagón (INE/ENE); Haydemar Cova (INE/ENE); Emiliano Detta (INE/CCS); Claudio Alatorre (INE/CCS); Cristina Landázuri-Levey (LEG/SGO); Crystal Fenwick (VPS/ESG); Kelvin Suero (FMP/CHO); Juan C. Martell (FMP/CHO); Ana Paz (CID/CHO); Heleno Gouvea (ORP/PTR) and Victoria Florez Toro (ORP/PTR)
▪ TC Category	Operational Support
▪ Number and name of the operation supported by the TC:	Transmission Program for Renewable Energy in West and North Zones (HO-L1106 / HO-G1006)
▪ Date of Authorization of TC Abstract:	
▪ Beneficiary (countries or entities which are the recipient of the technical assistance):	Empresa Nacional de Energía Eléctrica (ENEE) and Ministry of Natural Resources and Environment (SERNA)
▪ Executing Agency and contact name	IDB through the Energy Division (INE/ENE)
▪ Donors providing funding:	Strategic Climate Fund (SCX); Scaling-up Renewable Energy Program (SREP)
▪ IDB Funding Requested:	\$500,000
▪ Local counterpart, if any:	0
▪ Disbursement period (which includes execution period):	24 months
▪ Required start date:	June 1, 2015
▪ Types of consultants:	Consulting firms and individual consultants
▪ Prepared by Unit:	INE/ENE
▪ Unit of Disbursement Responsibility:	ENE/CHO
▪ Included in Country Strategy (y/n):	Yes
▪ TC included in CPD (y/n):	No
▪ Priority Sector GCI-9:	i) Support for development of small and vulnerable countries; (ii) support for climate change, renewable energy and sustainability initiatives; and (iii) support for regional cooperation and integration.

II. Description of associated operations

- 2.1 This technical cooperation (TC) program is part of the Scaling-up Renewable Energy in Low Income Countries Program (SREP) in Honduras. The SREP is a program funded by the Climate Investment Fund (CIF), through the Strategic Climate Fund, which promotes the use of renewable energy to increase access to energy and economic opportunities in the poorest countries. SREP makes grants and concessional loans.
- 2.2 The total SREP budget allocated to Honduras is US\$30 million, divided into three components: (i) strengthening the policy, regulatory and institutional framework for renewable energy (FOMPIER); (ii) support for development of renewable energy projects connected to the grid (ADERC); and (iii) sustainable rural energization (ERUS). The investment plan for Honduras which applies these resources was endorsed by the SREP Sub-Committee in November 2011. Later the three participating multilateral banks (IDB, World Bank, IFC) began preparation of the various associated operations. This TC, which is part of component II, ADERC, will support in particular preparation of the Transmission Program for Renewable Energy in West and North Zones (Program), (HO-G1006 and HO-L1106), which has non-reimbursable resources of US\$4 million from the same component of the SREP, to be used for public investment in transmission improvements.
- 2.3 The objective of the Program supported by the TC is to expand and improve the power transmission infrastructure in order to connect several Non-conventional Renewable Energy (NCRE) generation projects, currently under development in the West and North zones of the country, to the grid (National Interconnected System, SIN); and to strengthen interconnection capacity with the Regional Electricity Market (MER). The specific objectives of the Program are to: (i) guarantee connection to the grid of generation projects with NCRE; (ii) diversify the generation matrix, and (iii) reduce generating costs in the long term. The Program will be executed by *Empresa Nacional de Energía Eléctrica* (National Power Utility) (ENEE), responsible for the expansion of the transmission and distribution systems.
- 2.4 The Program will finance costs of construction, adaptation and improvement of transmission lines and substations in order to connect priority NCRE generation plants to the grid. The proposed works in the West include construction of the Santa Rosa de Copán II 230/69 kV substation, the La Labor 230/34.5 kV substation, and the La Labor-Santa Rosa 69 kV and Santa Rosa-La Entrada 230 kV transmission lines. In the North of the country expansion of the San Buenaventura 230 kV and San Pedro de Sula Sur 230/138 kV substations and conversion of the San Buenaventura-San Pedro Sula Sur line from 138 kV to 230 kV. Improvement of the electricity infrastructure will benefit the communities of La Entrada and Ruinas de Copán, where the largest load centers and important tourist and commercial centers of the region are located and where the highest rates of outages are reported in the country, thus promoting the economic development of the area resulting in higher incomes. Regional integration will be strengthened by increasing the capacity to import and export electricity in the MER.
- 2.5 The expected outputs are: (i) improvement of the quality and reliability of the power transmission grid; (ii) higher contribution of NCRE to the generation matrix, with high participation from the west of the country; (iii) reduction of greenhouse gas emissions; (iv) reduction of average purchase price of electricity; and (v) improved transmission capacity to market power in the MER. Table II-1 shows the NCRE generation projects which will benefit from the Program.

Table II-1. URE generation projects which will benefit from the transmission infrastructure

Type	Quantity	Capacity MW
Geothermal	1	35
Wind	1	112
Hydro (maximum capacity of 35 MW plant)	23	233
Total	25	380

2.6 The total amount of the Program is US\$64 million which is expected to be financed by loans from the IDB (HO-L1106) (US\$25.5 million) and from the European Investment Bank (EIB) (US\$21.5 million); and grants from SREP (US\$ 4 million) and from the Latin American Investment Fund (LAIF) of the European Commission (US\$ 13 million). The Program Profile was approved in February 2015. Distribution of the Proposal for Operation Development (POD) to the Quality and Risk Review Committee (QRR) is expected to be in October 2015, approval of the draft Loan Proposal by Operation Policy Committee (OPC) in November 2015 and consideration by the Board in December 2015.

III. Objectives and Justification for the TC

3.1 **Objective.** This TC aims to assist the ENEE with preparation of the technical and environmental studies necessary for the preparation and execution of the Program, by means of: (i) preparation of technical studies of the stability of the Honduran electricity system, considering the incorporation of the new NCRE projects; (ii) preparation of the Environmental Impact Studies (EISs) of the planned works; (iii) development of capacities of the staff of ENEE and the environmental authority for determination and compliance with environmental policies in developing power projects; and (iv) dissemination in the region of the Honduran experience in NCRE development and diversification of the energy matrix.

3.2 **Justification.** The Government of Honduras (GoH) has been promoting NCRE development with the aim of reducing dependence on fossil fuels for electricity generation. In 2007, when thermal generation in Honduras was around 63% of the total, the Law to Promote Electricity Generation with Renewable Resources was enacted, which introduced incentives to increase generation with NCRE from 5% in 2007 to the current levels of 16.2%, reducing the share of thermal energy to 57% following the addition of 356 MW of NCRE to the system. In 2013, Reform Decree 138 of that law improved the incentives for promoting the share of photovoltaic solar energy. The Honduran regulatory framework is considered the most attractive in Central America for promoting NCRE, with incentives that include exemption from sales, import and income taxes; a clear formula for calculating the price of energy; and priority for NCRE dispatch¹. Country Vision 2010-2022 (Legislative Decree No. 286-2009, of 2010) envisages that the share of Renewable Energy (RE) in the country will increase from 65% in 2017 to 80% by 2022.

3.3 The number of NCRE projects in the country continues to increase. Currently 566 MW of NCRE (geothermal, wind, solar, hydro and biomass) are under construction, with incorporation planned

¹ Study of Recommendations for Use of SREP Resources, *Exclude* for the IDB. January 2014.

during the next three years. There are 437 MW of projects at the phase of financing identification, to be developed later.

- 3.4 One of the main barriers to development of NCRE in adequate conditions is insufficient transmission infrastructure to connect them to the grid. The ENEE has identified in its transmission and distribution expansion plan 2014-2024 (SREP Investment Plan 2011) the investments needed to connect the new generation to the system and to overcome this barrier. ENEE, as the entity responsible for operation of the grid, must perform stability studies of the electricity system to ensure in advance that the system is continuing to function correctly and in conditions of quality and safety, following introduction of the new NCRE generation plants, especially intermittent renewable generation, such as solar and wind power. For execution of the specific investments of the Program (Environmental Category B), it is necessary to ensure compliance with national environmental legislation and the policies and standards of the project financing agencies, including IDB Environment and Safeguards Compliance Policy (OP-703), and the policies of EIB and LAIF.
- 3.5 The Ministry of Natural Resources and Environment (SERNA) is currently developing a reform process to improve the Environmental Impact Assessment (EIA) system. As part of this process, one of the strongest demands for environmental assessment comes from development of NCRE projects. It is critical for SERNA to strengthen its technical capacity for formulation of guidelines, procedures and/or methodologies for correct preparation of EIAs. ENEE, for its part, requires technical and institutional support in order to move ahead with the process of obtaining environmental licensing for each of the works to be executed, including preparation of the EIAs or Technical Environmental Reports (TER), depending on the classification assigned to each work according to the criterion of the environmental authority.
- 3.6 **Strategic alignment.** The TC is consistent with the Bank's Country Strategy (BCS) 2015-2018 (GN-2796-1), which prioritizes the sustainability and competitiveness of the energy sector, supporting the reform process of the sector, considering investments in the sector, as progress is made in implementing the reforms to improve its efficiency and financial sustainability, aiming at: (i) improving the efficiency and quality of service and diversifying the generation matrix; and (ii) expanding access to the electricity service. The BCS prioritizes social inclusion, with emphasis on the Western zones of the country where most of the investments under the Program will be made. The Bank recognizes that the country has made significant progress in reforming the sector, partially supported by the Bank through the "Programmatic Support for Structural Reforms of the Electricity Sector" (HO-L1070). The Program and this supporting TC are consistent with the priorities of the Financing of the Ninth General Capital Increase Program (GCI-9) (AB-2764): (i) support for development of small and vulnerable countries; (ii) support for climate change initiatives, RE and sustainability; and (iii) funding for regional cooperation and integration.

IV. Description of components and budget

- 4.1 **Component 1. Stability Analysis of the Power System.** A stability study of the Honduran electricity system will be financed to guarantee the efficient and reliable operation of the system with the integration of various NCRE generation projects into the system, especially those of intermittent operation, such as wind and solar, and the associated transmission projects to be implemented. The study will carry out voltage and frequency stability analysis and will consider regulation and spinning reserve requirements in the national electricity system, and the need for reinforcement of transmission systems at the national level. The study will also consider the implications of the new generation in Honduras for the regional electricity system.

4.2 **Component 2. Environmental Impact Studies.** The component will finance the EISs for the works that require them for obtaining the environmental license, according to the environmental classification assigned by the environmental authority. The studies will include detailed baseline information, for example, studies of bird routes, biodiversity, protected areas, and the social aspects of the project. The analysis will be carried out by a multidisciplinary team with qualifications accredited by the environmental regulator. For projects that already have environmental license, as in the case of the San Pedro Sula and San Buenaventura substations, the ENEE will directly prepare Technical Environmental Reports (TERs)² notifying SERNA of the detail of the works to be implemented. Table IV-1 shows the type of study required for each of the works to be implemented.

Table IV-1. Environmental studies required for Program works

Area	Work	Work Type	Required Study
West	LT Santa Rosa - La Entrada	Construction	EISs
	S/E Santa Rosa II	Construction	
	LT La Labor -Santa Rosa	Construction	EISs
	S/E La Labor	Construction	
North	LT San Buenaventura - San Pedro Sula	Construction	EISs
	S/E San Pedro de Sula	Expansion	TER
	S/E San Buenaventura	Expansion	TER

4.3 **Component 3. Capacity building for environmental matters.** Development of guidelines, procedures and workshops for capacity building of SERNA and ENEE staff and NCRE project developers for determination and compliance with the environmental regulations required for development of electricity generation and transmission projects.

4.4 **Component 4. Exchange and sharing of experiences in URE.** Financing will be available for workshops, technical tours and publications to share the Honduran experience, exchange experiences with the rest of the region and disseminate lessons learned.

4.5 **Expected results.** The TC is expected to have the following results: (i) support for the ENEE in the correct operation of the Honduran electricity system with integration of NCRE generating sources; (ii) compliance with environmental regulations and obtaining environmental permits for execution of the Program works; (iii) improvement of the EIA system for renewable energy projects; and (iv) sharing the knowledge and experience of Honduras in NCRE development and diversification of its generation matrix.

² According to national legislation, EISs are prepared when the project activities are considered to have moderate and/or high environmental impact/ risk. TIRs are prepared when the impact/risk is considered low. TIRs are general in scope and are used to notify in general the activity undertaken to construct the project. Therefore TIRs are usually prepared directly by the ENEE's Environmental Studies Unit.

Table IV-2. Product Matrix

Component/Activity	Results				Product
	Base 2014	2015	2016	Target 2017	
Component 1. Stability Analysis of Electricity System					
Stability analysis of the power system	-	-	1	1	Stability Study
Component 2. Environmental Impact Studies					
Environmental Impact Studies	-	3		3	Final EIS documents
Component 3. Strengthening environmental work					
Preparation of guidelines, procedures	-	-	1	1	Guidelines and procedures
Component 4. Exchange and sharing of URE experiences					
Execution exchange workshops	-	-	3	3	Executed Workshop
Dissemination and publications	-	-	-	1	Publication issued

- 4.6 The TC will be financed with resources from the Strategic Climate Fund, US\$500,000, under the SREP.

Table IV-3. Indicative Budget

Description	IDB/Fund	Local	Financing
		Counterpart	Total
Component 1. Stability Analysis of Electricity System	\$ 175,000	-	\$ 175,000
Stability analysis of the power system Study.	\$ 175,000		\$ 175,000
Component 2. Environmental Impact Studies	\$ 225,000	-	\$ 225,000
Environmental Impact Studies (3)	\$ 175,000		\$ 225,000
Consolidation of studies information and preparation ESMR	\$ 50,000		\$ 50,000
Component 3. Strengthening of SERNA, ENEE and industry actors in environmental aspects	\$ 50,000	-	\$ 50,000
Preparation of guidelines, environmental procedures	\$ 50,000		\$ 50,000
Component 4. Exchange and sharing of NCRE experiences	\$ 50,000	-	\$ 50,000
Execution of experiences exchange workshops	\$ 25,000		\$ 25,000
Dissemination and publications	\$ 25,000		\$ 25,000
TOTAL	\$ 500,000	-	\$ 500,000

V. Executing Agency and execution structure

- 5.1 The Government of Honduras has requested the Bank to execute this TC, given the sensitivity and technical rigor required for development of the environmental aspects and the necessary coordination between the Bank, co-financiers and ENEE; and to guarantee the technical quality of the products, coordination and compliance with the standards and times needed for approval of the Program.
- 5.2 The Bank will hire individual consultants, consulting firms and various consulting services in accordance with the policies and procedures of the Bank. For selection of the consulting firms for preparation of the EISs, only companies listed in the Register of Providers of Environmental Services of SERNA will be considered. Since the TC will be executed by IDB, no financial audits are required or envisaged. For expenditure on Component 4, given the size and type of service required (travel, workshop materials, refreshments, publications, etc.), the Bank will use the direct contracting modality for suppliers from the list of suppliers contracted by the Country Office in Honduras for these services.

VI. Significant risks

- 6.1 Considering the ongoing process of reform of the approval of EISs, delays could occur during the processes that must be undertaken by the environmental authorities, such as definition of the terms of reference for the EIAs. To mitigate this risk, this TC includes component 3, with which the Bank will accompany SERNA in the process of reforming the procedures and the ENEE environmental team.

VII. Exceptions to Bank policies

- 7.1 None.

VIII. Environmental Safeguards

- 8.1 Because the TC relates to preparation of studies, no environmental or social impacts are envisaged. The TC has been classified in category "C".

Annexes

Annexes Available Upon Request	
ANNEX I	Safeguard Policy Filters
ANNEX II	Safeguard Screening Forms
ANNEX III	Terms of Reference Stability Analysis of the Power System (in Spanish)
ANNEX IV	Terms of Reference Environmental Impact Studies (in Spanish)
ANNEX V	Terms of Reference for the Preparation of Environmental Procedures and Guides (in Spanish)