

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

## **HONDURAS**

### **PROGRAMMATIC SUPPORT FOR STRUCTURAL REFORMS IN THE ELECTRICITY SECTOR. THIRD LOAN**

**(HO-L1189)**

#### **LOAN PROPOSAL**

This document was prepared by the project team consisting of Carlos Jacome (ENE/CHO), Project Team Leader; Alberto Levy, Alternate Project Team Leader, Michelle Carvalho, Wilkferg Vanegas, and Stephanie Suber (INE/ENE); Nalda Morales and María Cecilia del Puerto (FMP/CHO); Alejandro Aguiluz (CID/CHO); and María Cristina Landázuri (LEG/SGO).

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<b>REQUIRED</b> <ol style="list-style-type: none"><li>1. <a href="#">Policy Letter</a> (*)</li><li>2. <a href="#">Means of Verification Matrix</a> (*)</li><li>3. <a href="#">Results Matrix</a> (*)</li></ol> <b>OPTIONAL</b> <ol style="list-style-type: none"><li>1. <a href="#">Economic Analysis of the Project</a></li><li>2. <a href="#">Monitoring and Evaluation Plan</a></li><li>3. <a href="#">Analysis of Public Utilities Policy Compliance</a></li><li>4. <a href="#">Electricity Industry Act</a></li><li>5. <a href="#">Government of Honduras Strategic Plan</a></li><li>6. <a href="#">Analysis of the Contribution to Competitive Regional Integration</a></li><li>7. <a href="#">Comparative Matrix</a></li></ol>

- (\*) At the request of the borrowing country, the information contained in this electronic link is confidential in accordance with the country-specific information exception in paragraph 4.1 i of the Bank's Access to Information Policy (document GN-1831-28) and will not be disclosed until the Loan Contract has been signed and entered into effect.

## ABBREVIATIONS

CONAEN	Consejo Nacional de Energía [National Energy Council]
CREE	Comisión Reguladora de Energía Eléctrica [Electric Power Regulatory Commission]
EEH	Empresa Energía Honduras [Honduras Energy Company]
ENEE	Empresa Nacional de Energía Eléctrica [National Electric Power Company]
GDP	Gross domestic product
IRR	Internal rate of return
LGIE	Electric Power Industry Act
MER	Mercado Eléctrico Regional [Regional Electricity Market]
MiAmbiente	Secretaría de Energía, Recursos Naturales, Ambiente y Minas [Ministry of Energy, Natural Resources, the Environment, and Mines]
NCRE	Nonconventional Renewable Energy
NPV	Net present value
PBP	Programmatic policy-based loan
SEFIN	Ministry of Finance
SIEPAC	Sistema de Interconexión Eléctrica para América Central [Central American Electric Interconnection System]
STN	Sistema de Transmisión Nacional [National Transmission System]

## PROJECT SUMMARY

### HONDURAS PROGRAMMATIC SUPPORT FOR STRUCTURAL REFORMS IN THE ELECTRICITY SECTOR. THIRD LOAN (HO-L1189)

Financial Terms and Conditions			
Borrower: Republic of Honduras	Source	Amount (US\$)	%
	IDB (Regular Ordinary Capital - OC)	30,000,000	60
Executing Agency: Ministry of Finance (SEFIN)	IDB (Concessional OC)	20,000,000	40
	Total	50,000,000	100
	Regular OC (FFF) <sup>(a)</sup>	Concessional OC	
Amortization period:	20 years	40 years	
Disbursement period:	1 year		
Grace period:	5.5 years	40 years	
Interest rate:	LIBOR-based	0.25%	
Credit fee:	<sup>(b)</sup>	N/A	
Inspection and supervision fee:	<sup>(b)</sup>	N/A	
Weighted average life (WAL):	12.75 years	N/A	
Approval currency:	United States dollars		
Project at a Glance			
<b>Project objective/description:</b> The general objective of the programmatic series and specifically the third and final operation is to support the government of Honduras in implementing the sector reforms and policies needed to enhance financial sustainability, operational efficiency, and security of supply in the electricity sector. The specific objectives are to: (i) strengthen the sector's institutional capacity and regulatory framework; (ii) enhance financial sustainability and operational efficiency; and (iii) adopt energy policies aimed at ensuring a secure supply of electricity. The program is structured as a programmatic policy-based loan (PBP) and this is the last in a series of three loan operations that are technically linked but financed independently.			
<b>Special conditions precedent to the sole disbursement of the loan:</b> comply, to the IDB's satisfaction, with the policy conditions indicated in Annex II (Policy Matrix) (paragraph 3.2), in addition to complying with the other conditions established in the loan contract.			
<b>Exceptions to Bank policies:</b> None.			
Strategic Alignment			
Challenges: <sup>(c)</sup>	SI <input type="checkbox"/>	PI <input checked="" type="checkbox"/>	EI <input checked="" type="checkbox"/>
Crosscutting themes: <sup>(d)</sup>	GD <input type="checkbox"/>	CC <input checked="" type="checkbox"/>	IC <input checked="" type="checkbox"/>

<sup>(a)</sup> Under the terms of the Flexible Financing Facility (FN-655-1), the borrower has the option of requesting changes to the amortization schedule as well as currency and interest rate conversion. The Bank will take operational, risk management, and prevailing market conditions, as well as the concessional level of the loan into account when reviewing such requests, in accordance with the Bank's applicable and current policies on the subject.

<sup>(b)</sup> The credit fee and the 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 relevant policies.

<sup>(c)</sup> SI (Social Inclusion and Equality); PI (Productivity and Innovation); and EI (Economic Integration).

<sup>(d)</sup> GD (Gender Equality and Diversity); CC (Climate Change and Environmental Sustainability); and IC (Institutional Capacity and the Rule of Law).

## I. DESCRIPTION AND RESULTS MONITORING

### A. Background, problem, and rationale

- 1.1 **Macroeconomic conditions.** The gross domestic product (GDP) of Honduras grew by 3.6% in 2016, similar to growth in 2015, but less than the average for the period 2000-2015 (4.1%). The sectors with the most growth were financial intermediation (6.7% of GDP), agriculture (12.2% of GDP), electricity and water (2.6% of GDP), with growth on the order of 8.7%, 4.2%, and 4.1%, respectively. In the medium term, real GDP growth of 3.8% is projected.
- 1.2 Prudent monetary policy and stable international prices for commodities have made it possible to control inflation. As of the first half of 2017, inflation was 3.65%, below the target range of 4.75%-5.75% established by the Central Bank of Honduras, although with a slight 1.2 percentage point increase compared to the same period in the preceding year (2.45%). This inflationary dynamic is explained by the weakened downward effect in the adjustment of petroleum prices and the increase in prices for goods and services related to education (6.2%), personal care (5.9%), hotels, cafeterias, and restaurants (5.8%), transportation (4.1%), and other areas.
- 1.3 As of the first half of 2017, the current account balance is 1.1% of GDP (US\$241.7 million), higher than the -0.5% in the first half of 2016 (-US\$117 million). This improvement is due to an improved trade deficit (US\$176 million) and a significant rebound in remittances (US\$2.38 billion). Between 2012 and 2016, the current account showed a deficit situation, with imports of no less than 58.7% of GDP (2016) and exports of no more than 51.0% of GDP (2012). The most recently observed current gap corresponds to -3.0% in 2005.
- 1.4 The central government's deficit fell from 7.2% of GDP in 2013<sup>1</sup> to 2.7% of GDP in 2016. This shows a notable improvement compared to the period between 2010 and 2013 when the central government had fiscal deficits higher than 4.0% of GDP. Following the negative impact of the global financial crisis of 2008 and political instability in 2009, which were reflected in a financial deficit of 6.0% of GDP, in 2010-2011 Honduras was able to partially reverse deterioration in the fiscal accounts.
- 1.5 The objective of fiscal policy in recent years has been to reestablish equilibrium of public finances and stabilize public debt. Between 2014 and 2015, the authorities implemented reforms to strengthen tax collection, reduce spending, and ensure the financial sustainability of State-owned companies. These actions were also intended to improve the stabilizing function of fiscal policy, make public action more efficient, and promote medium-term growth.
- 1.6 Since 2014 the government has been supported by the International Monetary Fund (IMF). The three-year support program, adopted in November 2014, establishes actions and targets focused on ensuring the sustainability of the fiscal measures implemented by the authorities. The IMF approved the third and fourth review on 26 October 2016. Approval of the fifth and sixth reviews of the program

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<sup>1</sup> In the same year, the electricity sector was the sector with the greatest impact, contributing 1.8% of GDP.

is expected before the end of 2017, which means a successful conclusion of the agreement.

- 1.7 **The electricity sector.** Over the last five years, the country's demand for electricity has grown at an average rate of 3.83% per year and power at 55 MW/year. This increase reflects economic growth and increased electricity coverage in the country. However, increased demand brings significant challenges in terms of the supply of electricity. In 2016, generating capacity was 2,439 MW, and the supply of energy reached 8.978 GWh, with 49% coming from thermal power, 15.2% from State-owned hydroelectric power, 33.6% from nonconventional renewable energy (NCRE), and 2.2% from the Regional Electricity Market (MER) for the Central American Electric Interconnection System (SIEPAC). Honduras is the country in the region that purchases the second highest amount of energy from the MER. Average energy purchased on the MER both in the contracts market and the opportunity market during 2014-2016 compared to 2013 showed an increase of 90%, despite limitations on enhancements to the national transmission system.
- 1.8 The country's high dependence on petroleum derivatives meant that in 2015 spending for imports of petroleum derivatives represented 7.3% of GDP, the highest figure in Central America.<sup>2</sup> Petroleum derivatives are used in the transportation sector, followed by the electrical sector for thermopower generation. It is for this reason that the government's vision for the country is to achieve an energy matrix in which the share of renewables amounts to 80% by 2038, with intermediate goals that reduce the share of thermopower generation from imported fossil fuels.
- 1.9 Within the Honduran electricity sector, the Empresa Nacional de Energía Eléctrica [National Electric Power Company] (ENEE)<sup>3</sup> is one of the major players and owns nearly all of the transmission and distribution systems and 15.4% of the installed electricity generating capacity. The private sector's share in generation is 82.4% nationally, through power purchasing agreements signed with the ENEE, with the MER contributing 2.2% of the energy supply. In the distribution sector, as result of international competitive bidding conducted by the Comisión para la Promoción de las Alianzas Público-Privada [Commission for the Promotion of Public-Private Partnerships], the Empresa Energía Honduras [Honduras Energy Company] (EEH)<sup>4</sup> was selected as the private manager/investor that will act as the distribution system operator. The EEH is a Colombian-Honduran consortium that has been managing ENEE assets since August 2016.
- 1.10 **Structural problems that fostered the process of reform in the sector.** Until 2013, the Honduran electricity sector suffered from serious regulatory and

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<sup>2</sup> Statistical report on the hydrocarbon sector in Central America for 2015. ECLAC. The report also states that Honduras is the country in the region with the second highest oil bill as compared to total exports.

<sup>3</sup> The ENEE business group, created in 2017 in compliance with the provisions of the Electric Power Industry Act (LGIE), approved in 2014, is made up of the ENEE holding company and transmission, generation, and distribution companies.

<sup>4</sup> As part of the responsibilities of the contract signed between the EEH and the distribution trust administered by Banco Ficohsa to develop the following tasks: (i) reduction of commercial losses; (ii) metering; (iii) billing; (iv) collection for energy sold by the distribution system; (v) user services; and (vi) operation and maintenance of the distribution system.

institutional weakness that made it difficult to formulate an energy policy, causing poor implementation of the regulations and other control mechanisms needed for effective operation and decision-making to ensure the sector's financial sustainability and the supply of power. The sector's main regulatory and institutional weaknesses were: (i) lack of an energy policy and a consolidated institutional structure; (ii) a high level of subsidies in terms of both power supply and demand; (iii) imbalance and lag in rates that are insufficient to cover costs along the electricity industry's chain; and (iv) lack of planning for expanding the sector's power generation, leading to the signing of a number of electricity purchase agreements with little regard for the sector's financial sustainability. Additionally, ENEE has financial and operational management problems as a result of: (i) excessive electricity losses; (ii) high dependency on thermopower generation using petroleum derivatives, particularly in periods of highly volatile prices; (iii) failure to review the conditions of electricity purchase contracts; (iv) limited participation in the MER; and (v) stagnant investment in the subsectors entrusted to the ENEE due to a lack of resources to preserve its assets and carry out works expanding transmission capability, thus sacrificing the quality of the electricity delivery service. All these problems meant that, with a financial deficit of 1.8% of GDP, the electricity sector had the greatest impact on the consolidated fiscal deficit in 2013. For this reason, in late 2013 the Honduran government made the decision to initiate a regulatory and institutional reform process in the sector with the measures necessary to ensure financial sustainability, operational efficiency, and security of the electricity supply, which are being consolidated under the current administration.

- 1.11 **Program strategy.** This programmatic support for the reform process program (paragraph 2.1) seeks to support the Honduran government in implementing a process of policy reforms targeting the financial sustainability and operational efficiency of the electricity sector, with a positive impact on public finances and long-term growth and the process of electrical integration in the region, benefiting the population as a whole. Specifically, the program will consider policy commitments aimed at:
- a. **Institution strengthening designed to:** (i) build a legal, regulatory, and institutional framework to ensure the sector's sustainability; (ii) launch the new institutional structure of the higher authority of the electricity sector to provide an organizational structure with the necessary trained staff and budget and an annual work plan; (iii) provide the institutional capacity needed to regulate the electricity sector; and (iv) establish a regulatory framework to operate and plan the electrical system pursuant to the MER's rules of operations and commercial regulations.
  - b. **Improve the sector's efficiency through measures designed to:** (i) restructure the ENEE to improve the sector's operational and financial performance; (ii) promote competition in the electricity sector and strengthen the electricity market by improving power purchasing procedures; and (iii) set rates that enable proper compensation of the agents along the energy chain and that are competitive for end users, and focus direct subsidies on low-consumption users.
  - c. **Improve the sector's operational efficiency and expansion through a regulatory framework that:** (i) promotes diversification of sources of clean



energy and reduces generation costs; (ii) promotes energy efficiency; and (iii) is in line with the MER.

- 1.12 **Progress in program outcomes.** The impact and outcome indicators reported in the Results Matrix for the first and second operations of the programmatic series show significant progress: (i) the impact indicator, “ENEE’s contribution to the consolidated public sector deficit/GDP (%)” in December 2016 was 0.3% of GDP (target 0.7% of GDP); (ii) the outcome indicator “Index of electricity sector losses” through the operator’s incorporation in distribution shows a cumulative level of losses up to September 2017 of 27.34% (target in 2016 of 28%);<sup>5</sup> (iii) the outcome indicator “Generation from renewable energy sources/total electric power generation” reached 48.8% in 2016 (target 48%); and (iv) the outcome indicator “Amount of energy traded on the MER/energy available” reached 2.2% in 2016 (target 2%).
- 1.13 **Progress on program reforms.** Under the program, significant progress has been made in the process to implement reforms in the sector, starting with the entry into force of the LGIE on 4 July 2014. The reforms it introduced include: (i) creation and operation of the CREE, including regulations issued to modernize the sector and develop the electricity market; (ii) creation and operation of the Ministry heading up the electricity sector and responsible for the formulation of energy policies; (iii) establishment of the National Electricity System Operator responsible for ensuring continuous and secure electricity supply and system operation; (iv) private sector participation in the distribution segment; (v) reorganization and modernization of the ENEE business group and spin-off of the generation, transmission, and distribution companies; and (vi) creation of the Fondo Social de Desarrollo Eléctrico [Social Fund for Electric Power Development] (FOSODE) to finance social interest projects. The key advances made in the reform process are detailed below:
- 1.14 **Progress made in strengthening the sector’s institutional capacity and regulatory framework.** The CREE was created and put into operation during the first and second operation of the program loan, approved in 2014 and 2015 respectively. Regulations were prepared, disseminated, and published for: (i) the LGIE in general; (ii) energy and power purchases; and (iii) system operations and administration of the wholesale market. For this third operation, the CREE is consolidated, with human resources for its operations, preparation and dissemination of regulations as established in the action plan for the second operation in the programmatic series. The legislation developed includes regulations on (i) distribution service; (ii) transmission service; and (iii) provisional rates, which has been essential for the ENEE’s financial recovery. In addition, contracting has begun for specialized services to develop regulations that were not originally considered and that would help to increase collection, such as those related to compensation for auxiliary services. In addition, for this third operation of the programmatic series, the system operator was established as a private, non-profit institution, the governance of which includes private and public sector participation of generation, national and regional transmission, and distribution

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<sup>5</sup> The contract with the private operator began recently in August 2016 and the baseline for losses was defined in November 2016. Contractually, the reduction targets should be met each November.

agents. Given that the system operator needs a control center in order to operate and that it has just begun its activities, the ENEE's national dispatch center will provide the services established in the system operator's plan of operations, while the system operator is capitalized until a new national energy control center is constructed. The system operator has reviewed and approved the generation and transmission expansion plans, and calculated marginal cost based on dispatch. Finally, although the Secretaría de Energía, Recursos Naturales, Ambiente y Minas [Ministry of Energy, Natural Resources, the Environment, and Mines] (MiAmbiente) has until now been acting as the leader of the electricity subsector and performing the tasks defined in the LGIE, in 2017 the Honduran government made the decision to create an Energy Ministry responsible for the planning and formulation of energy policies, with a structural organization that consolidates sector activities that were formerly spread out among different government institutions, hampering the consolidation and handling of information and the development of public policies. The new ministry is the lead entity in the country's energy sector and directs its activities. The creation of the Energy Ministry is an important milestone in the area of planning for the country.

- 1.15 **Progress made in improving the financial sustainability of the ENEE.** The Honduran government's implementation of a series of measures has succeeded in reducing the impact of the ENEE's financial situation on the consolidated public sector deficit, which went from 1.8% of GDP at year-end 2013 to 0.4% in December 2015, and 0.1% in June 2017. The operating income versus current expenditure indicator increased from 0.82 in 2013 to 1.06 in 2015 and 1.0 in June 2017. The main adjustment measures contributing to these results were: (i) continuous rate adjustment in the first two loan operations and implementation of new rate regulations approved on 31 May 2016; (ii) targeting of direct subsidies, employing socioeconomic variables and making it possible to characterize subscribers by poverty line,<sup>6</sup> and eliminating cross-subsidies; (iii) optimization of ENEE human resources during program execution succeeded in reducing payroll by more than 50%; (iv) reduction of commercial losses on the part of the private operator (EEH) in compliance with the targets established in the contract;<sup>7</sup> (v) readjustment of subsidized debt by placing a US\$700 million sovereign bond on the international market under very favorable conditions, in January 2017; (vi) optimization of operational and financial processes during the program; and (viii) negotiation and reduction of fixed and variable charges on thermal generation contracts, done in January 2014 with technical assistance from the IDB.
- 1.16 **Progress made on operational improvement of the sector.** During program execution, investments were reported along the electricity industry chain, accompanied by institutional strengthening to ensure operation of the electricity

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<sup>6</sup> Subsidy targeting is developed among residential customers consuming less than 75 kWh/month, using a methodology that crosses information from ENEE databases, the national registry of persons, and the single socio-economic file of the single registry of participants. The methodology used to determine poverty, the monetary poverty threshold, and the multidimensional poverty threshold has achieved a 47% reduction in the ENEE's determination, bringing the number of beneficiaries to 151,598.

<sup>7</sup> The contract with EEH establishes that during contract execution losses will be reduced by 17 percentage points. There was a 4% reduction in the first year; a 3% reduction in years two to four; a 2% reduction between years five and six; and a 1% reduction in year seven.

sector. A large part of the actions were carried out in the ENEE and the spin-off process<sup>8</sup> the company has undergone with the separation of areas of the business related to energy generation, transmission, distribution, and sales have facilitated the ability to carry out investment and technical assistance programs. It should be noted that although there is administrative, accounting, and operational separation as a condition for previous operations in the series, with this third operation, the companies will legally be commercial corporations.

- 1.17 Under generation, investments are reported in NCRE, primarily fostered by the Electricity General Incentives Law using NCRE sources<sup>9</sup> and causing installed NCRE capacity to increase from 98 MW in 2007 to 454 MW in 2014, and 1,003 MW in 2016, increasing its share in the generation matrix from 5% to 34% in that period. NCRE generation, small hydroelectric, wind, photovoltaic solar, and biomass projects are currently in operation and a geothermal power plant recently began commercial operations. Development of the various renewable energy generation programs will contribute to the Country Vision 2010-2022 (Legislative Decree 286-2009 of 2010). In addition, through the ENEE, the Honduran government has moved ahead on construction of the Patuca (104 MW) hydroelectric project, which is expected to begin operations in the second half of 2018. In addition, generation management has made progress on work to repair fissures at the Francisco Morazán Hydroelectric Power Plant, bringing filtration levels far below the level for starting plant operations, thus ensuring its operation and avoiding operational problems during harsh winter periods. The ENEE is moving ahead on the project to rehabilitate and repower the Cañaveral – Rio Lindo Hydroelectric Power Complex, the country's second most important power plant, by executing the loans cofinanced by the IDB and the Japan International Cooperation Agency (JICA) (3435/BL-HO).
- 1.18 Limited investments have been made in the transmission sector. In addition, it is important to point out that there have been two attempts through the transmission trust to select an operator-investor for the transmission system, both of which failed. For this reason, the Honduran government made the decision early this year to finance priority transmission projects as financial recovery of the ENEE had been achieved. Despite limited financing, the Amarateca substation financed by the IDB (2016/BL-HO), the country's most important electrical substation, has been operating commercially since 2015. The La Entrada substation, financed by the IDB (3103/BL-HO), began commercial operation in August 2017; it is part of Honduras' connection with Guatemala and contributes to integration with the MER. The Bank is preparing operation HO-L1186, which is expected to finance works in the Sistema de Transmisión Nacional [National Transmission System] (STN); these represent regional integration commitments and the development of priority works in the northern and central areas of the country to relieve congestion at the main substations, provide a reliable and secure supply in the electricity system, and

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<sup>8</sup> Through the spin-off, the ENEE group companies will have financial and operational autonomy, acting as independent agents.

<sup>9</sup> According to the 2016 Renewables Global Status Report, Honduras is the country with the second highest level of investment in renewable energy as a percentage of GDP.

ensure productivity in the principal municipalities given priority in the Plan of the Alliance for Prosperity in the Northern Triangle.

- 1.19 For this third operation, in terms of distribution, progress was made with the contracting of the EEH Consortium to improve the quality of customer service, reduce commercial losses, improve income from billing and collection, and reduce arrears. Actions developed in addition to those explicitly defined in the contract objectives seek to optimize operational costs, expand the customer portfolio, and develop an efficient and sustainable system that can be transferred to the ENEE after the end of the seven-year concession period. The principal achievements evaluated by the Manitoba Independent Supervisor notably include reduced frequency (30%) and duration (45%) of interruptions in a year of operation. However, the reported figures are still above those recommended in the region. These indicators of improvement in the quality of electricity services consider the 1.7 million customers of the ENEE. In terms of loss reduction, since the beginning of the contract, the reported level of losses is 30.8% until reaching a value of 27.3% currently, achieving better control primarily with administrative control measures. The results of current year investments, to be installed primarily in this last quarter, will make it possible to achieve the expected results.
- 1.20 In terms of public lighting, in that the public lighting trust was finalized, in 2017 the ENEE proceeded to purchase and install about 91,000 LED lights of different power levels to replace existing lights and increase the quality and coverage of public lighting at the national level as a measure to ensure citizen safety.
- 1.21 In accordance with the provisions of the LGIE, the ENEE is given responsibility for administration of the FOSODE, intended to finance electrification studies and works of social interest. Prior to the enactment of the law, within the structure of the ENEE which is now FOSODE, rural electrification projects were developed by extending the system and the construction of rural electrification projects with renewable generation was supervised by the Fondo Hondureño de Inversión Social [Honduran Social Investment Fund]. Support from the IDB and nonreimbursable resources from the Scaling Up Renewable Energy in Low-Income Countries Program (SREP) is expected to finance the Rural Electrification Program in Isolated Areas (HO-G1247), which will support the construction of microsystems in isolated areas of Honduras, and isolated generation projects in the country's southern zone. In addition, considering that it became evident during the period that electricity coverage in the country amounts to 81%, work will be done on planning universal access to energy in order to define the sustainable expansion of electricity coverage in the country based on technical, economic, and financial criteria.
- 1.22 The Honduran government has made progress on developing policies and actions so as to have an energy matrix that is less dependent on petroleum derivatives, promote energy efficiency, and encourage increased trading with the regional electricity market. Through its policy to provide incentives for the share of electricity generated using NCRE, the Honduran government has managed to increase the share of NCRE (paragraph 1.17) in its generation matrix, which has been maintained despite a period of low oil prices. Efforts are highlighted in various media such as REN21's 2015 Renewables Global Status Report, which places Honduras in second place worldwide in terms of investments as a percentage of GDP. In addition, Honduras is the world's first non-island nation in terms of the share of

photovoltaic energy in its generation matrix,<sup>10</sup> which represents an achievement at the operational level. In the area of energy efficiency, the Honduran government has promulgated a rate framework that promotes energy efficiency through the definition of differentiated loads in hours with peak demand for energy, the development of savings campaigns, and the efficient use of energy in public buildings, and by having initiated the public lighting program using LED technology.

- 1.23 In the area of regional integration through SIEPAC, Honduras actively participates in transactions on the MER. According to statistical reports from the Ente Operador Regional [Regional Operating Entity] (EOR), Honduras is the country that purchases the second highest level of energy on the MER. Average energy purchased on the MER in both the contracts and opportunity market during 2014-2016 compared to 2013 showed an increase of 90%. MER sales could be higher but are limited by the lack of strengthening in national transmission.<sup>11</sup> MER sales are increasing due to increased demand for energy and the timing of market prices. However, the largest purchase of energy on the MER was recorded in 2014 due to supply shortages in the country that led to higher purchasing, which fell in 2015 when various renewable generation projects came on line that limit the STN's transmission capacity with the MER, as they are mandatory dispatch projects. To bring use of the SIEPAC up to its design capacity, it is important to carry out national strengthening efforts. For this reason, operation HO-L1186 now being prepared, will seek to finance key reinforcements of the national transmission system to boost use of the SIEPAC and comply with regional integration commitments.
- 1.24 **Rationale for developing the third and final loan operation.** The actions outlined in the policy matrix include conditions that consolidate the reforms established in previous operations and that put an institutional framework in place for the sector defines the regulatory, policy formulation, and operational entities, accomplishing the objective of providing a legal, regulatory, and institutional framework suitable for the sector. The efforts made in the area of rate adjustments, subsidy targeting, improved financing conditions for the ENEE, reduction of losses on the part of the private investor, optimization of processes, assignment of staff, and operational improvements are key factors for achieving the sector's financial sustainability and operational efficiency, representing one of the objectives in the reform process. Finally, the actions intended to strengthen Honduran participation in the MER by eliminating infrastructure and regulatory barriers to energy sales at the regional level, as well as increased diversification in the generation matrix and actions intended to promote energy efficiency are aspects that this final operation takes into account in order to ensure a secure supply.
- 1.25 **Main challenges facing the sector following implementation of the program.** Once the reforms are implemented, the main aspects that the government should prioritize toward making the sector sustainable are:

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<sup>10</sup> PV-magazine, January 2017. In addition, the edition reports that Honduras is also the first country in Central America in terms of greater installed capacity.

<sup>11</sup> National strengthening represents those works in the STN that a country needs to make it possible to transport electricity internationally through the SIEPAC in accordance with the conditions and standards for which it was designed. Due to the lack of strengthening, the energy transmission capacity of the MER in Honduras is no more than 120 MW of the 300 MW for which the SIEPAC is designed.

- 1.26 **Reducing electricity losses.** Reducing losses is a key factor for the financial recovery of the ENEE. The manager/investor faces a large challenge to successfully reduce total energy losses by 17 percentage points over the seven years of management until reaching levels of 13.81%<sup>12</sup> as well as to increase collection levels and improve service quality. Based on the results described in paragraph 1.12, achievement of the distribution operator targets is seen as reducing mostly nontechnical losses. To achieve the loss reduction targets, it is important for the ENEE, the government, and the manager/investor to coordinate their efforts. This will make it possible to consolidate financial recovery of the ENEE. It is also important to reach consensus on the monthly rate the ENEE should pay the consortium for services.
- 1.27 **Improving the transmission infrastructure.** The legal framework in effect until July 2014 established that only the government could make investments in the transmission sector. However, the ENEE's tenuous financial situation led to restrictions on investments in the company, including investments in the transmission sector, and significant lags in investments. This situation has limited the attention given to increasing needs for STN expansion in order to ensure a reliable supply of electricity, service quality, connection of the growing set of NCRE generation projects, reduction of electricity losses, and timely fulfilment of commitments to invest in the SIEPAC.<sup>13</sup> The expansion and development of new transmission infrastructure represents one of the main challenges to connecting new NCRE sources to the STN.
- 1.28 The development of the transmission investment projects, included in the ENEE Strategic Expansion Plan<sup>14</sup> and recently prioritized by the government, will make it possible to avoid major lags in infrastructure and relieve congestion in the national transmission sector, which will help to improve system reliability, the quality of electricity service, reduce technical losses, as well as meet commitments to the MER. In addition, improving the national transmission infrastructure will allow energy to be dispatched economically. In the medium term, the private sector is also expected to participate in expanding the transmission system under the regulations developed.
- 1.29 **Increasing electricity coverage.** Publication of the 2015 Census revealed a problem of low electricity coverage in Honduras (81% nationally), with the country

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<sup>12</sup> According to the report on *Dimensionando las pérdidas de electricidad en los sistemas de transmisión y distribución en América Latina y el Caribe*. Jiménez et. al., Honduras is the Central American country with the highest levels of losses.

<sup>13</sup> The fifth joint meeting of the CDMER, CRIE, EOR in July 2015 in Panama proposed a strategy—mechanisms for planning and execution of national strengthening, establishing that “it is up to the member state governments to strengthen national transmission as needed for regional transactions, in accordance with the Framework Agreement for the Central American Electricity Market.” This commitment was ratified at the XVI Summit of Heads of State and Government of the Tuxtla Dialogue and Agreement Mechanism held in San Jose, Costa Rica on 29 March 2017.

<sup>14</sup> Investments in transmission exceed US\$425 million, equal to 2.3% of GDP. Of the total investments, the ENEE has considered making investments in the sector amounting to \$243 million for the period 2017-2021, which would address 57% of the identified needs.

ranking lowest in the region.<sup>15</sup> The lack of access to electricity represents a limitation on development and productivity and is concentrated in the municipalities prioritized within the framework of the Alliance for Prosperity in the Northern Triangle.

- 1.30 **Conducting competitive bidding procedures for energy and power purchases.** Proceeding with the international competitive bidding procedures for: (i) the purchase of energy and power under contracts expiring at the end of 2017 and beginning of 2018; and (ii) meeting the growing needs for energy over the next five years. Honduras can take advantage of this opportunity by conducting competitive and transparent procedures and taking into consideration its macroeconomic recovery, which is reflected in lower risk to investors for reducing average generation costs, diversifying its generation matrix by promoting the introduction of cleaner generation sources and identifying compatible technologies to strengthen the introduction of variable renewable energy and utilization in other subsectors besides electricity.
- 1.31 **Bank support.** The Bank has worked with the government in the sector reform process since its beginnings in 2013 through the preparation and approval in December 2014 and December 2015 of the first two operations under the program “Programmatic Support for Structural Reforms in the Electricity Sector” (3386/BL-HO and 3619/BL-HO), under the modality of a programmatic policy-based loan (PBP). That support has included technical assistance on issues such as, for example: (i) the preparation of regulations on rates that have been key for the sector’s financial recovery, support for revision of fixed and variable costs of thermal power purchase contracts that expired in 2014 and preparation of bidding documents for the generation contracts that expire between 2016 and 2017; (ii) the ENEE spin-off process; (iii) developing scenarios for expanding generation and adopting efficient energy use programs; (iv) the preparation of current rate regulations; (v) the institutional strengthening of ENEE generation units and the national dispatch centers through operations under 3103/BL-HO and 3435/BL-HO, respectively, and (vi) development of capacities for developing rural electrification projects and microgrids using renewable resources in isolated areas.
- 1.32 The reform process is complemented by the support that the Bank has also provided to the government to modernize the sector’s infrastructure through key investments, such as “Support for the Integration of Honduras in the regional Electricity Market (3103/BL-HO), with the construction and start-up of the La Entrada substation, and the operation Cañaveral-Rio Lindo Hydropower Complex Rehabilitation and Upgrading Project (3435/BL-HO), cofinanced with JICA and executed by the ENEE.
- 1.33 Currently, and in line with the efforts made to date, the Bank is preparing the National Transmission Program (HO-L1186) operation, as well as nonreimbursable financing program HO-G1006, to complement operation 3103/BL-HO, currently being executed. These operations will help to finance works that have been subject

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<sup>15</sup> Report by Rivas Salvador, *Análisis de la situación de acceso de energía para América Latina*. UNDP Regional Center for Latin America, July 2016.

to serious lags.<sup>16</sup> In the same way, the Bank will continue to provide support to the Honduran government in the area of planning increased access to electricity through technical cooperation operation ATN/OC-16427-HO, and on the subject of renewable energy's increased share in the generation matrix through the support provided under technical cooperation operation HO-T1274, currently being prepared.

- 1.34 The IDB also participates actively and has chaired the G-16 energy forum<sup>17</sup> created at the suggestion of the IDB based on the process of reform in the electricity sector. Through this forum, it has been possible to disseminate activities on the subject of technical assistance and maintain ongoing dialogue with Honduran government authorities as well as promote synergies with other international cooperation agencies. Through this forum, work has been done with the agencies to provide support to certain institutions on sector issues in particular. This includes, for example, coordinating with the United States State Department, which has provided ongoing support to the CREE, and with the World Bank and the German Technical Cooperation Agency on energy efficiency.
- 1.35 **Lessons learned for the design of the operation.** The Bank has extensive experience and lessons learned on the structuring of this type of operation in the sector, as in the Dominican Republic (2610/OC-DR), Nicaragua, (3068/BL-NI), Suriname (2848/OC-SU), and Peru (2847/OC-PE). In general and according to the project completion report from operation 2847/OC-PE, programmatic operations were found to be suitable instruments for supporting sector reforms involving multiple actors. Moreover, with the possibility of a diversified and sustainable energy supply, end consumers are the main beneficiaries of this type of intervention.
- 1.36 The following lessons have been learned from such interventions and have been taken into account in the design of this PBP: (i) institutional and regulatory reforms are not in themselves sufficient to ensure that the sector will operate efficiently and thus institutional strengthening measures and other technical aspects such as the establishment of sector targets and plans were included for the program; (ii) it is essential that the institutions created are able to perform their lawfully mandated duties independently from the executive and legislative branches; (iii) policy measures, particularly regulatory measures, need to be implemented on a gradual basis and should have a well-defined timetable and assigned responsibilities for their monitoring; (iv) the success of loss reduction and sectoral operational efficiency enhancement programs depends on a political commitment and coordination of the agents; (v) investment in the various subsectors should be made consistent with financial recovery; (vi) private sector participation is important to the extent that there is financial recovery; (vii) there should be an institutional structure in which distribution companies executing loss reduction programs are accountable to managers of the holding company being created for the investments they make and for the results they obtain; and (viii) support should be provided through

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<sup>16</sup> The ENEE's 2011 strategic plan reports demand for transmission project investments equivalent to 2.3% of GDP.

<sup>17</sup> Stockholm Declaration Monitoring Group formed by ambassadors from the United States, Canada, Mexico, Brazil, the European Union, and Japan and representatives from the IDB, IBRD, and IMF.



technical assistance during the process of implementing institutional changes and policy measures.

- 1.37 **The Bank's country strategy with Honduras.** The operation is consistent with the Bank's Country Strategy with Honduras 2015-2018 (document GN-2796-1), which places priority on the energy sector's sustainability and competitiveness, supports the process of electricity sector reform, maintains a permanent dialogue with sector authorities on the priority reforms to be implemented, and is aligned with the objective of improving efficiency and the quality of electricity service and diversifying the generation matrix. The operation is included in the 2017 Operational Program Report (document GN-2884). Ensuring the sector's financial sustainability and reducing its fiscal impact opens up room for making infrastructure investments that will help to stimulate the productive sector, which is the objective of the Plan of the Alliance for Prosperity in the Northern Triangle, by promoting the strategic sectors of investment, modernizing and expanding infrastructure, and facilitating the reduction of energy costs and the improvement of the electricity sector's reliability.
- 1.38 **Strategic alignment.** The program is consistent with the Update of the Institutional Strategy of the IDB (UIS) 2010-2020 (AB-3008) and aligned with the development challenges of: (i) productivity and innovation, by promoting a competitive rate structure through the introduction of new technologies and lower cost energy sources (natural gas and renewable energy), in the energy matrix and structuring a rate scheme based on efficient supply costs; and (ii) economic integration based on the criterion of national subsidiarity, through regulatory and institutional improvements that promote integration of the Honduran electricity market with the MER and facilitate increased regional electricity exchanges through the SIEPAC line. The program is aligned with the cross-cutting issues of: (i) climate change and environmental sustainability, by helping to reduce greenhouse gas (GHG) emissions through the program commitments associated with the development of energy efficiency and renewable energy in the country; and (ii) institutional capacity and the rule of law, given that the program will strengthen the planning and governance of electricity sector institutions.
- 1.39 Approximately 18.18% of the operation's resources are associated with policies that will promote climate change mitigation activities, following the [joint methodology of the MDBs for estimating climate financing](#). These resources contribute to the IDB Group goal of increasing financing for projects related to climate change to 30% of all operations approved by the year 2020. In addition, the program is aligned with the Corporate Results Framework (CRF) 2016-2019 (document GN-2727-6) through the indicators of reduced emissions and government agencies benefited and strengthened with managerial tools to improve public service delivery.
- 1.40 The program is consistent with the Energy Sector Framework (document GN-2830-3) in the thematic areas of access, sustainability, energy security, and governance, by promoting policy reforms fostering: (i) sustainable development of the sector; (ii) diversification of the energy matrix through the use of renewable energy; (iii) efficient use of energy; and (iv) regional integration. The program is consistent with the Climate Change Sector Framework (document GN-2835-3) in that the proposed energy policy reforms lead to a reduction of GHG emissions.

- 1.41 **Consistency with the Sector Strategy to Support Regional and Global Competitiveness (document GN-2565-4).** In accordance with document GN-2565-4 and based on the scope of the program, this operation obviously contributes to multinational targeting – in line with the SIEPAC's objectives. The program seeks to promote the development of energy policies fostering the active participation of Honduras in the MER and this has been achieved thanks to actions developed both in the area of policy and by prioritizing financing to construct projects to strengthen the national electricity system. This means that the scope of the reforms promoted by the program help to harmonize the rules for energy exchange among Central American countries and thus link with the objectives of the MER ([OEL 6](#)).
- 1.42 **Consistency with the Strategy of Sustainable Infrastructure for Competitiveness and Inclusive Growth (document GN-2710-5).** The program is aligned with the priority areas of document GN-2710-5, through reforms that promote the streamlined use of energy infrastructure through energy efficiency, regional integration, and expansion of electricity coverage.
- 1.43 **Consistency with Bank policies.** The program is consistent with the principles of the Public Utilities Policy (document GN-2716-6) and complies with the financial sustainability and economic evaluation conditions, as indicated in the analysis of compliance with this policy. The reforms promoted by the program reflect the Honduran government's commitment to making the necessary adjustments in the sector's legal, institutional, and regulatory framework to establish a rate structure that reflects the real costs of generation, transmission, and marketing of electricity, and targets direct subsidies to low-consumption users ([OEL 3](#)).

**B. Objectives, components, and cost**

- 1.44 The general objective of the programmatic series and specifically the third and final programmatic operation is to support the Honduran government in implementing the sector reforms and policies needed to enhance financial sustainability, operational efficiency, and security of supply in the electricity sector. The specific objectives are to: (i) strengthen the sector's institutional capacity and regulatory framework; (ii) enhance financial sustainability and operational efficiency; and (iii) adopt energy policies aimed at ensuring a secure supply of electricity.
- 1.45 **Macroeconomic stability.** As a general condition, the program requires maintenance of a stable macroeconomic framework in order to ensure a macroeconomic context consistent with the program's objectives, as provided in the Policy Matrix.
- 1.46 **Component I. Suitable legal, regulatory, and institutional framework for the electricity sector.** This third operation of the programmatic series will support the institutional strengthening of the sector through the following commitments: (i) that the LGIE and the regulations issued under the programmatic series' previous operations are in force, and that the CREE has completed the issuance of the regulatory provisions required by the LGIE and established in the action plan delivered as part of the second individual operation of the programmatic series: regulations on rates and rate adjustment; distribution service regulations, including service quality, and contributions; and transmission service regulations including the schedule of prices applicable for system use; (ii) that contracting consultants for

the (a) complementary service regulations, (b) technical regulations for regulated self-producing users; and (c) regulations for rate structure has begun; (iii) the Consejo Nacional de Energía [National Energy Council] (CONAEN) has submitted a report on progress made in implementing the reform, including an independent evaluation of the sector's operation and its institutions within the framework of the LGIE, and additional measures to be adopted if necessary; (iv) MiAmbiente is operating as the lead electricity sector entity, ensuring the definition, implementation, and monitoring of public policies to guide the activities of the electricity sector while functions are transitioning to the new Ministry for Energy Dispatch; (v) creation of the Ministry for Energy Dispatch as the institution guiding the national energy sector and regional and international integration, with (a) the basic management staff, and (b) the required budget allocation and an annual work plan; (vi) creation and operation of the National Energy Council to move ahead with the strategic linkage and intersector integration of the energy sector; (vii) establishment and operation of the Technical Secretariat of the National Energy Council with function of technical and administrative support of the CONAEN; (viii) the CREE is operating as the entity responsible for regulating electricity sector activities; (ix) the CREE has financial resources and management staff and has selected the technical staff necessary for regulation of the sector; (x) the decisions made by the CREE are being published as established in the LGIE; (xi) the annual report of the CREE has been submitted to the Executive Branch and the Congress, indicating the operation of the sector and the additional measures that will have to be adopted; (xii) the National Electricity System Operator has been set up as provided in the LGIE; (xiii) the Market Agents Committee has been established; (xiv) the System Operator has defined and published the generation and transmission expansion plan; (xv) the System Operator has the financial resources, management staff, and infrastructure to supervise and control the operations of the National Interconnected System and manage the opportunity market; (xvi) the System Operator calculates and publishes: (a) marginal cost based on minimum-cost dispatch; (b) energy levels produced by different types of technologies; (c) verifies variable costs for power producers; and (d) prepares the annual work plan for the next year, as applicable (2018 or the year following the year when disbursement is made); and (xvii) the Market Agents Committee has conducted periodic performance evaluations and proposed measures aimed at improving the functioning of the electricity system and the market.

- 1.47 **Component II. Improvement of the electricity sector's financial sustainability and operational efficiency.** With this third operation of the programmatic series, this component will support an improvement in the efficiency of the sector through the following commitments: (i) the ENEE has strengthened the generation business unit, which participates in the market on a competitive basis; (ii) contracts have been established with private operators/managers for the ENEE distribution segment; (iii) the ENEE distribution segment is operating with private operators and that they are complying with the outcome targets defined in the operation contracts; (iv) the ENEE complies with consolidated deficit targets established in the government action plan; (v) the ENEE group companies have been legally spun off; (vi) the ENEE has maintained its ability to prepare financial statements in accordance with independent audit requirements; (vii) energy is purchased through competitive bidding procedures based on agreed standard contracts and consistent with the approved generation expansion plan; (viii) the provisional rates regulations

have been developed and are in force; (ix) the provisional rates regulations contain charges to compensate the transmission and distribution activities of each company; (x) the CREE has approved the provisional rate sheet and the rate sheet is applied to non-residential customers, and the costs of generation and transmission incorporated in the rates are being updated according to the schedule approved by the CREE; and (xi) subsidies are given based on the regulations and their provisions for subsidy targeting.

- 1.48 **Component III. Energy policies to ensure a secure supply.** This third operation in the programmatic series will support an enhancement of the sector's operational efficiency and expansion through the following commitments: (i) the generation plan includes NCRE generation projects; (ii) power purchase auctions have been conducted; (iii) energy efficiency and savings plans are being satisfactorily implemented in at least 10 public-sector institutions and the savings obtained from their implementation are reported; (iv) the current rate schedule provides for the possibility of billing consumption in off-peak hours and increases during peak hours (multi-hour rates for the commercial and industrial sector); and (v) bidding processes for power purchases have established the inclusion of power generation from MER countries.
- 1.49 **Changes to the Policy Matrix.** The policy commitments reflected in the Policy matrix for this third operation correspond largely to the indicative commitments included in the original design of the programmatic series. The modified conditions do not affect accomplishment of the program's objectives. In some cases, the borrower, as explained further on, has progressed more than expected, so additional commitments have been added to those originally established. The comparative matrix details each of these changes, and the main ones are described hereinafter.
- 1.50 **Component I.** This component reflects the government's decision to create a Ministry of Energy, which will play a very important role in planning and organizing the energy sector in general and the electricity sector in particular. It originally began as a sub-ministry under the Ministry of the Environment. Additionally, the CREE is moving forward in drafting additional regulations, including regulations for the auxiliary and complementary services, which will enable greater financial recovery for the ENEE business group as it seeks to levy additional charges for the complementary services it provides to increase NCRE insertion.
- 1.51 **Component II.** The commitment on periodic rate adjustments based on the methodology approved by the CREE was modified to reflect the fact that the CREE approved the provisional rate sheet, which is being applied for nonresidential customers. The modified condition reflects the fact that the rate should incorporate generation and transmission costs and should be updated on the schedule approved by the CREE. The modification recognizes the progress made by the government of Honduras with respect to the rate and does not affect the expected results in terms of the improved financial sustainability of the ENEE.
- 1.52 The commitment to establish the contract with the private operator for the ENEE's distribution and transmission segment was modified in relation to what was approved in the second loan operation. The change is due to the fact that although this component originally assumed contracts would be signed with private operators/administrators for the ENEE's transmission and distribution segments,

the actual condition considers only the distribution segment, as the government decided to hire a private distribution operator, while in the transmission sector, investment continues to be made in priority works in view of what is described in paragraph 1.18 and because loss reduction in the distribution and sale sector—mainly non-technical loss—contributes to the sector's financial recovery. Because the transmission sector has a total loss percentage of 2%, it does not, in contrast to distribution (28%), contribute significantly to the ENEE's financial losses. Lastly, an analysis performed by the IDB found that adding a transmission operator under an arrangement similar to distribution's arrangement would cause an increase in the end price of energy, whose financial recovery through fees would run into issues with financial sustainability.

- 1.53 **Component III.** In this component, the commitment to prepare a methodology for bidirectional metering and billing was removed. Its removal is not expected to affect attainment of the objective of incorporating renewable energy. Although the legal framework makes the preparation of this methodology possible, the decision has been made to postpone it because of both the operational impact that the high rate of participation of renewable energy—especially photovoltaic—has had in the STN and as a result of a need to move forward with the plan for the operator-investor to invest in distribution. This is because it is crucial for the distribution system to have the minimum distribution infrastructure in place to ensure effective incorporation of the NCRE produced and distributed on the national grid. The government has decided that its targets for incorporating renewable energy in the generation matrix are being met. It therefore decided to take the prior actions necessary to ensure that the methodology developed is adequate and prevent it from creating operational and financial problems for the sector. With the support of GIZ (Germany's international cooperation agency) and the World Bank, a plan has been drawn up to draft a methodology for the long term.

### C. Key results indicators

- 1.54 Achievement of the program objectives is measured against the indicators and targets set forth in the [Results Matrix](#), which reflects the comprehensive scope of the PBP, through its three individual operations as shown in the Policy Matrix (Annex II). The expected outcomes of the program are: (i) improvement in the operational and commercial efficiency of the electricity sector; (ii) increases in the share of renewable sources in the electricity generation matrix; and (iii) increased MER transactions.
- 1.55 As an impact of the program, the sector's enhanced financial sustainability is expected to lead to a reduction in the ENEE's contribution to the consolidated public sector deficit, allowing fiscal transfers to the ENEE to be reduced, and generally benefiting the Honduran population. The reforms promoted are expected to benefit the process of regional electricity sector integration through: (i) more competitive renewable energy prices compared to thermal energy; and (ii) harmonization of the regulatory framework with regulations on bidding procedures for power purchases on the MER. The impact and outcome indicators established for the program are presented below:

**Table I.2. Expected outcomes**

<b>Impact</b>	<b>Indicator</b>
Improvement in the sector's financial sustainability.	ENEE's contribution to the Consolidated Public Sector Debt/GDP (%).
<b>Outcome</b>	<b>Indicator</b>
Improvement in the operational and commercial efficiency of the electricity sector.	Index of electricity sector losses (%).
Increased share of renewable sources in the generation matrix.	Generation from renewable energy/total generation of electricity (%).
Increase in energy transactions on the MER.	Amount of energy traded on the MER/Energy available (%).
Improvement in the electricity sector's planning and management capacities.	Ministry of Energy established.

- 1.56 **Economic evaluation.** An [economic and financial evaluation](#) of the impact of the program's proposed reforms was performed. The analysis took into consideration the main benefits associated with commercial loss reduction that address reductions in power supply and revenue collection; rate increases; subsidy targeting; and integrating renewable energy. The economic impact of the reforms proposed in the program were evaluating, taking into consideration the diversification of the generation matrix, targeting subsidies, and reduction of energy losses. The evaluation includes a sensitivity analysis of critical variables, such as the price elasticity of demand, rates, the cost of thermally-generated electricity, the discount rate, and the cost of investment. Taking into account the investments in generation projects and loss reduction programs induced by the proposed reforms, the analysis yields an aggregate economic IRR of 30% and an NPV of US\$978 million. The evaluation includes a sensitivity analysis for critical variables such as price elasticity of demand, loss levels, and the cost of electricity.

## **II. FINANCING STRUCTURE AND MAIN RISKS**

### **A. Financing instruments**

- 2.1 The program is structured according to the PBP loan method, which is a series of three individual loan operations that are technically linked to each other but financed separately. The program supports the implementation of structural reforms in the electricity sector, with measures necessary to achieve the sector's financial and operational sustainability. The programmatic structure was selected for the flexibility it provides in the attainment of long-term objectives through the implementation of sequential short- and medium-term measures agreed upon by the government and the Bank according to the progress made and the macroeconomic and sector environment being faced at the different stages.
- 2.2 This operation will have an amount of US\$50 million (US\$30 million of regular ordinary capital and US\$20 million from the Concessional Ordinary Capital Fund). In accordance with the provisions of paragraph 3.27(b) of the document "Policy-based Loans: Guidelines for Preparation and Implementation" (document CS-3633-1), the dimensions of the operation are determined based on the fiscal resources requirements faced by the country. For 2017, the central government's

financing needs are on the order of US\$830 million. The operation amount is intended to cover a portion of this financing, representing 6% of total financing needs. The loan is consistent with the stand-by arrangement with the IMF, which envisages budgetary support from the Bank as a main pillar of the electricity sector reform process.

**B. Environmental and social risks**

- 2.3 In accordance with Directive B.13 of the Bank's Environment and Safeguards Compliance Policy (document GN-2208-20 and Operational Policy OP-703), an environmental impact classification is not required. The proposed reforms will not cause adverse environmental or social impacts.

**C. Fiduciary risks**

- 2.4 Honduras has extensive experience in the management of external credit resources and no financial management risks are anticipated. The Ministry of Finance (SEFIN) has extensive experience in the execution of reform processes and will provide support to the sectoral authorities leading the process this PBP supports in the energy sector. The proposed PBP provides freely disposable funds for budgetary support under a responsible fiscal policy framework.

**D. Other project risks**

- 2.5 Possible delays in achieving certain policy conditions for the third loan have been identified as a medium preparation risk. As a mitigation measure for this risk, monitoring meetings will be held under the coordination of the Technical Secretariat of the National Energy Council – CONAEN and senior authorities from SEFIN, CREE, MiAmbiente, the Ministry of Energy, and ENEE with a view to monitoring attainment of the trigger mechanisms. The possibility of resistance by certain interest groups that consider themselves impacted by the reform measures, including industrial users that may see an increase in the cost of service, is a medium risk in terms of public management and government. This risk will be mitigated by the government's communications to inform the various groups about the need for the proposed measures in order to ensure the sector's sustainability.

### **III. IMPLEMENTATION AND MANAGEMENT PLAN**

**A. Summary of implementation arrangements**

- 3.1 The borrower will be the Republic of Honduras and the executing agency will be the Ministry of Finance (SEFIN). In coordination with the ENEE, MiAmbiente, the Ministry of Energy, the CREE and other entities, through the Macroeconomic Policies Bureau and by holding periodic analysis and monitoring meetings, SEFIN will oversee compliance with the programmatic commitments and consolidation of sector reform. As the program's executing agency, SEFIN has the following responsibilities: (i) promote the achievement of policy objectives; (ii) provide evidence of compliance with the agreed policy conditions, and (iii) compile and deliver information enabling the government and the Bank to measure and assess the program's outcomes.
- 3.2 The transfer of this operation's proceeds constitutes direct budget support. The funds will be transferred to the National Treasury following the financial



administration procedures set forth in national legislation. The program calls for a sole disbursement once compliance with the special and general conditions precedent to the disbursement has been verified. **The sole disbursement of the loan proceeds will be contingent upon fulfillment, to the IDB's satisfaction, of the policy reform measures set out in Annex II (Policy Matrix), in addition to compliance with the other conditions established in the Loan Contract.**<sup>18</sup> This compliance will be confirmed using the tool described in the [Means of Verification Matrix](#). The Bank may request an external audit of the program if deemed appropriate, whether by the Office of the Comptroller of Honduras or an independent auditing firm.

- 3.3 To support the achievement of the outcomes established for the program and continuity in the implementation of the measures achieved by the program and taking into consideration that the reform process continues beyond what is contemplated in the current program, the Bank is in the process of preparing nonreimbursable technical cooperation under HO-T1274. This technical cooperation will finance activities intended to: (i) strengthen the ENEE in business management systems, adoption of good practices, preparation of bidding documents and implementation of rate schedules; (ii) strengthen the system operator to improve its capacity for planning and disseminating information on the sector; and (iii) strengthen the Ministry of Energy in the generation and management of information as well as its capacities.

#### **B. Summary of results monitoring arrangements**

- 3.4 A detailed [Monitoring and Evaluation Plan](#) has been prepared, including medium- and long-term outcome and impact indicators consistent with the policy reform process described in the [Policy Matrix](#) (Annex II). The indicators are reflected in the Results Matrix. The monitoring and evaluation plan calls for monitoring and coordination meetings among the government agencies involved in executing the policy reforms, to determine the progress made on, and status of, the reforms. The Honduran government and the Bank have agreed to hold periodic meetings to monitor and evaluate the Results Matrix.
- 3.5 An ex post evaluation of the program will be carried out two years after the disbursement of the operation's amount. The methodology will be similar to the ex ante evaluation prior to the program. A project completion report (PCR) will be prepared by the Bank after the loan has been approved, following the Bank guidelines in OP-1242-5.

#### **IV. POLICY LETTER**

- 4.1 The borrower's authorities sent the Bank the [Policy Letter](#) describing macroeconomic and electricity sector policies. The operation is consistent with the main components of the strategy described and demonstrates the government's commitment to the reform proposed in this operation.

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<sup>18</sup> It is expected that 90% of the policy commitments will have been satisfactorily met by the date on which the operation is approved by the IDB Board of Executive Directors.



Development Effectiveness Matrix		
Summary		
I. Corporate and Country Priorities		
1. IDB Development Objectives	Yes	
Development Challenges & Cross-cutting Themes	-Productivity and Innovation -Economic Integration -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 (#)*	
2. Country Development Objectives	Yes	
Country Strategy Results Matrix	GN-2796-1	To improve the efficiency and quality of electricity service and diversify the power generation matrix.
Country Program Results Matrix	GN-2884	The intervention is included in the 2017 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	7.2	
3.1 Program Diagnosis	1.8	
3.2 Proposed Interventions or Solutions	2.4	
3.3 Results Matrix Quality	3.0	
4. Ex ante Economic Analysis	8.5	
4.1 The program has an ERR/NPV, a Cost-Effectiveness Analysis or a General Economic Analysis	4.0	
4.2 Identified and Quantified Benefits	1.5	
4.3 Identified and Quantified Costs	1.5	
4.4 Reasonable Assumptions	0.0	
4.5 Sensitivity Analysis	1.5	
5. Monitoring and Evaluation	6.1	
5.1 Monitoring Mechanisms	2.3	
5.2 Evaluation Plan	3.9	
III. Risks & Mitigation Monitoring Matrix		
Overall risks rate = magnitude of risks*likelihood	Medium	
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.13	
IV. IDB's Role - Additionality		
The project relies on the use of country systems		
Fiduciary (VPC/FMP Criteria)		
Non-Fiduciary		
The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:		
Gender Equality		
Labor		
Environment		
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	Yes	To support the achievement of the results established by the Program, the Bank is preparing Technical Cooperation HO-T1274.
The ex-post impact evaluation of the project will produce evidence to close knowledge gaps in the sector that were identified in the project document and/or in the evaluation plan		

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

This is the third and final operation of a PBP series with the general objective of supporting the GoH in the implementation of reforms and sector policies to improve financial sustainability, operational efficiency, and security of electricity supply. In particular, the program seeks to: (i) strengthen institutional capacity and the sector regulatory framework; (ii) improve financial sustainability and operational efficiency; and (iii) adopt energy policies aimed at guaranteeing the security of electricity supply.

The loan proposal presents an adequate diagnosis of the problems and their determinants, consistent with the proposed interventions. The document includes references and information on lessons learned from other operations carried out in the country, but does not have evidence (obtained through impact evaluations) of the effectiveness of similar interventions.

The results matrix has a clear vertical logic for the proposed components, is consistent with the matrices of the two previous operations, and the indicators are SMART. The project also includes a Matrix of Policy and Means of Verification that allows analyzing the results achieved to date.

The project has a cost-benefit analysis for program results. It quantifies the economic benefits resulting from i) the reduction of commercial losses, ii) the targeting of subsidies, and iii) the installation of renewable energy. The analysis shows an aggregate IRR of 30% and a NPV of US \$ 978 million, and includes a sensitivity study on critical variables, such as the price elasticity of demand, the level of losses and the cost of electricity.

The monitoring plan details the monitoring instruments that will be used. The evaluation plan is based on an ex post economic analysis, including the methodology for data collection, the work plan and the assigned budget.

## POLICY MATRIX

<b>Objective:</b>	The general objective of the programmatic series and specifically the third and final operation is to support the government of Honduras in implementing the sector reforms and policies needed to enhance financial sustainability, operational efficiency, and security of supply in the electricity sector. The specific objectives are to: (i) strengthen the sector's institutional capacity and regulatory framework; (ii) enhance financial sustainability and operational efficiency; and (iii) adopt energy policies aimed at ensuring a secure supply of electricity.
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Objectives	Commitments Programmatic I	Commitments Programmatic II	Commitments Programmatic III
<b>General Macroeconomic Policy Framework</b>			
<b>Stable general macroeconomic policy framework</b>	Macroeconomic framework that is stable and conducive to achieving the program objectives and the guidelines provided in the sector policy letter.	Macroeconomic framework that is stable and conducive to achieving the program objectives and the guidelines provided in the sector policy letter.	Macroeconomic framework that is stable and conducive to achieving the program objectives and the guidelines provided in the sector policy letter.
<b>I. Suitable legal, regulatory, and institutional framework for the electricity sector</b>			
<b>I-1 Have a legal, regulatory, and institutional framework that ensures the sustainability of the electricity sector.</b>	<p>The General Electric Power Industry Act (LGIE), which establishes the new legal, regulatory, and institutional framework for the sector, is approved and enters into force.</p> <p>A Steering Committee is created to strategically coordinate implementation of the objectives and provisions set forth in the new LGIE. This committee will have a technical unit that will act as Executive Secretariat.</p> <p>Draft general implementing regulations of the LGIE are prepared.</p>	<p>The following regulations are approved and are in effect:</p> <ul style="list-style-type: none"> <li>General implementing regulations of the LGIE;</li> <li>Regulations on system operations and administration of the wholesale electricity market.</li> <li>Regulation on the purchase of firm capacity and power.</li> </ul> <p>The CREE approves the Action Plan to ensure that within no more than 12 months of its constitution it has the regulatory provisions required by the LGIE, including at least:</p>	<p>The LGIE and regulations issued under previous operations in the programmatic series are in force and the CREE has completed issuing the following regulatory provisions required by the LGIE and established in the Action Plan delivered as part of the second individual operation under the programmatic series:</p> <ul style="list-style-type: none"> <li>Rate regulations and rate adjustment.</li> <li>Technical regulations on the distribution service, including service quality and contributions.</li> <li>Technical regulation on the transmission service, including the price structure applicable for network use.</li> </ul> <p>Contracting has been launched for the consulting projects to prepare (i) technical regulations for complementary services; (ii) technical regulations for regulated self-producing users; (iii) rate schedule regulations.</p>

Objectives	Commitments Programmatic I	Commitments Programmatic II	Commitments Programmatic III
		<ul style="list-style-type: none"> <li>Rate regulations and rate adjustment.</li> <li>Regulations on the distribution service, including service quality, bidirectional metering, and contributions.</li> <li>Regulations on the transmission service, including the price structure applicable for network use</li> </ul>	The Consejo Nacional de Energía [National Energy Council] (CONAEN) submits a report on progress made in implementing the reform, including an independent evaluation of the sector's operation and its institutions within the framework of the LGIE, and additional measures to be adopted if necessary.
<b>I-2 Have the institutional capacity and trained staff needed to ensure that public policies for the electricity sector are formulated and implemented.</b>	The electricity sector's lead authority responsible for setting sector policies is designated.	<p>The new institutional structure of the Ministry of Energy, Natural Resources, the Environment, and Mines, as the electricity sector's lead authority, has been established and is operational such that it has:</p> <ul style="list-style-type: none"> <li>an organizational structure with a basic trained staff;</li> <li>the required budget allocation and an annual work plan.</li> </ul>	<p>MiAmbiente is operating as the lead electricity sector entity, ensuring the definition, implementation, and monitoring of public policies to guide the activities of the electricity sector while functions are transitioning to the new Secretaría de Estado en el Despacho de Energía [Ministry for Energy Dispatch] (SEN).</p> <p>The SEN has been created as the institution guiding the national energy sector and regional and international integration and has: (i) the basic management staff; and (ii) the required budget allocations, and an annual work plan.</p> <p>The National Energy Council (CONAEN) has been created and is operating to move ahead with the strategic coordination and intersector integration of the energy sector.</p> <p>The Technical Secretariat of the CONAEN has been established and is operating, with the function of technical and administrative support of the CONAEN.</p>
<b>I-3 Have the institutional capacity and trained staff needed to regulate electricity sector activities.</b>	<p>Progress is made in establishing the Electric Power Regulatory Commission (CREE), in the form of:</p> <ul style="list-style-type: none"> <li>Regulations for the Nominating Board.</li> <li>Appointment of all Nominating Board members.</li> <li>Selection of a shortlist of candidates for commissioner by the Nominating Board.</li> </ul>	<p>The CREE commissioners have been named.</p> <p>The CREE has been established and the National Energy Council has transferred material and financial resources to it.</p> <p>The CREE's Rules of Procedure have been approved and are in effect.</p> <p>The CREE has defined its organizational structure, job profiles and functions, and its budgetary structure.</p>	<p>The CREE is operating as the entity responsible for regulating electricity sector activities.</p> <p>The CREE has financial resources and management staff and has selected the technical staff necessary for regulation of the sector.</p> <p>Decisions made by the CREE are being published as established in the LGIE.</p>

Objectives	Commitments Programmatic I	Commitments Programmatic II	Commitments Programmatic III
		The CREE has prepared and approved the operating regulations for the electricity system and the national electricity market.	The annual report of the CREE has been submitted to the Executive Branch and the Congress, indicating the functioning of the sector and any additional measures that will need to be adopted.
<b>I-4 Have the entity and the regulations necessary for national electricity system operation and planning.</b>	As part of the LGIE, parameters have been defined for the creation of an independent national electricity system operator responsible for ensuring that the supply of electricity is continuous and secure and that the system is properly operated.		<p>The national electricity system operator has been established, in accordance with the provisions of the LGIE.</p> <p>The Market Agents Committee has been established.</p> <p>The system operator has defined and published the generation and transmission expansion plan.</p> <p>The system operator has the financial resources, management staff, and infrastructure to supervise and control the operations of the National Interconnected System and manage the opportunity market.</p> <p>The system operator calculates and publishes: (i) marginal cost based on minimum-cost dispatch; (ii) energy levels produced by different types of technologies; (iii) verifies variable costs for power producers; and (iv) prepares the annual work plan for the next year, as applicable (2018 or the year following the year when disbursement is made).</p> <p>The Market Agents Committee conducts periodic performance evaluations and proposes measures aimed at improving the functioning of the electricity system and the market.</p>

Objectives	Commitments Programmatic I	Commitments Programmatic II	Commitments Programmatic III
<b>II. Improve the financial sustainability and operational efficiency of the electricity sector</b>			
<b>II-1 Restructure the ENEE to enhance the operational and financial performance of the sector.</b>	<p>The implementation of an action plan for the financial recovery and restructuring of the ENEE is approved.</p> <p>Control targets are set with a view to limiting the ENEE's contribution to the consolidated deficit.</p> <p>Accounting separation of the various areas of the ENEE is completed and a report containing financial statements for each of the generation, transmission, and distribution segments is produced.</p> <p>Progress is made in implementing the planned actions to restructure the distribution area of the ENEE and implement the comprehensive loss management system based on the PROMEF project's recommendations.</p>	<p>The ENEE has been restructured and is organized as a holding company for subsidiaries in the generation, transmission, and distribution, and system operation business segments.</p> <p>The ENEE meets the consolidated deficit targets provided in the government's action plan.</p> <p>The ENEE has the capacity to prepare financial statements in accordance with independent audit requirements.</p>	<p>The ENEE's generation business unit has been strengthened and is competitive in the market.</p> <p>The contract has been established with the private operator for the ENEE's distribution segment.</p> <p>The ENEE's distribution segment is operating with a private operator, and it is in compliance with the performance targets defined in the operation contracts.</p> <p>The ENEE meets the consolidated deficit targets established in the government's action plan.</p> <p>The ENEE group companies have been legally spun off.</p> <p>The ENEE has strengthened its ability to prepare financial statements in accordance with independent audit requirements.</p>
<b>II-2 Promote competition in the electricity sector and strengthen the electricity market by improving the power purchase procedures.</b>	<p>The price and supply terms of the power purchase agreements entered into with private thermal producers whose agreements expire in 2014 are reviewed.</p> <p>Progress is made toward carrying out competitive energy procedures by preparing draft standard thermal power purchase contract.</p>		<p>Power purchases are carried out by means of competitive bidding processes based on agreed-upon standard contracts consistent with the approved plan for expanded power generation.</p>

Objectives	Commitments Programmatic I	Commitments Programmatic II	Commitments Programmatic III
<b>II-3 Have a rate structure in place that allows for adequate compensation of chain participants, with competitive end-user rates and a direct subsidy targeted to low-consumption users.</b>	<p>As part of the electricity sector reforms, a transparent and sector-appropriate rate, fiscal and tax structure is formulated.</p> <p>The fuel-based rate adjustment rate is reviewed and updated.</p> <p>The institutional responsibilities and procedure for implementation of subsidy targeting of electricity consumers are determined beginning in 2015.</p>	<p>Rates continue to be periodically adjusted based on the methodologies in force, while the CREE issues new methodologies.</p> <p>Direct subsidies are reduced and cross-subsidies eliminated, as part of the process of subsidy targeting.</p>	<p>The provisional rate regulations have been developed and are in force.</p> <p>The provisional rate regulations contain charges to compensate the transmission and distribution activities of each company.</p> <p>The CREE has approved the provisional rate sheet and it is being applied to nonresidential customers and the costs of generation and transmission incorporated into the rates are being updated regularly according to the schedule approved by the CREE.</p> <p>Subsidies are given based on the subsidy regulations and their provisions for subsidy targeting.</p>
<b>III. Energy policies to ensure a secure supply</b>			
<b>III-1 Have a regulatory framework that promotes diversification into clean energy sources and a reduction of power generation costs.</b>	<p>As part of the electricity sector reforms, it is determined that all renewable energy purchases will be carried out by means of competitive bidding processes.</p> <p>Execution of the Project to Strengthen the Renewable Energy Policy and Institutional Framework, with a view to proposing the methodologies required for the competitive processes, is initiated by hiring the coordinator for the project.</p>	<p>The legal framework of the LGIE has been harmonized with the Renewable Energy Generation Incentives Law to provide incentives for the production of clean energy at competitive costs.</p> <p>Review procedures for approving generation projects, including environmental requirements, have been improved.</p>	<p>The generation expansion plan includes nonconventional renewable energy (NCRE) source generation projects.</p> <p>Power purchase auctions have been conducted.</p>
<b>III-2 Have a regulatory framework and policies that promote energy efficiency.</b>	<p>Instructions are issued to prepare energy efficiency and savings plans at public-sector institutions.</p> <p>Instructions are issued to create a rate structure that incentivizes consumption during off-peak hours and provides for increases during peak hours (multihour rates).</p>	<p>Energy efficiency and savings plans have been prepared and approved in at least 10 public-sector institutions.</p>	<p>Energy efficiency and savings plans are satisfactorily executed in at least 10 public-sector institutions, and a report is presented showing the savings obtained as a result of their implementation.</p> <p>The rate structure in effect provides for the possibility of billing consumption during off-peak hours with increases during peak hours (multihour rates for commercial and industrial users).</p>

Objectives	Commitments Programmatic I	Commitments Programmatic II	Commitments Programmatic III
<b>III-3 Have a regulatory framework harmonized with the Regional Electricity Market (MER).</b>	The interfaces between the Honduran electricity market and the MER are in effect.	The existing regulatory framework allows bidding processes for power purchases to include power generation from MER countries.	The bidding processes for power purchases allow the inclusion of power generation from MER countries.

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-\_\_\_/17

Honduras. Loan \_\_\_\_/BL-HO to the Republic of Honduras  
Programmatic Support for Electricity Structural Sector  
Reforms. Third Loan

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 Republic of Honduras, as Borrower, for the purpose of granting it a financing to cooperate in the execution of the project "Programmatic Support for Electricity Structural Sector Reforms. Third Loan." Such financing will be chargeable to the Bank's Ordinary Capital (OC) resources in the following manner: (i) up to the amount of US\$20,000,000, subject to concessional financial terms and conditions ("Concessional OC"); and (ii) up to the amount of US\$30,000,000, subject to financial terms and conditions applicable to loan operations financed from the Bank's regular program of OC resources ("Regular OC"), as indicated in the Project Summary of the Loan Proposal, and subject to the Special Contractual Conditions of said Project Summary.

(Adopted on \_\_ \_\_\_\_\_ 2017)