

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

HONDURAS

**RENOVATION OF FRANCISCO MORAZÁN HYDROELECTRIC POWER PLANT
TO FACILITATE THE INTEGRATION OF RENEWABLE ENERGIES**

(HO-L1203)

LOAN PROPOSAL

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REQUIRED LINKS	
1.	Multiyear execution plan and annual work plan
2.	Monitoring and evaluation plan
3.	Environmental and social management report
4.	Procurement plan

OPTIONAL LINKS	
1.	Economic analysis of the project
2.	Link on persons with disabilities
3.	Analysis of compliance with the Bank's Public Utilities Policy
4.	Technical link
5.	Program Operations Manual
6.	Safeguard Policy Filter and Safeguard Screening Form

ABBREVIATIONS

CHFM	Francisco Morazán hydropower plant (also known as El Cajón)
CTF	Clean Technology Fund
ENEE	Empresa Nacional de Energía Eléctrica [National Electric Power Company]
ESMP	Environmental and social management plan
GDP	Gross domestic product
GWh	Gigawatt hours
ICB	International competitive bidding
IRR	Internal rate of return
LIBOR	London Interbank Offered Rate
MW	Megawatts
MWh	Megawatt hours
NCB	National competitive bidding
NCRE	Nonconventional renewable energy
NFPS	Nonfinancial public sector
NPV	Net present value
O&M	Operations and maintenance
PMU	Project Management Unit
SCADA	Supervisory Control and Data Acquisition
SIAFI	Sistema Integrado de Administración Financiera [Integrated Financial Management System]
UEPEX	External project execution unit module
UNFCCC	United Nations Framework Convention on Climate Change
VRE	Variable renewable energy

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Financial Terms and Conditions						
Borrower:			Flexible Financing Facility (FFF) ^(a)			
				Regular OC (FFF) ^(a)	Concessional OC	CTF
Republic of Honduras			Amortization period:	25 years	40 years	40 years
Executing agency:			Disbursement period:	5 years		
Empresa Nacional de Energía Eléctrica [National Electric Power Company] (ENEE)			Grace period:	5.5 years ^(b)	40 years	10.5 years
Source	Amount (US\$ million)	%	Interest rate:	LIBOR -based	0.25%	0.25%
IDB (Regular OC):	0.56	1.52	Credit fee:	^(c)	N/A	N/A
IDB (Concessional OC):	1.04	2.82	Inspection and supervision fee:	^(c)	N/A	N/A
IDB total:	1.60	4.34	Weighted average life:	15.25 years	N/A	N/A
Other/cofinancing: CTF	16.4	44.53	Administration fee:	N/A	N/A	0.45% one-time charge
ENEE local counterpart contribution:	18,827	51.52	Approval currency:	U.S. dollar		
Total:	36.83	100				

Project at a Glance

Project objective/description: The general objective of the program is to improve the Francisco Morazán - El Cajón hydropower plant and recover its role as an effective asset for providing flexibility and integration of variable renewable energy (VRE) into Honduras's electricity system. The specific objectives are to: (i) improve the reliability and operational efficiency of the plant as an asset for increasing the share of VRE in the national interconnected system and furthering VRE integration with the system operator; (ii) provide technical inputs for a potential increase in installed capacity; and (iii) build local and plant operational unit capacities.

Special contractual conditions precedent to the first disbursement of the financing: The first disbursement of the loan proceeds is conditional on fulfillment of the following conditions, to the Bank's satisfaction: (i) a subsidiary agreement between the Ministry of Finance, representing the borrower, and the ENEE, as executing agency, will have entered into effect for the transfer of the loan proceeds and associated obligations, under the terms previously agreed upon with the Bank; (ii) the program Operations Manual will have been approved under the terms previously agreed upon with the Bank; (iii) within the executing agency, the project management unit will have the necessary staff on board for project execution; and (iv) within the executing agency, the multidisciplinary administration and engineering work team will be operating and will have the key staff needed for technical management of the project, as set forth in the program [Operations Manual](#) (paragraph 3.3).

See other socioenvironmental conditions in Annex B of the environmental and social management report ([required link 3](#)).

Exceptions to Bank policies: None.			
Strategic Alignment			
Challenges: ^(d)	SI <input checked="" type="checkbox"/>	PI <input checked="" type="checkbox"/>	EI <input type="checkbox"/>
Crosscutting themes: ^(e)	GD <input checked="" type="checkbox"/>	CC <input checked="" type="checkbox"/>	IC <input type="checkbox"/>

^(a) Under the terms of the Flexible Financing Facility (document FN-655-1), the borrower has the option of requesting changes to the amortization schedule, as well as currency, interest rate, and commodity conversions, subject in all cases to the final amortization date and the original weighted average life. The Bank will take market conditions as well as operational and risk management considerations into account when reviewing such requests.

^(b) Under the flexible repayment options of the Flexible Financing Facility, changes to the grace period are permitted provided that they do not entail any extension of the original weighted average life of the loan or the last payment date as documented in the loan contract.

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

^(d) SI (Social Inclusion and Equality); PI (Productivity and Innovation); and EI (Economic Integration).

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

I. PROJECT DESCRIPTION AND RESULTS MONITORING

A. Background, problem addressed, and rationale

- 1.1 **Macroeconomic context.** The Honduran economy has been slowing since 2018. In 2017, the economy grew 4.9%, but in 2019 growth fell to 2.7%. To a certain extent, this slowdown can be explained by a drop in investment and private consumption, as well as the agricultural sector downturn. In macroeconomic terms, the Fiscal Responsibility Act has sought to safeguard the sustainability of public policies since it was approved in 2016. From 2013 to 2019, the nonfinancial public sector (NFPS) deficit dropped from 7.5% of GDP to 1%. However, at year-end 2019, NFPS debt was 43.4% of GDP, while central government debt was 49% of GDP.¹ Thanks to this effort, Honduras was able to improve its credit profile, ranking below only Panama in the Central America and Dominican Republic region.² During the COVID-19 crisis, the Central Bank of Honduras presented a review of its monetary program in which it estimated that this year economic activity would shrink by 2.9% to 3.9%. Likewise, for 2020, the deficit is expected to increase up to 4% of GDP, exceeding the limit established in the Fiscal Responsibility Act.³
- 1.2 **The Honduran electricity sector** is being reformed⁴ to improve its operational and financial sustainability. Major actions taken in this reform process include the development and implementation of the Electric Power Industry Act, which began in 2014. Under this law, the sector is governed by three institutions, which have been established and are currently operating normally: (i) the Ministry of Energy, responsible for strategic planning and developing energy policies; (ii) the Electric Power Regulatory Commission, which regulates, drafts, and implements the regulations for modernizing the sector and developing the electricity market; and (iii) the system operator, responsible for ensuring the continuity and safety of the power supply as well as proper coordination of the generation and transmission system, and for reviewing and approving the plan to expand transmission. With regard to finances, the problematic rate schedule has been adjusted, making it possible to recover, to a large extent, electricity industry costs. Cross-subsidies were eliminated, and direct subsidies were targeted to disadvantaged socioeconomic sectors.
- 1.3 **National Electric Power Company.** The National Electric Power Company (ENEE) is a public enterprise currently implementing a legal mandate to split into three parts: generation, transmission, and distribution.⁵ This separation will make it possible to allocate resources to each section separately, strengthen them financially, and make investments to preserve their infrastructures and ensure their future operation.⁶ ENEE owns almost all of the transmission and distribution systems in the country⁷ (except for stand-alone systems) and 19% of the installed

¹ Net NFPS debt includes the assets managed by pension funds.

² In 2019, Moody's and Standard & Poor's affirmed their positive ratings of B1 and BB- with stable outlook.

³ The Fiscal Responsibility Act caps the overall NFPS deficit at 1% of GDP from 2019 on.

⁴ Progress on the reforms, their achievements, and the main challenges for the sector are discussed in the [project completion report](#) of the Programmatic Support for Structural Reforms in the Electricity Sector (loans 3386/BL-HO, 3619/BL-HO, and 4448/BL-HO), completed in 2019.

⁵ The Bank is providing support to ensure the separation is effectively implemented through technical cooperation operation ATN/OC-16508-HO.

⁶ [Status of the reform of the Honduran electricity system](#).

⁷ Service that it provides through the private operator Empresa de Energía de Honduras.

generation capacity. It is also responsible for the country's participation in the regional electricity market. There have been both operational and economic challenges to restructuring the company in the current context.⁸

- 1.4 **Electricity generation in Honduras.** In 2018, peak demand for power on the electricity system was 1,602 megawatts (MW), and the installed generation capacity was 2,682 MW (see Figure 1). The ENEE owns the country's largest hydroelectric power plants, with an installed capacity of 433 MW, including the Francisco Morazán hydropower plant (CHFM), also known as "El Cajón," and low-yield thermal power stations that provide power for zones with supply problems, with a capacity of 65 MW. The private sector holds the largest share of thermal⁹ and nonconventional renewable energy (NCRE)¹⁰ generation, with respective installed capacities of 966 MW and 1,225 MW.¹¹ In 2018 the energy supply reached 9,177 gigawatt-hours (GWh). The ENEE produced 21.6% of the power in the national interconnected system, mostly from hydroelectric power plants. Private companies generated 74.4%, and the regional electricity market, 4%.¹² To reduce the country's dependence on imported hydrocarbons, since 2007 the Government of Honduras has been spearheading the introduction of variable renewable energy (VRE) sources¹³ to diversify the energy matrix, through the Promotion of Electrical Power Generation from Renewable Resources Act. Thanks to this initiative, in 2018 renewable energy accounted for 63% of the energy matrix,¹⁴ higher than its 2007 share of 37%.¹⁵ In the past four years, private VRE generation projects have been commissioned for 607 MW (125 MW of wind energy and 482 MW of photovoltaic energy).

⁸ [Report to support monitoring of the electricity sector reforms and analysis of the fiscal-level financial impact of the electricity sector.](#)

⁹ Using fuels like bunker, diesel, and coal.

¹⁰ NCRE sources include all VREs (wind, solar, and hydroelectric without a dam), as well as biomass and geothermal.

¹¹ NCRE installed capacity is made up of 273 MW of hydroelectric power, 209 MW of biomass, 35 MW of geothermal, 511 MW of solar photovoltaic, and 225 MW of wind energy.

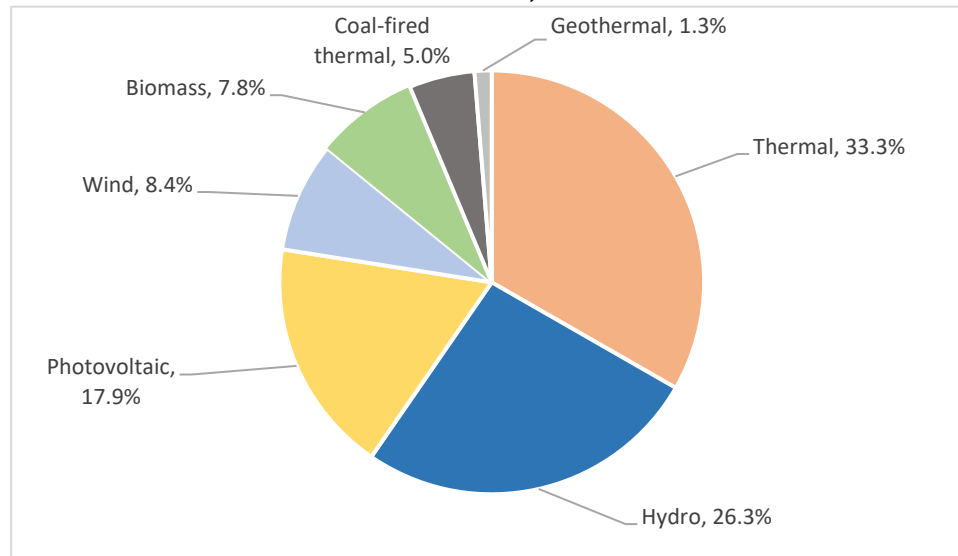
¹² Consisting of 41.4% thermal and 58.6% renewable. [National Distribution Center, ENEE.](#)

¹³ Variable renewable energy sources are understood to be wind and solar.

¹⁴ Renewable energies include all renewable energies regardless of whether they are variable (biomass, geothermal, hydroelectric with dam, and VRE).

¹⁵ Through the technical-cooperation operation ATN/SX-16689-HO, "Support for the Sustainable Development of Renewable Energy in Honduras," the Bank is providing support to the government to reduce the country's dependence on fossil fuels.

Figure 1 - Generation capacity by source, Bulletin of Statistical Data, October 2018, ENEE



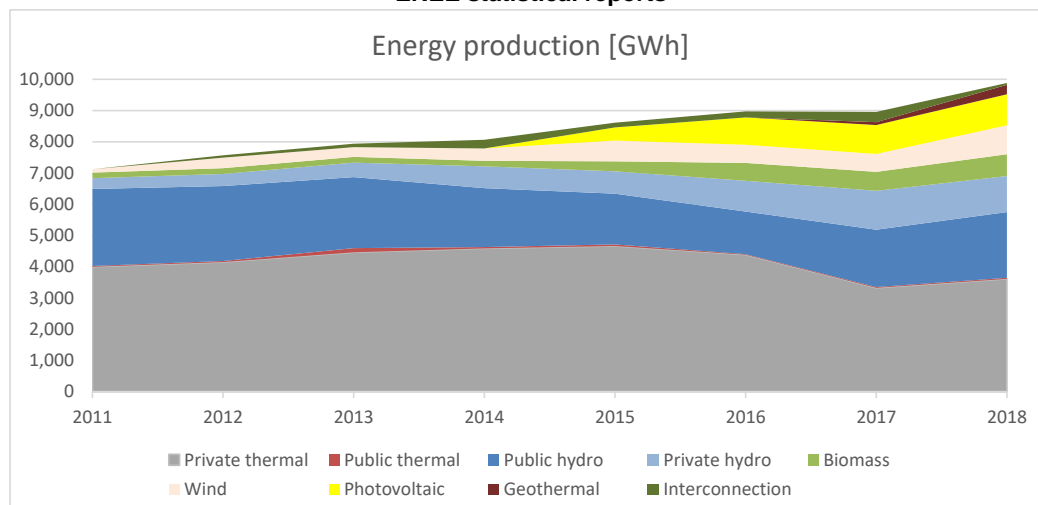
- 1.5 **Francisco Morazán hydropower plant (CHFM).** The CHFM is located in the department of Cortés, 230 kilometers from Tegucigalpa. It went online in 1986 and has an installed capacity of 300 MW. In 2018, it generated 1,625 GWh. The original construction of the project consisted of the following works: (i) a concrete, 226-meter-high, double-arch dam; (ii) a reservoir with an area of 94 square kilometers and multiyear regulation capacity of 5.7 billion cubic meters, built to store energy and control floods from the Humuya and Sulaco Rivers; (iii) a dam-toe powerhouse, where there are currently four 75-MW Francis turbines installed; and (iv) an electrical substation connecting the power plant to the grid through 230-kilovolt transmission lines. The power plant was designed so that four additional generation units could be installed.
- 1.6 **Importance of the CHFM in the electricity system.** The CHFM is the hydropower plant with the highest contribution to the national interconnected system, providing 16.4% of the energy generated. Furthermore, it is the principal regulator of voltage, primary and secondary frequency, reserve margins, and ancillary services essential to ensuring the network's reliability. The high share of VRE presents a challenge to operating the national interconnected system and to the regional transmission network, as well as to energy distribution (paragraph 1.4).¹⁶ It alters the supply of ancillary services, which are fundamental to maintaining service quality, and the increased variability in the national interconnected system requires a rapid response from power plants. The flexibility of large hydropower plants like the CHFM means that, as the system's use of VRE increases, they can respond to and compensate for fluctuations more economically and efficiently than thermal plants do, thus increasing the value of VRE.¹⁷ Furthermore, the CHFM plays a fundamental role in providing solid reserve margins that otherwise would have to be covered by costly, inefficient thermal power stations, increasing the average cost of generation.

¹⁶ [Estudio de reservas de equilibrio y control de la tensión para la integración de recursos renovables en Honduras](#), U.S. Department of Energy.

¹⁷ Lion Hirth (2016). [The Benefits of Flexibility: The Value of Wind Energy with Hydropower](#).

- 1.7 **Decrease in carbon emissions thanks to the modernization of the CHFM for system regulation.** Without the CHFM, the only option for making the system more flexible would be to install diesel (or gas) turbines with a more rapid response, which would increase greenhouse gas emissions. As shown in Figure 2, for the CHFM to serve as regulator, fossil-fuel-based electricity production has been reduced relative to its 2014 level, which was prior to the massive introduction of NCREs. The increased use of NCREs brought Honduras's emissions factor down from 0.67 tons of CO₂/MWh before 2012 to 0.61 tons of CO₂/MWh in 2014.¹⁸

Figure 2 - Electricity production by source in Honduras, 2011-2018, ENEE statistical reports



- 1.8 **Climate change vulnerability.** Central America is one of the most vulnerable regions to climate change due to its geography; located between two continental landmasses, it is severely affected by droughts, hurricanes, and weather phenomena like El Niño. Decreased precipitation in most of the region's watersheds, together with the gradual increase in temperature in all of them, will significantly affect hydropower production in the future, impacting the availability of resources. One adaptation measure that has been analyzed is the possibility of reforesting the CHFM watershed. A 3% reforestation would increase future firm power by 11 MW to 16 MW and total annual production by 21 GWh to 27 GWh, with the improvement remaining stable over time.¹⁹
- 1.9 **Diagnostic assessment of the current state of the CHFM.** Although the CHFM was fully overhauled between 2006 and 2012 (before VRE began to contribute such a significant share of the power generation) to extend its useful life by at least 20 years, the plant has reached a point where its system-regulatory function and the increase in VRE capacity in some areas of the country are being seriously affected. Several components of the plant, especially ones involved in automation and control, have become obsolete since the pieces and spare parts necessary to repair them are not available on the market. Furthermore, under current conditions, the control system is unable to communicate with the system operator, and as a

¹⁸ [Honduras Grid Emission Factor.](#)

¹⁹ IDB (2016), [Vulnerabilidad al cambio climático de los sistemas de producción hidroeléctrica en Centroamérica y sus opciones de adaptación.](#)

result, strategic information cannot be processed in real time, which delays decision-making. Due to the age of the equipment and the wear and tear on mechanical and pneumatic components of the generator groups resulting from the work of regulating the electricity system,²⁰ some components may be susceptible to interruptions due to more widespread breakdowns and unplanned stops. The risk and impact of performing maintenance operations and putting one or more generation units out of service increases with the level of wear and tear. Therefore, the plant must be modernized in order to improve operational reliability. The feasibility of increasing the CHFM's capacity must also be assessed, with the aim of making operations more flexible, increasing the share of VRE, reducing the operation of costly thermal power stations at peak hours, and taking advantage of surplus water resources. For more details on the state of the CHFM, see the technical analysis ([optional link 4](#)).

- 1.10 An institutional capacity analysis of ENEE management for implementing this operation, focused on the plant, was conducted in April 2020. This analysis identified, quantified, and measured the ENEE's weaknesses and areas for improvement, including the need to: (i) reorganize and incorporate human capacities to strengthen energy marketing and environmental, financial, and procurement management; and (ii) incorporate financing for the equipment and expenses involved in managing the project's environmental, social, and occupational health and safety impacts.
- 1.11 **Productive local development.** The CHFM's organizational structure includes a tourism unit and a watershed management unit, both of which work with the community. The ENEE has been engaged in this work since the original construction of the CHFM, in order to maintain good rapport with the communities around the reservoir and ensure that the plant operates normally. The tourism unit offers guided technical visits inside the powerhouse and the dam to students looking to increase their knowledge of the subject. It also offers stays at the staff camps, and women have played a key role in these services. The CHFM may become a promoter of science and technology through outreach campaigns.²¹ Meanwhile, the ENEE is seeking to strengthen the existing organizational structure and develop new productive activities.²²

²⁰ Greater use of VRE increases the number of starts and stops in the generation equipment, at a faster pace than occurred at the plant prior to the introduction of VRE, leading to increased wear and tear on components like the governors of the main and ancillary units, servomotors, protection systems, etc. The increased share of VRE contributes to the plant not working at its optimal efficiency, which can cause cavitation within the turbines and therefore heightened wear and tear. See the [report on the impact of introducing VRE into the electricity grid in Honduras](#).

²¹ Development of hydropower plant tourism at the Itaipú and Salto Grande plants (the latter with [IDB financing](#)) has shown to contribute to the plants' productive competitiveness by incorporating tourist activities into operations.

²² For more information on the communities' economic activities, see chapter 5 of the report, [Caracterización y Mapeo de las Partes Interesadas](#).

- 1.12 **The watershed management unit's work.** The watershed management unit does important work with the communities located near the reservoir, holding training and outreach activities on forest conservation and watershed preservation (paragraph 1.18) to safeguard the plant's hydropower resources and decrease sediments around the basin that could migrate into the reservoir, reduce its usable volume, and damage the plant's electromechanical equipment. The watershed management unit also promotes productive activities like the establishment of the community fishing module, supported by a private company, Aquafinca, which provided tilapia cages in the CHFM reservoir, contributing to economic development as the second largest tilapia company in Honduras.
- 1.13 **Gender gaps.** In 2018, a diagnostic assessment on gender was conducted, and an action plan was drafted for the ENEE. Significant gender gaps were found in employment data, both in worker demographics and in wages. At present, the power plant has a total of 103 employees (81 men and 22 women).²³ Of the 22 women employees, 10 hold technical or professional positions, while 12 work in administrative support. The seven senior executive positions are all held by men. This project presents an opportunity to mainstream a gender approach to the community engagement efforts already underway and at the CHFM through the implementation of activities set out in the gender policy that the ENEE is developing with financing from loan 4598/BL-HO.
- 1.14 **Persons with disabilities.** The registry of persons with disabilities ([optional link 2](#)) in Honduras is based on the 2013 census taken by the National Statistics Institute, which indicated that 205,423 persons in the country had some type of disability. The most common conditions were mobility-related, followed by vision, hearing, language, and intellectual disabilities.
- 1.15 It may be challenging for persons with disabilities to enjoy the CHFM's tourism services, since the plant does not have adequate architectural or communication accommodations. These limitations mean the CHFM is unable to offer inclusive services, which is disadvantageous for the institution as well (see [optional link 2](#)). This project will address these issues (paragraph 1.23).
- 1.16 **Project description.** Upgrading and modernizing hydropower plants extends their useful lives, recovers and maintains their original condition, and guarantees their availability and reliability.^{24,25} The CHFM is Honduras's most important power plant (paragraph 1.6), and the energy, power, and ancillary services it provides must be guaranteed. This project provides for modernizing the CHFM and performing studies and making plans to evaluate increasing the plant's capacity. Three lines of action are proposed for execution: (i) investments in modernizing the power plant and substation²⁶ to replace critical components that have suffered significant

²³ Information provided by the PMU.

²⁴ [Joseph Goldberg and Oeyvind Espeseth Lie. 2011.](#)

²⁵ The unit costs of investment in upgrades are lower than the costs of a new power station, US\$500 to US\$1,000 per kW versus over US\$1,300/kW, given the sunk costs of civil works and the environmental and social impacts that have already been mitigated. Typically, the positive economic returns are over 20%.

²⁶ After the project is executed, there will not be any changes to the power station's operation, meaning that no changes to the dam's water storage conditions are expected. The works will be executed exclusively in the plant's powerhouse; no work will be done on the dam, so therefore there is no risk of floods or harm to the league of communities.

- wear and tear²⁷ or for which replacement parts that would work with the current generation matrix configuration are not available on the global market (paragraph 1.4). The project will also update the Supervisory Control and Data Acquisition (SCADA) system with digital communication technology, including innovative digitization elements for processing data and preparing management reports in real time, in response to the demands of the new electricity market. A new wastewater treatment plant will be built for the plant operators' residential camps;²⁸ (ii) detailed environmental and engineering studies on increasing generation capacity, to provide information to the parties identified when the decision to install one or more generation units is made; and (iii) capacity-building for the local and existing plant unit staff members (paragraph 1.11).
- 1.17 **Project-execution strategy.** The ENEE has 40 years of experience in executing Bank loans, as it was responsible for executing the investment loan for the El Cajón Hydroelectric Plant Project (loan 572/SF-HO) when the CHFM was built. The ENEE has had a project management unit (PMU) since 2008, to ensure loans are implemented in strict compliance with ENEE policies and safeguards. The PMU performs fiduciary execution duties and ensures technical, environmental, social, and legal coordination with ENEE teams. The ENEE El Cajón operating team also includes a multidisciplinary administration and engineering work team, which will participate in project execution. This team has extensive experience with works of similar complexity and scope, like the: (i) reduction of water leaks for the plant; and (ii) overhaul of the generation units in the 2006-2012 period.
- 1.18 **Environmental and social management of the project.** CHFM staff and the communities in the direct area of influence of the CHFM,²⁹ including those in the plant reservoir area, have good rapport. The ENEE, with its own resources as well as resources from other community-relations and watershed-management programs, has spearheaded productive development programs, notably the creation of a community tilapia fishing company. This operation seeks to foster the development of productive activities such as the production of basic grains, community tourism, and nurseries for reforestation, with the communities in the direct area of influence of the CHFM.
- 1.19 **The country's strategy in the sector.** In late 2013, the Government of Honduras began the process of reforming the sector, adopting measures to ensure its financial sustainability, operational efficiency, and commitment to fostering Mesoamerican energy integration (paragraph 1.2). Since 2007, the Government of Honduras has been fostering power generation from VRE sources to diversify the energy matrix through the Promotion of Electrical Power Generation from Renewable Resources Act, through National Decree 70-2007, ratified in 2013. The

²⁷ The critical equipment to be replaced in the powerhouse will be exchanged for state-of-the-art equipment, most importantly turbine speed controllers/governors, electrical protection systems, stator windings, and power transformers. The new equipment is designed to work under the plant's new operating conditions, reducing the level of wear and tear on critical elements and extending the plant's life.

²⁸ At the plant there are two camps where 104 plant operators live. The camps do not have sewer systems, and the treatment plant that was built to handle the wastewater has already reached the end of its useful life. The new treatment plant will be technology-based.

²⁹ The main challenge for the execution of [power generation projects](#) in Honduras is maintaining good social management practices. [The execution of social responsibility and community relations programs are examples of good practices that support financial sustainability.](#)

country's long-term planning documents,³⁰ the [Honduras Country Vision 2010-2038 and National Plan 2010-2022](#), establish, in objective 3, the target of increasing the share of renewable energy in the country's power generation matrix to 80%.

- 1.20 **Bank experience in the electricity sector.** The Bank has experience financing strategic investments in the Honduran electricity sector. In addition to the original construction of the CHFM (paragraph 1.17) and this modernization operation, the Bank is financing the Cañaveral–Río Lindo Hydropower Complex Rehabilitation and Uprating Project (loan 3435/BL-HO) with the Japan International Cooperation Agency. The Bank is also cofinancing the Support for the National Electricity Transmission Program (loan 4598/BL-HO, 4599/SX-HO) with the Scaling Up Renewable Energy Program (SREP), in support of the national transmission system infrastructure, which complements the proposed project since it makes it possible to bring the improvements in energy efficiency and quality obtained from modernizing the plant to demand centers through transmission lines. The SREP is also financing two investment grants (grants GRT/SX-16864-HO and GRT/SX-17123-HO). In addition, the Bank has supported the Government of Honduras in reforming the sector through programmatic policy-based loans 3386/BL-HO, 3619/BL-HO, and 4448/BL-HO and with preparing and executing the project through technical-cooperation operation ATN/OC-17745-HO. South Korea, Japan, and the Nordic Development Fund provided funds for executing the technical-cooperation operations.
- 1.21 **Bank experience in the rehabilitation and modernization of hydropower plants.** The Bank also has experience rehabilitating other hydroelectric power plants in the region, notably the Furnas and Luiz Carlos Barreto (loan 2549/OC-BR) and Passo Real and Itaúba (loan 2813/OC-BR) plants in Brazil; the Simón Bolívar Guri plant (loan 2429/OC-VE) in Venezuela, the Péligre plant (loan 1296/OP-HA) in Haiti, the Carlos Fonseca and Centroamérica plants (loan 1933/BL-NI) in Nicaragua, the Rehabilitation and Modernization Program for the Acaray Hydroelectric Power Plant (loan 4690/OC-PR) in Paraguay, and the Salto Grande Binational Hydropower Complex (loan 4694/OC-RG, 4695/OC-RG) in Uruguay and Argentina. A Bank study presented evidence of the effectiveness and suitability of rehabilitation and modernization as measures that are more cost-efficient than others (like the construction of new power plants) for providing VRE without causing environmental or social impacts.³¹
- 1.22 **Strategic alignment.** The program is consistent with the second Update to the Institutional Strategy 2020-2022 (document AB-3190-2) and is aligned with the development challenges of: (i) productivity and innovation, by promoting the modernization of generation infrastructure, fostering the use of digital technologies to improve the plant's performance, and allowing innovation and the introduction of new energy sources into the matrix; and (ii) social inclusion and equality, by promoting inclusive infrastructure and contributing to the improvement of electricity

³⁰ Honduras has three planning instruments: The Country Vision, National Plan, and Government Plan. Each covers a different time period.

³¹ [Rehabilitación de fuentes renovables de energía \(Hidroeléctricas\): "Una oportunidad para proveer energía renovable a la matriz energética."](#) The study concludes that rehabilitation is an opportunity to incorporate more modern and efficient digital control and operation technologies, making better use of water resources and increasing generation capacity. The projections studied show that hydropower will continue to be a key factor in the development of the electricity sector in Latin America and the Caribbean, increasing by an average of 2 to 5 GW per year (depending on circumstances).

service quality. The program is also aligned with the crosscutting areas of: (i) gender equality and diversity, by implementing the gender policy to promote greater participation by women at the plant and by adapting tourism areas to make them more accessible for persons with disabilities (paragraph 1.30);³² and (ii) climate change and environmental sustainability, by increasing the use of VRE and helping reduce greenhouse gas emissions. The program is consistent with the IDB Group Country Strategy with Honduras 2019-2022 (document GN-2944), as it pursues the strategic objective of improving the efficiency, coverage, quality and sustainability of the electricity service. The operation will help increase the share of renewable energy in the generation matrix, improve the system's reliability, and transfer energy from NCRE projects in operation. The operation is included in the Update of the Annex III of the Operational Program Report (document GN-2991-3). According to the [joint methodology of the multilateral development banks for tracking climate-change adaptation finance](#), 100% of the operation's resources are invested in climate change mitigation activities. This contributes to the IDB Group target of increasing financing for climate-related projects to 30% of approvals by the end of 2020. The program is aligned with: (i) the Strategy for Sustainable Infrastructure for Competitiveness and Inclusive Growth (document GN-2710-5), by supporting the modernization of infrastructure to meet the demand for energy in a sustainable way; and (ii) the Bank's Integrated Strategy for Climate Change Adaptation and Mitigation, and Sustainable and Renewable Energy (document GN-2609-1). It is also aligned with the: (i) Energy Sector Framework Document (document GN-2830-8), by supporting the priority area of energy security and sustainability and energy efficiency; (ii) Climate Change Sector Framework Document (document GN-2835-8), by promoting renewable energies; and (iii) Gender and Diversity Sector Framework Document (document GN-2800-8), by promoting gender activities in the sector. It is also consistent with the Plan of the Alliance for Prosperity in the Northern Triangle, specifically with the strategic pillar of energizing the productive sector through support for tourism activities and community modules.

- 1.23 **Actions for persons with disabilities.** The corresponding accommodations would be made to the tourist area to improve accessibility,³³ especially for persons with disabilities. Customer (visitor) service policies, procedures, and tools will be improved to facilitate improved communication.
- 1.24 **Gender actions.** To promote gender equity in employment at the CHFM and bolster productive tourism enterprises at the plant and in its area of influence, the project will support the following actions: (a) implementation of the corporate gender policy at the CHFM unit to foster greater participation of women at the plant; (b) implementation of a training, awareness, and mentoring program to encourage women's participation in all employment areas (to include the subjects of preventing gender violence and workplace harassment); and (c) design of a strategy to improve the plant's tourism business, focused on creating jobs for women. This activity will include a mapping of the social organizations working in the area, to incorporate them into the tourism enterprises logistics chain, boosting

³² To be developed under operation 4598/BL-HO; 4599/SX-HO.

³³ The guidelines set forth in Honduras's National Plan for Universal Accessibility, formulated by the Ministry of Development and Social Inclusion of the Government of Honduras, will be applied to ensure architectural accessibility.

the area's development in coordination with the tourism and watershed management units.

- 1.25 **Innovation and digitization.** Digitization and the use of innovative technologies significantly benefit the hydropower sector, by improving the sustainability, safety, and efficiency of operations as well as of plant maintenance.³⁴ The hydropower sector is mature in terms of technology and the level of development in the region, where it has been the dominant sector in electricity generation for several decades. The modernization of the SCADA system and its integration with the system operator, as well as the replacement of the load governors, will help digitize the CHFM to improve management, operations, and maintenance, as well as decision-making with regard thereto.
- 1.26 **Public Utilities Policy (document GN-2716-6).** According to the analysis performed ([optional link 3](#)), the program is consistent with the objectives of policy GN-2716-6. It also complies with the financial and economic sustainability conditions, since the generation of hydropower and the services it supplies removes the need to use more expensive technologies in the electricity system, thereby reducing the system's operating costs. The project is environmentally sustainable, insofar as it will not have significant impacts on the environment and will contribute to reducing greenhouse gas emissions by conserving a renewable energy source and allowing for greater penetration of NCRE in the national electricity system (paragraph 2.3).

B. Objectives, components, and cost

- 1.27 **Objective:** The general objective of the program is to improve the CHFM and recover its role as an effective asset for providing flexibility and integration of VRE into Honduras's electricity system. The specific objectives are to: (i) improve the reliability and operational efficiency of the plant as an asset for increasing the share of VRE in the national interconnected system and furthering VRE integration with the system operator; (ii) provide technical inputs for a potential increase in installed capacity; and (iii) build local and plant operational unit capacities.
- 1.28 **Component 1: Modernization of the plant (US\$28.02 million: US\$9.49 million CTF, US\$1.6 million IDB, and US\$16.93 million ENEE).** This component will finance works and goods involved in modernizing the power plant, including but not limited to: (i) the purchase and replacement of monitoring and control devices for the systems and equipment to be incorporated into the SCADA system; that is to say, the migration to new state-of-the-art digital instruments that can be incorporated into the plant's SCADA system;³⁵ (ii) replacement of equipment that has been significantly worn down due to the use of VRE, like the load governors and protective equipment, and/or equipment for which spare parts cannot be obtained; (iii) modernization and expansion of the electrical substation, to include installation and connection of communication equipment;³⁶ (iv) upgrading of instrumentation to ensure integration of the power plant into the new national

³⁴ [The Digital Revolution of Hydropower in Latin American Countries.](#)

³⁵ [The SCADA system makes it possible to remotely control equipment and gather data, thereby facilitating information, operation, and decision-making.](#)

³⁶ This activity, budgeted at US\$2.5 million, is not included in the current financing but instead will be financed with funds from the National Transmission Program, operation 4598/BL-HO,4599/SX-HO. It is included under this component as it is part of the overall plant intervention.

electricity market; and (v) other works, such as the replacement of draft tubes³⁷ and the existing wastewater treatment plant for the camps.

- 1.29 **Component 2: Preparation of an assessment for a future increase in generation capacity (US\$3.6 million CTF).** This component will finance studies to provide technical inputs for a potential increase in installed capacity, namely: (i) geological and geotechnical studies for the potential installation of the new generation unit(s) in the powerhouse;³⁸ (ii) electromechanical designs of the generating equipment for working with considerable power fluctuations due to the significant use of VRE; (iii) studies on national and regional electrical interconnection; (iv) assessment on increasing the plant's capacity; (v) technical studies for bidding processes for the future expansion of the plant's capacity; and (vi) bathymetric and topographic lidar studies.
- 1.30 **Component 3: Capacity-building for local plant staff and the existing and future operational units (US\$1.77 million: US\$1.65 million CTF and US\$130,000 ENEE).** Staff will be trained to operate and maintain the plant in a new national and regional electricity market. This component will also build the capacities of the tourism and watershed management units and will work with the community to develop productive activities. Within the CHFM unit, the component will strengthen environmental, social, and climatically sustainable management designed to reduce climate vulnerability, by developing and applying environmental, social, and occupational health policies in the unit³⁹ and implementing activities for persons with disabilities (paragraph 1.23) and gender actions (paragraph 1.24).
- 1.31 **Strengthening of the watershed unit.** The watershed unit will be strengthened through the following activities: (i) support for fishing activities; (ii) promotion of production and marketing of nonconventional crops and basic grains; and (iii) creation of community nurseries for forestry material and flowers.
- 1.32 **Other costs (US\$3.43 million: US\$1.67 million CTF and US\$1.77 million ENEE).** This component will finance the costs of technical and environmental oversight, administration, auditing, and contingencies.

C. Key results indicators

- 1.33 **Expected outcomes.** The following project outcomes are expected: (i) increased use of renewable energy sources in the generation matrix; (ii) improved quality and reliability of the upgraded service; (iii) reduced operation and maintenance costs; (iv) feasibility of the CHFM expansion analyzed; (v) CHFM operational, financial, environmental, and social management strengthened; and (vi) more plant visitors. The program will have an impact on the use of VRE in the energy matrix, maintaining the CHFM's average level of generation and supporting the use of VRE, thereby preventing greenhouse gas emissions.

³⁷ Where the water flows out.

³⁸ This will include supplementary topographic studies.

³⁹ This includes the occupational health plan, which contains mitigation and safety measures for the execution of the work in the event of new COVID-19 outbreaks.

- 1.34 **Program beneficiaries.** The project will make it possible to maintain the CHFM's operation with adequate availability and reliability rates, benefiting the 1.84 million users of Honduras's electricity system with greater use of renewable energy and high-quality, cost-efficient service.
- 1.35 The program will help mitigate inequality of access to higher quality electricity services. This impact results from an increase in the availability and reliability of power generation at the CHFM as well as improvements in the operating agency's efficiency and administration of costs. The program will also help mitigate gender- and disability-based inequality through the execution of the activities described above.
- 1.36 **Economic and financial viability.** An economic and financial evaluation ([optional link 1](#)) was performed based on the cost-benefit methodology for analyzing the project's economic and financial viability. The expected financial benefits of the proposed investment mainly result from the lower cost of operations and maintenance; operational efficiency gains; and the increased reliability of the electricity supply. These considerations were taken into account to prepare a 15-year projection of the increased electricity and power generation and of associated operations and maintenance costs, using the following parameters and assumptions:

Table 1 - Summary of assumptions

Current situation	Quantity	Price (US\$)
Average generation	1,050,000 MWh	0.085
CHFM firm power	123,000 kW	8.78
With US\$36.8 million investment⁴⁰	Variation	
Energy (efficiency gain)	31,500 MWh	3%
Power (availability gain)	3,690 kW	3%
Operations and maintenance costs	12% reduction	

- 1.37 The analysis of the economic viability of the program investments, discounting efficiency prices at 12%, yields the following values: an economic internal rate of return of 17.7% and an economic net present value of US\$7.4 million. A sensitivity analysis was performed by varying the main analysis parameters, including: (i) the investment cost; (ii) the expected savings on operations and maintenance costs; (iii) a drop in production of one generating unit; and (iv) the exclusion of the new solar plant. The financial viability analysis calculated the internal rate of return (IRR) and net present value (NPV) of the expected investment flows using a discount rate of 12% at market rates. It yielded an IRR of 9.7% and a negative NPV of US\$3.1 million. The IRR obtained is less than 12%, the minimum performance expected in the market and the commercial financial cost, hence the negative NPV. This result is evidence of the program's need for concessional resources. In addition, it is a Clean Technology Fund (CTF) requirement to issue the financing requested under the least concessional terms possible for the borrower.

⁴⁰ This does not include the investment in transmission, which was evaluated under operation 4598/BL-HO.

II. FINANCING STRUCTURE AND MAIN RISKS

A. Financing instruments

- 2.1 **Modality.** This operation is a specific investment loan for the amount of US\$18 million, of which the Bank will finance US\$560,000 from regular Ordinary Capital resources and US\$1,040,000 from concessional Ordinary Capital resources, plus US\$16,400,000 in reimbursable financing with resources from the Clean Technology Fund (CTF).⁴¹ The ENEE will make a local contribution in the amount of US\$18,827,000. The estimated cost of the program is US\$36,827,000. Table 2 shows a breakdown of the costs.

Table 2. Financing by component⁴²

Component	IDB	CTF	ENEE local counterpart contribution	Total
Component 1 – Modernization of the plant	1,600,000	9,487,816	16,934,068	28,021,884
Mechanical and protective equipment, modernized	914,995	5,425,820	11,216,598	17,557,414
Control center, modernized	568,551	3,371,448	-	3,940,000
Power transformers, modernized	-	-	3,600,000	3,600,000
Other works: draft tubes and wastewater treatment plant	-	-	2,109,469	2,109,469
CHFM instruments, modernized	107,793	639,206	-	747,000
Consulting services	8,658	51,341	8,000	68,000
Component 2 – Preparation of an assessment for a future increase in generation capacity	0	3,600,000	0	3,600,000
Component 3 – Capacity-building for local plant staff and the existing and future operational units	0	1,645,184	127,816	1,773,000
Other costs		1,667,000	1,765,116	3,432,116
Total	1,600,000	16,400,000	18,827,000	36,827,000

- 2.2 **Disbursement schedule.** The loan proceeds will be disbursed over five years, starting in 2021, as detailed in the multiyear execution plan [\(required link 1\)](#). This five-year time period is necessary due to the timing of the execution of works at the plant required to minimize outages of each of the machines at the power plant. However, the executing agency will begin executing the works in 2021. The disbursement plan is shown in the following table.

⁴¹ The CTF financing was approved on 26 March 2020.

⁴² Amounts at the subcomponent/output level are indicative.

Table 3. Disbursement plan in US\$

Source	Year 1	Year 2	Year 3	Year 4	Year 5	Total
IDB	10,389	778,677	632,575.20	178,357.93		1,600,000
CTF	600,728	5,636,987	5,597,125	3,713,803	851,354	16,400,000
ENEE local counterpart contribution	1,567,741	7,429,825	4,609,919	4,180,248	1,039,265	18,827,000
Total	2,178,860	13,845,489	10,839,620	8,072,410	1,890,619	36,827,000

B. Environmental and social risks

2.3 In accordance with the Bank Environment and Safeguards Compliance Policy (Operational Policy OP-703), this project is classified as a Category “B” operation, due to its moderate, localized, and short-term environmental impacts and risks that can be mitigated through environmental, social, and health and safety management measures typical for this type of civil works and/or equipment installation. An environmental and social impact assessment was drawn up during preparation of the operation, as was the corresponding environmental and social management plan (ESMP). Since all of the works will be carried out within the plant facilities or on land owned by the ENEE, they are not expected to affect any indigenous peoples nor cause impacts as a result of physical or economic displacement. The project is located outside of protected areas. However, since the El Cajón Resources Reserve is located in the indirect area of influence, a biodiversity monitoring plan has been developed. Furthermore, although the operation will not exacerbate disaster risk vulnerability, an emergency plan has been prepared. This plan describes the various risk scenarios for the power plant as well as for the staff, such as floods, earthquakes, tremors, fires, and equipment failures, illegal interference, and sabotage. Due to the current context of restrictions on movements and public meetings to prevent the spread of the COVID-19 pandemic, consultations were held online between 28 May and 11 June 2020. Seven consultation events were held—six using digital and teleconferencing platforms and one in-person meeting with CHFM managers staying at the power plant to address urgent issues. There were a total of 121 participants (77 men and 44 women). The proposals and concerns received during the consultation process were addressed and incorporated into the applicable management instruments. The [environmental and social impact assessment](#) with the ESMP and the [consultation report](#) were published on the IDB website. The environmental and social management report discusses details about environmental and social management ([required link 3](#)).

C. Fiduciary risks

2.4 One risk identified, classified as medium, is the risk of an increase in the PMU fiduciary area’s existing workload. As a mitigation measure, the ENEE has committed to strengthening this area by hiring additional technical staff. Likewise, resources from the financing and the institution’s own funds will be used to strengthen the PMU with fiduciary consultants: one financial coordinator, one technical coordinator, one procurement coordinator, and assistants in the technical and contract monitoring and follow-up areas. The terms of reference for these consultants will be agreed upon with the IDB. The consultants will support the ENEE, which will execute the program using its organizational structure and the existing PMU, as well as fiduciary management systems.

D. Other key issues and risks

Rating	Risk	Mitigation action
High	<p>Development</p> <p>1. If the Ministry of Finance does not allocate funds to the ENEE cofinancing in the annual budget, critical project elements would not be able to be purchased, leading to reduced renewable power generation in the system.</p>	<p>1. Meetings will be held with the ENEE, the Ministry of Energy, and the Ministry of Finance to coordinate the required budget allocations. The amount of the local counterpart contribution will not entail extraordinary expenditures for the ENEE, since it is already built into the annual budget for CHFM operations and maintenance throughout the duration of the project.</p>
Medium	<p>Development</p> <p>1. If other generation units fail during execution and no spare parts are available to repair them, these units would remain out of service, reducing the system's production of renewable energy.</p> <p>2. If the system operator does not authorize the requested clearances on the planned dates, the generation units cannot be repaired, and execution would be delayed.</p> <p>3. New outbreaks of the COVID-19 pandemic on the service provider side or decisions to isolate the power plant staff could lead to delays in the execution of contracts and in the supply of goods and/or consulting services.</p>	<p>1. The availability of spare parts will be guaranteed before project start.</p> <p>2. The system operator will help prepare a detailed analysis of the project timeline to prevent delays in repairing the generation units.</p> <p>3. The occupational health and safety plan in the execution of works amid COVID-19 will be implemented, following the industry-recommended protocols used by ENEE.</p>

2.5 **Technical viability.** Modernization of hydroelectric power plants is increasingly common since most large hydropower plants were developed in the 1970s and 1980s and certain components must now be replaced, due to use and wear and tear and the fact that producers no longer manufacture certain pieces and spare parts. Furthermore, significant advancements have been made in instrumentation, automatic control, and digitization, meaning plants can work much more efficiently (paragraph 1.11). The ENEE has the human resources and organizational structure necessary for carrying out this type of project.

- 2.6 To ensure the equipment is reliable, some parts will be procured directly from the original producer of the generation equipment. Under Component 2 of the operation, studies and designs will be prepared for the expansion of generation capacity.

III. IMPLEMENTATION AND MANAGEMENT PLAN

A. Summary of implementation arrangements

- 3.1 **Borrower and executing agency.** The borrower is the Republic of Honduras. The executing agency will be the ENEE, which will be responsible for program execution, administration, monitoring, and evaluation through a PMU that is in place for IDB loans currently in execution. The ENEE will engage the services of an external works supervision firm to oversee the works.
- 3.2 The ENEE will be required to make the local contribution and will be in charge of implementing and supervising the program, defining and approving the annual work plans ([required link 1](#)), providing information that will allow the IDB to monitor and evaluate program outcomes, coordinating and managing disbursements, and keeping the accounting and financial books, including the required annual program financial statements. The ENEE has a technical team trained on power generation and transmission issues and possesses feasibility and environmental and social studies of the works to be financed. The PMU will be responsible for fiduciary management of the loan proceeds.
- 3.3 **As conditions precedent to the first disbursement: (i) a subsidiary agreement between the Ministry of Finance, representing the borrower, and the ENEE, as executing agency, will have entered into effect for the transfer of the loan proceeds and associated obligations, under the terms previously agreed upon with the Bank; (ii) the program Operations Manual will have been approved under the terms previously agreed upon with the Bank; and (iii) the executing agency project management unit will have key staff members on board for project execution (general coordinator, technical coordinator, financial specialist, procurement specialist, monitoring specialist, contract administration specialist, environmental specialist, and social specialist), as established in the program Operations Manual ([optional link 5](#)); and (iv) within the executing agency, the multidisciplinary administration and engineering work team will be operational and will have the essential staff members on board for the technical management of the project (project director; mechanical, electrical, electronic, and civil specialists; and a person in charge of financial and administrative management), as set forth in the program Operations Manual.** These conditions are key to ensuring adequate technical execution of the project and the solid financial and administrative coordination thereof. The PMU has experience with Bank-financed projects and will be in charge of internal coordination of the execution of activities. The multidisciplinary administration and engineering work team has experience in works for modernizing the CHFM.
- 3.4 **Operations Manual.** Program execution will be governed by the provisions of the program Operations Manual, previously agreed upon with the Bank and necessary to ensure proper program execution. This manual includes all of the procedures to be followed during program execution and may be modified with the IDB's written no objection. The program Operations Manual includes: (i) a detailed plan for

execution and the institutional and operational roles and responsibilities of the entities involved; (ii) detailed procedures for selection and procurement of works, goods, and services; (iii) the investment sustainability strategy: recognition of expenditures via application of the current rate schedule, and maintenance responsibilities; (iv) administrative and financial management regulations and procedures; (v) monitoring and follow-up procedures; and (vi) measures, actions, and procedures established in the ESMP ([optional link 5](#)).

- 3.5 **Procurement management.** Procurement processes financed with loan proceeds will be carried out in accordance with documents GN-2349-15 and GN-2350-15. Under paragraph 5.4(a) of document GN-2350-15, the PMU staff may be contracted directly, for tasks that are a continuation of previous work they have done in prior operations financed by the Bank and executed by the ENEE, subject to a positive performance evaluation. The Swiss company Lombardi A.A. will be contracted directly to conduct geological and geotechnical studies for expanding the generation capacity. This firm conducted studies prior to the project and is familiar with the project's entire geology from design to construction. The direct contracting of this company adheres to the provisions of paragraph 3.11(a) and (d) of document GN-2350-15. The program also envisages direct procurement of several special licenses for managing the CHFM from AFRY. These licenses will be purchased from the software developers themselves, who possess the software property rights, in accordance with the provisions of document GN-2349-15 on direct contracting. The ENEE plans to directly contract the goods and associated services for replacing the principal units' stator windings, turbine seals, reconstruction of the power transformers, and repairs to the draft tubes. This is because the manufacturers of the equipment, as the patent and trademark owners, possess all of the necessary technical information, and furthermore, it will prevent the need for preliminary dismantling for reverse engineering and redesign works, substantially reducing times and costs.
- 3.6 **Retroactive financing.** The Bank may finance, retroactively from the loan proceeds, up to US\$2 million (11% of the loan) of eligible expenses incurred by the borrower before the loan approval date. The project provides for eventual payments of the advances corresponding to contracts for: replacement of the load governors, replacement of the SCADA system, and the reconstruction of power transformers; provided that requirements substantially similar to the ones established in the loan contract have been met. These expenditures must have been made no earlier than 15 November 2019 (date on which the project profile was approved), and under no circumstances may they include expenditures made more than 18 months before the loan approval date.
- 3.7 **Financial management.** The ENEE, acting through the PMU, will be responsible for financial management and will submit audited financial statements of the loan proceeds and local contribution resources, within 120 days after the close of each fiscal year. The final audited financial statement will be submitted within the 120 days following the date of the final disbursement. The Bank may also request additional reports as it sees fit. The ENEE will contract external auditing services based on the terms of reference previously approved by the IDB. Disbursements will be made according to the financial plan, as established in the Financial Management Guidelines for IDB-financed Projects (document OP-273-12) and the updates thereto.

B. Summary of arrangements for monitoring results

- 3.8 The program has a monitoring and evaluation plan ([required link 2](#)). The monitoring framework will include the: (i) procurement plan ([required link 4](#)); (ii) annual work plan ([required link 1](#)); (iii) annual verification of fulfillment of the targets established in Annex II; and (iv) semiannual reports containing: (a) activities executed in the period, progress on their execution, problems that have arisen, and their solutions; (b) evaluation of the: results matrix, procurement plan, and annual work plan; and (c) analysis of the IDB project monitoring report, for which fulfillment of results matrix outcome and output indicator targets will be assessed. Execution in the period will be evaluated, and planning for the following six months will be included. The semiannual reports will be sent to the IDB for approval no later than 30 July and 30 January each year.
- 3.9 The monitoring and evaluation plan includes the project evaluation mechanisms, which are designed to verify fulfillment of the targets agreed upon in the results matrix. The ENEE will select and engage consulting services to conduct: (i) a midterm evaluation, once 50% of the project funds have been disbursed and justified, or at 30 months into execution, whichever occurs first. This evaluation will focus on analyzing the progress made, coordination and execution issues, the degree to which the contractual obligations have been fulfilled, recommendations for achieving the proposed targets, and the sustainability of the investments; (ii) a final evaluation, no later than 90 days after the date of the final disbursement, for which the final report must be presented no later than 30 days after justification of the final disbursement of the financing. The final evaluation will establish: the degree of fulfillment of the targets listed in the results matrix, the executing agency's performance, factors that influenced implementation, and recommendations for future operations; and (iii) an ex post cost/benefit analysis following the methodology used in the ex ante economic evaluation.

Development Effectiveness Matrix		
Summary		HO-L1203
I. Corporate and Country Priorities		
1. IDB Development Objectives		
Development Challenges & Cross-cutting Themes	-Social Inclusion and Equality -Productivity and Innovation -Gender Equality and Diversity -Climate Change and Environmental Sustainability	
Country Development Results Indicators	-Reduction of emissions with support of IDBG financing (annual million tons CO2 e)* -Installed power generation from renewable energy sources (%)*	
2. Country Development Objectives		
Country Strategy Results Matrix	GN-2944	Improve the efficiency, coverage, quality and sustainability of electricity service
Country Program Results Matrix	GN-2991-3	The intervention is included in the 2020 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		6.5
3.1 Program Diagnosis		3.0
3.2 Proposed Interventions or Solutions		1.7
3.3 Results Matrix Quality		1.8
4. Ex ante Economic Analysis		8.0
4.1 Program has an ERR/NPV, or key outcomes identified for CEA		3.0
4.2 Identified and Quantified Benefits and Costs		3.0
4.3 Reasonable Assumptions		0.0
4.4 Sensitivity Analysis		2.0
4.5 Consistency with results matrix		0.0
5. Monitoring and Evaluation		6.5
5.1 Monitoring Mechanisms		2.5
5.2 Evaluation Plan		4.0
III. Risks & Mitigation Monitoring Matrix		
Overall risks rate = magnitude of risks*likelihood		High
Identified risks have been rated for magnitude and likelihood		Yes
Mitigation measures have been identified for major risks		Yes
Mitigation measures have indicators for tracking their implementation		Yes
Environmental & social risk classification		B
IV. IDB's Role - Additionality		
The project relies on the use of country systems		
Fiduciary (VPC/FMP Criteria)	Yes	Financial Management: Budget, Treasury, Accounting and Reporting, External Control. Procurement: Information System, Price Comparison.
Non-Fiduciary		
The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:		
Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project		

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

The general objective of the program is to improve and recover the role of the Francisco Morazán hydroelectric plant (CHFM) - El Cajón as an effective asset to provide flexibility and integration of Variable Renewable Energy (ERV) to the Honduran electricity system. The specific objectives are: (i) to improve the plant's operational reliability and efficiency as an asset to increase the participation of ERV in the National Interconnected System (SNI) and its integration with the System Operator (OdS); (ii) evaluate the technical and financial feasibility for a potential increase in installed capacity; and (iii) strengthening the local capacities and operating units of the plant.

The diagnosis highlights the importance of CHFM to the SNI, to compensate for ERV fluctuations, and its role in contributing firm reserve margins. The diagnosis highlights elements of automation and control that have become obsolete, and that affect the reliability and operational efficiency of the plant.

The vertical logic is organized by specific objective and indicators are included for each one, but not in all cases are they result indicators. The efficiency analysis is based on a CBA. The benefits derive mainly from the lower cost of operation and maintenance; gains in operating efficiency; and greater reliability of supply. Some key assumptions are not fully justified.

The proposed evaluation is a before and after comparison, without attribution.

RESULTS MATRIX

Project objective:	The general objective of the program is to improve the Francisco Morazán hydropower plant (CHFM) and recover its role as an effective asset for providing flexibility and integration of variable renewable energy (VRE) into Honduras's electricity system. The specific objectives are to: (i) improve the reliability and operational efficiency of the plant as an asset for increasing the share of VRE in the national interconnected system and furthering VRE integration with the system operator; (ii) provide technical inputs for a potential increase in installed capacity; and (iii) build local and plant operational unit capacities.
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EXPECTED IMPACT

Indicator	Unit of measure	Baseline 2019	Final target	Means of verification	Comments
<u>IMPACT #1</u> Increased generation of renewable energy					
Generation of renewable energy	%	54	72	ENEE statistics	See report. The percentage is the ratio of net generation of renewable energy to the system's total energy.
<u>IMPACT #2</u> Reduction of greenhouse gas emissions					
Honduras electricity grid emissions factor	Tons of carbon dioxide (CO ₂) equivalent	0.612	0.55	ENEE management report	See UNFCCC report for the baseline and calculation methodology.

EXPECTED OUTCOMES

Indicator	Unit of measure	Baseline 2019	Final target	Means of verification	Comments
<u>SPECIFIC OBJECTIVE 1:</u> Improve the reliability and operational efficiency of the plant as an asset for increasing the share of VRE in the national interconnected system and furthering VRE integration with the system operator					
Percent availability of the CHFM's power generation	%	95	97	CHFM Generation Management Annual Operating Report	Result of automatic distribution due to integration into the system operator.
Percent reliability of CHFM power generation	%	95	99	CHFM Generation Management Annual Operating Report	Result of automatic distribution due to integration into the system operator.
Percent of secondary energy generated at CHFM due to improvements in operational efficiency	%	0	3	CHFM Generation Management Annual Operating Report	
Percent availability of ancillary voltage and frequency regulation services	%	95	97	CHFM Generation Management Annual Operating Report	Result of automatic distribution due to integration into the system operator.
Increase in energy distributed at peak hours	GWh	0	100	CHFM Generation Management Annual Operating Report	
Reduction of operations and maintenance (O&M) costs	O&M costs/ Baseline year O&M costs	100	88	Generation Management Annual Economic Report on Operations and Maintenance	O&M costs are expected to decrease by 12% from the baseline year.
<u>SPECIFIC OBJECTIVE 2:</u> Provide technical inputs for a potential increase in installed capacity					
Viability analysis for the CHFM expansion	Report	0	1	Generation management report ¹	

¹ These are specific reports provided by the hydropower plant management.

Indicator	Unit of measure	Baseline 2019	Final target	Means of verification	Comments
<u>SPECIFIC OBJECTIVE 3: Build local and plant operational unit capacities</u>					
Energy marketing unit within the CHFM for sales to external clients, operational	Unit	0	1	Generation management report	Sales outside the ENEE structure.
Environmental and social management system implemented at the CHFM in accordance with international standards	Policy	0	1	Generation management report	International standard is understood to be ISO 14000 or similar.
New productive activities adopted by the communities	Productive activities	0	2	Generation management report	The new productive activities are tourism and the production of foods with basic grains.
Increase in the number of tourists to the CHFM	# of tourists	29,904	40,000	Generation management report	

OUTPUTS

Output	Unit of measure	Base -line	Base -line year	Year 1	Year 2	Year 3	Year 4	Year 5	Final target	Means of verification	Comments
Component #1: Modernization of the plant											
1.1 Consulting services for preparing the technical documentation for purchasing equipment for the modernization ²	# of consulting engagements	0	0	0	2	1	0	0	3	Generation management report	To be provided by international specialists, ensuring the request for current state-of-the-art technology. ³
1.2 Electromechanical generation protection equipment modernized	# of systems	0	0	0	0	0	2	1	3	Generation management report	
1.3 CHFM instrumentation modernized	# of systems	0	0	0	0	0	0	2	2	Generation management report	
1.4 Control center modernized	# of systems	0	0	0	0	0	0	1	1	Generation management report	
1.5 Power transformers modernized	# of systems	0	0	0	0	0	1	1	2	Generation management report	
1.6 Civil works for the CHFM modernization, executed	# of works	0	0	0	0	0	2	1	3	Generation management report	Draft tube; water treatment plant; dynamic barriers.

² Modernization is understood to mean the replacement of old components and the incorporation of new ones with the capacity for digital communication.

³ Also includes a domestic consulting engagement for the design of water treatment plants for the camps.

Output	Unit of measure	Base-line	Base-line year	Year 1	Year 2	Year 3	Year 4	Year 5	Final target	Means of verification	Comments
Component #2: Preparation of an assessment for a future increase in generation capacity											
2.1 Viability studies for the installation of the fifth CHFM unit, prepared	# of studies	0	0	0	0	1	0	1	2	Generation management report	Economic-financial viability (evaluation for increasing the plant's capacity) and electrical interconnection studies.
2.2 Bathymetric and topographic studies performed	# of studies	0	0	0	0	0	1	1	2	Report	Bathymetric and topographic lidar studies.
2.3 Geological and geotechnical investigations, conducted, and technical designs for the future expansion of the plant's capacity, prepared	# of studies	0	0	0	0	0	0	3	3	Reports	To include: 1. Geological and geotechnical studies for the potential installation of the new generation unit(s) in the powerhouse. 2. Electromechanical designs of the generation equipment for working with considerable power fluctuations due to the significant use of VRE. 3. Studies of documentation for preparing the technical bidding documents for the future expansion of the plant's capacity. ⁴

⁴ This will include topographic studies to complement the geological and geotechnical studies.

Output	Unit of measure	Base -line	Base -line year	Year 1	Year 2	Year 3	Year 4	Year 5	Final target	Means of verification	Comments
Component #3: Capacity-building for local plant staff and the existing and future operational units											
3.1 Support provided for the integration of the CHFM into the new national electricity market	Report	0	0	0	0	0	1	0	1	Generation management report	Preparation of the Generation and Transmission Expansion Plan, and launch of the electricity market with affordable distribution.
3.2 A tourism strategy that is community-based and mainstreams gender, designed	Strategy	0	0	0	0	0	0	1	1	Generation management report	
3.3 Investment works to modernize and/or develop inclusive tourism infrastructure	Works	0	0	0	0	0	0	2	2	Generation management report	Visitors' center, conventions, and visits.
3.4 Pilot community social responsibility projects implemented	Projects	0	0	0	0	0	1	2	3	Generation management report	
3.5 Watershed reforestation program implemented	Plan	0	0	0	0	0	0	1	1	Generation management report	Implemented is understood to mean that 300 hectares between level 285 and 301 have been reforested, creating a buffer zone and safety strip around the reservoir.
3.6 Gender action plan, developed and implemented	Plan	0	0	0	1	1	0	0	2	Generation management report	Implemented is understood to mean that a training, awareness, and mentoring program to promote the participation of women in all work areas has been carried out.

FIDUCIARY AGREEMENTS AND REQUIREMENTS

Country:	Honduras
Project number:	HO-L1203
Name:	Renovation of Francisco Morazán Hydroelectric Power Plant to Facilitate the Integration of Renewable Energies
Executing agency:	National Electric Power Company (ENEE)
Fiduciary Team:	Christian Contín (Financial management, FMP/CHO); María Cecilia Del Puerto Correa (Procurement, FMP/CHO)

I. EXECUTIVE SUMMARY

- 1.1 The most recent diagnostic assessments of financial management in Honduras show that the country has made significant progress towards international standards and good practices, principally in modernizing the institutional framework and integrating the budget, treasury, and government accounting systems in the integrated financial management system (SIAFI). However, since the system's technology infrastructure is obsolete, the government, seeking to implement best practices throughout the public resources cycle and integrate SIAFI with other systems, has decided to embark on modernizing public financial management with a new SIAFI. This process began recently, and the Bank will support some of the activities through a new operation, currently being designed.
- 1.2 Honduras's public procurement system has strengths that were identified in the 2010 diagnostic assessment based on the Organisation for Economic Co-operation and Development's Methodology for Assessing Procurement Systems, in particular in its legal framework, which, for the most part, is aligned with international best practices. Nevertheless, challenges remain in terms of achieving the standards that would allow the Bank to use the country system exclusively in the operations it finances. In 2017, the Bank provided support for updating the aforementioned diagnostic assessment, and the new assessment was published in early 2018. While the report found that progress had been made since the previous diagnostic assessment, it was not enough for across-the-board adoption of the country system.
- 1.3 On 13 March 2019 the Bank Board of Executive Directors approved (in document GN-2538-25) the use of the subsystems for limited bidding and framework agreement via electronic catalog/catalog procurement that are part of Honduras's country procurement system, known as the Public Procurement System of the Government of Honduras. These processes apply to Bank-financed projects for procurements of goods, works, and nonconsulting services that do not exceed the shopping thresholds for Honduras.

- 1.4 This operation is a specific investment loan in the amount of US\$18 million, of which the Clean Technology Fund is contributing US\$16.4 million, with softer concessional conditions. In turn, the Bank is lending US\$1.6 million from a blend of Ordinary Capital and concessional Ordinary Capital resources. The beneficiary is the Republic of Honduras, which will execute the operation through the ENEE's project management unit (PMU), or another appointed unit. The PMU will be responsible for leading the program and for fiduciary and administrative matters. The ENEE will also be responsible for the technical aspects.

II. FIDUCIARY CONTEXT OF THE EXECUTING AGENCY AND EXECUTION MECHANISMS

- 2.1 The ENEE's PMU has experience executing projects with the Bank, as it has executed or is currently executing several operations, including loan 3103/BL-HO, 3435/BL-HO. It has a stable, experienced fiduciary team. However, the need to strengthen fiduciary management should be analyzed in view of the number of processes and their complexity.
- 2.2 In May, an institutional capacity assessment of the ENEE's project execution unit was conducted. On the basis of this assessment the project team leader decided to continue executing the operation through the PMU.
- 2.3 The following provisions are established regarding the country systems for financial management, or their equivalent, that would be used for this operation:
- a. **Budget.** The operation's budget resources will be addressed in the Budget Act and its general provisions. For financial execution of the funds to be administered by the PMU and the Ministry of Finance, funds will be included in the PMU's budget each year in accordance with the annual planning for the operation's needs.
 - b. **Treasury.** A special account will be opened at the Central Bank of Honduras for program resources, as will an associated account in the Treasury Single Account.
 - c. **Accounting and financial reporting.** The executing agency will process payments through SIAFI and will use the UEPEX module to record and issue reports on operations or transactions executed with external financing.
- 2.4 Honduras's procurement information system, known as [HonduCompras](#), will be used to advertise calls to participate in procurement processes. Procurement processes for goods and services in amounts under the shopping thresholds will use the country systems for limited bidding and framework agreements via electronic catalog, provided that the goods or services in question are available in the corresponding catalog. All other processes will be subject to the Bank's procurement policies, and the PMU will be strengthened by engaging staff with extensive experience in using the Bank's procurement policies.

III. FIDUCIARY RISK EVALUATION AND MITIGATION ACTIONS

- 3.1 The main fiduciary risk identified, classified as medium, was the increase to the PMU fiduciary area's existing workload. As a mitigation measure, the ENEE agreed to commit to strengthening this area by hiring additional technical staff. Likewise, resources from the financing and the institution's own funds will be used to strengthen the PMU by hiring fiduciary consultants: one financial coordinator, one technical coordinator, one procurement coordinator, and assistants in the technical and contract monitoring and follow-up areas. The terms of reference for these consultants will be agreed upon with the IDB.
- 3.2 Efficient execution will require the executing agency to closely monitor the agreed-upon deadlines, and through its technical agencies, to be heavily involved in preparing high-quality technical documents, to mitigate potential delays in procurement processes. Furthermore, the ENEE will be actively involved in project planning, to ensure the plans reflect all steps and that any bottlenecks will be addressed in a timely manner.
- 3.3 Financial management of the operation, regulations, procedures, and systems will be governed by the Financial Management Guidelines for IDB-financed Projects (document OP-273-12) and supplementary guides.

IV. CONSIDERATIONS FOR THE SPECIAL PROVISIONS OF THE CONTRACTS

- 4.1 The following agreements and requirements should be included in the special provisions of the loan contract:
- 4.2 **Exchange rate agreed upon with the executing agency for accounting purposes.** The operation will use the exchange rate in effect on the day the beneficiary, executing agency, or any other person or legal entity authorized to incur expenditures makes the corresponding payment to a contractor or supplier.
- 4.3 **Justification of expenditures.** In view of the complexities of the operation (entailing coordination with the central government and execution in a post-pandemic climate, as is the case in the operation currently in execution), as well as the usual delays in the government's approval and annual budgeting processes, it was agreed that the percentage of the balance of advances for which the executing agency is required to provide supporting documentation would be lowered to 70%.
- 4.4 **Financial statements and other audited reports.** During execution, the executing agency will submit the project's audited financial statements on an annual basis in accordance with the terms required by the Bank. The project will select a Bank-eligible independent auditing firm or, if no such firm is available, will engage the services of the Office of the Auditor General. The audited financial statements will be submitted within 120 days after the end of each fiscal year, and the final statements will be submitted within 120 days after the date set for the last disbursement. Additional arrangements for financial monitoring of the operation in compliance with Green Climate Fund requirements may be included at the Bank's request.

V. AGREEMENTS AND REQUIREMENTS FOR PROCUREMENT EXECUTION

- 5.1 The fiduciary agreements and requirements for procurement establish the provisions that apply to the execution of all program-related procurement processes.

A. Procurement execution

- 5.2 The executing agency, acting through the PMU, will carry out procurement-related planning, selection, supervision, and acceptance in accordance with the Bank's procurement policies (documents GN-2349-15 and GN-2350-15) and with the operation's procurement plan, which contains detailed information on: (i) the contracts for works, goods and consulting services needed to fulfill program objectives; (ii) proposed methods for the procurement of goods and the selection of consultants; and (iii) Bank procedures for the review of each procurement process.
- 5.3 For procurement planning, the PMU will update the procurement plan on an annual basis or as needed for the program, using the procurement plan execution and monitoring system selected by the Bank for planning procurement activities and reporting progress. Any change to the procurement plan will be submitted to the Bank for approval. The PMU will reach an agreement with the Bank on a procurement plan for the first 24 months of execution.
- 5.4 **Procurement of works, goods, and nonconsulting services.** Works, goods, and nonconsulting services¹ generated under the program and subject to international competitive bidding (ICB) will be procured using the standard bidding documents issued by the Bank. Procurement items subject to national competitive bidding (NCB) will use national bidding documents agreed upon with the Bank and will be posted on the [website](#) of the National Office for Public Procurement.
- 5.5 The operation provides for the direct contracting of several special licenses for managing the CHFM. These licenses will be purchased from the software developers themselves, who hold the property rights. These procurements will adhere to the provisions of policy GN-2349-15, paragraph 3.7(c): the required good is proprietary and obtainable only from one source.
- 5.6 **Selection and contracting of consultants.** Consulting services from consulting firms under the project will be procured using the standard request for proposals issued by or agreed upon with the Bank.
- 5.7 For the geological and geotechnical studies for expanding the generating capacity, the project provides for single-source selection of the company that, having conducted prior studies, is familiar with the project's entire geology from design to construction, pursuant to document GN-2350-15, paragraphs 3.11(a): for tasks that represent a natural continuation of previous work carried out by the firm; and 3.11(d): when only one firm is qualified or has experience of exceptional worth for the assignment.

¹ Policies for the Procurement of Goods and Works Financed by the Inter-American Development Bank ([document GN-2349-15](#)) paragraph 1.1: Nonconsulting services are treated as goods.

- 5.8 **Selection of individual consultants.** At the executing agency's discretion, procurement processes for individual consultants may be announced through local or international advertising to develop a short list of qualified individuals if no known qualified consultants are available for invitation. Consultants hired to assist the executing agency during the operation may be engaged for the entire execution period with the no objection to the competitive initial-selection process, without the need to obtain a no objection for each budget year even if more than one contract is signed in a budget year. This provision does not apply to a situation in which a performance evaluation leads to termination of the consulting contract, in which case the new procurement process will require another no objection.
- 5.9 **Retroactive financing.** The operation provides for eventual repayment of the expenses incurred in advance for contracts for: replacement of governors, replacement of the SCADA system, and reconstruction of power transformers. Payments of up to US\$2 million, equivalent to 11% of the contract amount, will be recognized, provided that the procurement procedures, including advertising, adhere to the Bank's core procurement principles. The borrower will engage in advance procurement at its own risk and the agreement with the Bank regarding the procedures, documentation, or award proposal does not bind the Bank to issuing the loan. These expenses must have been incurred no earlier than 15 November 2019 and in no case will include expenses incurred after the Bank's Board of Executive Directors has approved the loan. Other. The Operations Manual will include detailed information on the program execution mechanism and instruments, as well as the executing agency's internal approval processes, including timelines and responsible parties. This is intended to bring clarity and certainty to processes and timely monitoring.
- 5.10 **Thresholds.** The thresholds for ICB and for the short list of international consultants will be posted to the Bank's [procurement portal](#) for the executing agency to consult. Under these thresholds, the selection method will depend on the complexity and nature of the procurement process and will be specified in the procurement plan approved by the Bank.
- B. Main procurement items**
- 5.11 The executing agency will be responsible for preparing the procurement plan.² The Bank's procurement specialist will provide assistance to ensure that procedures are appropriate in accordance with the Bank's procurement policies.³ The main procurement items planned for this operation are listed below:

² Policies [GN-2349-15](#), paragraph 1.18, and [GN-2350-15](#), paragraph 1.25: "The Borrower shall prepare and, before loan negotiations, furnish to the Bank for its approval, a procurement plan acceptable to the Bank...[for the] initial period of at least 18 months."

³ See the [guidelines for preparing and implementing the procurement plan](#).

Table 1. Main procurement items

Activity	Procurement type	Estimated date	Estimated amount US\$
Consulting firms⁴			
Preparation of topographic studies prior to construction of the fifth unit and additional geological and geotechnical investigations for the fifth unit.	Single-source selection		2,750,000
Bathymetric and topographic lidar studies	Quality-based selection		500,000
Goods and nonconsulting services			
Procurement of governors for four generation units and two ancillary units	ICB		5,740,816
Procurement of the SCADA system for the plant + modernization of the plant's electromechanical instrumentation + modernization of the dam instrumentation and software	ICB		4,640,000
Renewal of SDDP and OPTGEN software licenses	Direct contracting		30,000
Procurement of an electrical protection system for the main plant generating units	ICB		600,000

C. Procurement supervision

- 5.12 In accordance with the fiduciary risk analysis of procurement, a combination of ex post and ex ante supervision will be used as described in the procurement plan.
- 5.13 Any single-source selection of consulting services, whether provided by consulting firms or individual consultants, and any direct procurement of nonconsulting services, goods, or works will be subject to ex ante supervision by the Bank, regardless of the contract amount. Any re-contracting or contract extensions for an individual consultant will require no further no objection once the first contract resulting from a competitive process has received a no objection.

D. Special provisions

- 5.14 **Measures to reduce the likelihood of corruption.** See documents GN-2349-15 and GN-2350-15 for prohibited practices (lists of ineligible companies and individuals from multilateral organizations).
- 5.15 **Other special procedures.** The Bank may, at its discretion, change the procurement supervision method on the basis of experience in execution, any updates to the institutional capacity assessment, or any fiduciary visits.

E. Records and files

- 5.16 The PMU will be responsible for maintaining files and original supporting documentation for procurement processes that use program resources and for keeping records, using the established procedures. The Operations Manual will clearly document the ENEE's internal workflows, the workflows carried out with the support of the Honduran Institute of Forestry Conservation, and the separation of functions and responsibilities.

⁴ For consulting services, the short list consists of firms of different nationalities. See policy [GN-2350-15](#) paragraph 2.6.

VI. FINANCIAL MANAGEMENT AGREEMENTS AND REQUIREMENTS

- 6.1 **Programming and budget.** The budgetary allocation of program resources will be reviewed on an annual basis.
- 6.2 **Accounting and information systems.** The SIAFI/UEPEX module will be used for financial and accounting reports for Bank-financed projects. Honduras is in the process of implementing the International Public Sector Accounting Standards, in accordance with Article 96, subparagraph 1 of the Budget Act, which requires plans and manuals to be consistent with the International Public Sector Accounting Standards.
- 6.3 **Disbursements and cash flow.** Disbursements will be primarily in the form of advances of funds, supported by financial programming for a period not to exceed six months. The execution unit will have an exclusive bank account for program resources (a special account at the Central Bank of Honduras in the program's name, and funds executed by the Treasury Single Account with lines in dollars and local currency). Financial planning and financial reporting will be performed in a consistent manner throughout the program.
- 6.4 **Internal control and auditing.** The Bank has supported the National Office for Comprehensive Development of Internal Control at Public Institutions in some interventions to enhance the internal control environment at entities responsible for Bank-financed operations in Honduras. In this specific case, the PMU will perform its fiduciary duties within the framework of Bank policies for the operations it finances and in accordance with the executing agency's current Operating Regulations.
- 6.5 **External auditing.** The Bank is supporting the Office of the Auditor General so that it may audit some Bank-financed operations. The Office of the Auditor General will thus be included as an optional provider of external audits in the design of this operation.
- 6.6 **Financial supervision plan.** The Bank will supervise the financial management of the program, monitoring the executing agency's efforts to address any observations or findings identified in external audits. The Bank will also conduct supervision visits and hold meetings to monitor the implementation of recommendations made, as well as to monitor fiduciary risks.

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/20

Honduras. Loan ____/BL- HO to the Republic of Honduras
Renovation of Francisco Morazán Hydroelectric Power Plant to
Facilitate the Integration of Renewable Energies

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 "Renovation of Francisco Morazán Hydroelectric Power Plant to Facilitate the Integration of Renewable Energies". Such financing will be chargeable to the Bank's Ordinary Capital (OC) resources in the following manner: (i) up to the amount of US\$1,040,000, subject to concessional financial terms and conditions ("Concessional OC"); and (ii) up to the amount of US\$560,000, 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 ____ 2020)

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/20

Honduras. Loan ____/TC-HO to the Republic of Honduras
Renovation of Francisco Morazán Hydroelectric Power Plant to
Facilitate the Integration of Renewable Energies

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, in its capacity as Implementing Entity for the Clean Technology Fund, 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 "Renovation of Francisco Morazán Hydroelectric Power Plant to Facilitate the Integration of Renewable Energies". Such financing will be for an amount of up to US\$16,400,000, from the resources of the Clean Technology Fund, administered by the Bank, and will be subject to the Terms and Financial Conditions and the Special Contractual Conditions in the Project Summary of the Loan Proposal.

(Adopted on ____ 2020)

UPGRADE OF FRANCISCO MORAZÁN HYDROPOWER PLANT TO FACILITATE THE INTEGRATION OF RENEWABLE ENERGY

Ho-L1203

CERTIFICATION

The Grants and Co-Financing Management Unit (ORP/GCM) certifies that the referenced operation¹ will be financed through:

Funding Source	Fund Code	Currency	Amount Up to
CleanTechnology Fund	CTF	USD	16,400,000

Certified by:Original Signed07/24/2020

Maria Fernanda García
Chief
Grants and Co-Financing Management Unit
ORP/GCMDate

¹ In case of Project Specific Grants (PSG) or Financial Intermediary Fund (FIF), the availability of resources is contingent upon the signature of the agreement between the Donor and the Bank and the receipt of the resources.