

Investment Grant Document

I. Basic Information for IGR

▪ Country/Region:	HAITI
▪ IGR Name:	Battery Energy Storage System to maximize the use of surplus energy from a solar photovoltaic plant located in the Caracol Industrial Park of Haiti.
▪ IGR Number:	HA-G1048 / HA-T1302
▪ Team Leader/Members:	Vanegas Rico, Wilkferg (INE/ENE) Team Leader; Tejeda Ricardez, Jesus Alberto (INE/ENE) Alternate Team Leader; Alatorre Frenk, Claudio (CSD/CCS); Angulo Rodriguez, Emilio Jose (INE/ENE); Baltodano Carrasquilla, Fabiola (INE/ENE); Centeno Lappas, Monica Clara Angelica (LEG/SGO); Dormeus, Jean Smith (CID/CHA); Jimenez Mosquera, Javier I. (LEG/SGO); Machado Lemus, Ziza (INE/ENE); Mangones, Sarah Ocwieja (VPS/ESG); Marquez Barroeta, Fidel (INE/ENE); Matthieussent Romain, Sarah C. (INE/WSA); Michel, Patrick (VPS/ESG); Sladden, Pascaline Jeanne H. (INE/ENE)
▪ TC Taxonomy:	Client Support
▪ Operation Supported by the TC:	n/a
▪ Date of TC Abstract authorization:	n/a
▪ Beneficiary:	Republic of Haiti
▪ Executing Agency:	HA-G1048: Ministere De L'Economie Et Des FinancesDes Finances (Ministry of Economy and Finance - MEF) with technical support of the Sector Regulatory Authority (ANARSE) and the Ministry of Public Works, Transport and Communication (MTPTC). HA-T1302: Inter-American Development Bank (IDB)
▪ Donors providing funding:	Clean Technology Fund(CTF)
▪ IDB Funding Requested ¹ :	US\$3,000,000.00
▪ Local counterpart funding, if any:	US\$0
▪ Disbursement period (which includes Execution period):	36 months
▪ Required start date:	December Di 30 th , 2021
▪ Types of consultants:	Consulting Firms
▪ Prepared by Unit:	INE/ENE-Energy
▪ Unit of Disbursement Responsibility:	CID/CHA-Country Office Haiti
▪ IGR included in Country Strategy (y/n):	Yes
▪ IGR included in CPD (y/n):	Yes
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▪ Alignment to the Update to the Institutional Strategy 2020-2023:	Social inclusion and equality; Productivity and innovation; Environmental sustainability

II. Objective and Justification of the IGR

2.1 This Investment Grant operation (IGR) HA-G1048 (“the Project”) builds upon the Program “Improving Electricity Access in Haiti” (4900/GR-HA (HA-L1140); GRT/CF-17708-HA (HA-G1045)). The general objective of that program is to increase reliable electricity access in Haiti that promotes economic development and to

¹ The total project amount is of US\$3,000,000 separated into (HA-G1048) US\$2,650,000 and (HA-T1302) US\$350,000

strengthen electricity sector governance. With resources from IDB and USAID² the program was approved in November 2019 and eligibility was granted in May 2020. As of October 2021, an international tender process to develop a hybrid power system at the Caracol Industrial Park of Haiti (PIC) by incorporating an 8-MWp and a 4-MWp Solar Power Plants (SPP) to reduce energy costs is ongoing and expected to be awarded in November 2021. A smaller battery (about 2.5-MW) is foreseen to absorb short-term power fluctuations and ensure grid stability. Both SPPs will be built and operated by a Solar Operator, to be selected through an international competitive tender process following IDB procurement policies.³ The energy produced by the SPPs will be sold at a flat tariff, essentially to cover the costs of administration, operation and maintenance, servicing, repair and decommissioning incurred by the Solar Operator.⁴ In order to maximize the energy produced by the 8-MW SPP and further reduce the use of thermal power, this Project HA-G1048 will finance the design, procurement and installation of a dedicated Battery Energy Storage System (BESS) at the PIC.

- 2.2 The Republic of Haiti is an island-state in the Caribbean with an estimated population of 11.4 million people. Although social and economic indicators have improved over the last decade, Haiti's Human Development Index (HDI) of 0.64 is below the average for Latin America and the Caribbean (0.75). Globally, the country ranks 168 out of 189 countries (2018). Food insecurity affects 4.4 million people and informal urban settlements are being formed lacking security and access to basic services, including electricity. This situation characterizes the North and Northeast departments, with about 1.9 million people, which is Haiti's fastest-growing region.
- 2.3 The Government of Haiti (GoH) has developed the PIC in the Northeast (NE) of the country, which construction started in 2012 under a Public-Private Partnership involving the GoH and the anchor corporate tenant with funding and technical assistance from IDB and United States Agency for International Development (USAID).⁵ The PIC is owned by the GoH and operated by the Ministry of Economy and Finance (MEF). Electricity supply to the PIC is currently provided by a 10-MW Thermal Power Plant (TEP) located *in-situ* and operated by a private operator (thermal operator).⁶ The TEP was brought online in 2012 under the USAID Pilot Project for Sustainable Electricity Distribution initiative. Later, the distribution network was expanded to some surrounding communes of the NE to serve residential, commercial and industrial customers, and public institutions, to foster economic development. As of 2019, the annual electricity delivered by the TEP is about 22 Gigawatt hours (GWh), 45% of which is consumed by the PIC and 55% by about 14,000 customers outside

² USAID resources were approved soon later during Q1-2020.

³ The Executing Agency MEF/UTE is expecting to award the works contract in November 2021 and commissioning to be completed during the fourth quarter of 2022.

⁴ According to preliminary calculations this will give an average price of solar energy of 0.03-0.04 US\$/kWh that combined with a price of electricity from the TEP 0.30US\$/kWh [2019] supplied by the Northeast concessionaire, would allow an average energy sales price of about 0.16 US\$/kWh.

⁵ The PIC was created in the perspective of providing favorable operational conditions to attract and retain private investment and increase the region's manufacturing base and export capacity. This operation contributes to this goal by providing clean and more affordable electricity to the surrounding communities of the PIC. The following IDB projects funded construction of the PIC: 2552/GR-HA (approved July 2011, US\$55M); 2779/GR-HA,2779/GR-HA-1,2779/GR-HA-2 (approved Sept 2012, US\$50M); 3132/GR-HA (approved Dec 2013, US\$40.5M); 3384/GR-HA,3384/GR-HA-1,3384/GR-HA-2 (approved Dec 2014, US\$55M); and GRT/HR-15509-HA (approved Mar 2016, US\$15.3M).

⁶ The TEP is currently operated by NRECA International on behalf of USAID. The contract with NRECA sought to build the TEP and operate it for the first years understanding that the O&M of the TEP will be transfer to a new thermal private operator following and international competitive process.

the PIC. The TEP offers an electricity tariff of approximately US\$0.30/kWh for the PIC and between US\$0.19/kWh to US\$0.31/kWh for PIC's surrounding communities.⁷

- 2.4 As of 2020, with support from USAID, the GoH is shaping a concession for a new thermal operator of the TEP. The thermal operator will also have the responsibility to connect 35,000 new customers in the NE (*the Northeast electrical system*) and to rehabilitate the 5.75 MW Chevy diesel plant located at Fort-Liberté currently operated by EDH.⁸ At the same time, the PIC is seeking a more competitive energy tariff of about US\$0.16/kWh by installing a dedicated 8-MW SPP to improve the business environment and to attract new industrial tenants.
- 2.5 The 8-MWp SPP will supply electricity to the PIC in hours of solar irradiation. Energy demand by the PIC tenants is nearly zero Saturday afternoons, Sundays and holidays. On working days, demand drops substantially around noon. During low demand from the PIC, there is significant surplus of solar electricity, which is expected to be sold partially to the thermal operator for residential customers. In order to use 100% of surplus energy from the 8-MWp, it will be necessary to complement the system with a larger BESS.⁹
- 2.6 The energy of a second 4-MWp SPP will be sold to residential customers by the thermal operator.¹⁰ All the energy produced by the 4-MWp SPP is expected to be consumed during the day and it will provide energy at lower cost compared with the energy produced by the TEP. This SPP will contribute to Government's effort of an affordable tariff in the NE communes. After 20 years, the solar operator will transfer the SPPs to the PIC.
- 2.7 **Objective.** The objective of this Project is to maximize the use of the energy produced by the 8-MWp SPP to further reduce the use of thermal power, by implementing a Battery Energy Storage System (BESS) at the PIC.
- 2.8 As the PIC will only consume energy from the 8-MW SPP generated during working hours in a week, the BESS will make available a surplus of PV electricity for end-users beyond daytime, namely for households in the NE where electricity demand is higher in the evening. Nowadays, this demand is partially supplied by the TEP. The commissioning of the SPP is scheduled by Q1-2022. The solar operator will sell the electricity stored in the BESS to the thermal operator licensed by ANARSE, the national entity responsible of the regulation of the sector. This arrangement: (i) reduces fuel-based electricity from the TEP, thereby lowering operational costs and fuel imports; and (ii) enables the use of surplus PV electricity that would otherwise be lost.
- 2.9 Preliminary analyses yield an average cost of the PV-based electricity in the range of 3-4 US\$ct/kWh. This cost level contrasts to the 30 US\$ct/kWh cost level for the TEP. The operational costs being covered, the sales of surplus electricity shall not affect the tariff for the PIC's tenants, to be maintained around the committed 16 US\$ct/kWh resulting from the new hybrid system. It is expected that the SPP will allow a reduction

⁷ Tariffs for PIC's surrounding community vary depending on the level of energy consumption and type of customer.

⁸ The NE concession will include the municipalities of Caracol, Limonade, Trou du Nord, Terrier Rouge, Sainte Suzanne, Fort Liberté, Ouanaminthe, Ferrier, Perches and Quartier Morin. The Chevy diesel power plant will be transferred to the new NE concessioner that will be responsible for its rehabilitation and operation and maintenance.

⁹ Surplus energy from the 8-MWp SP is about 2,600 MWh in Year 1.

¹⁰ [PIC's energy system diagram](#)

of 22% in the tariff for the communities outside the PIC; with the BESS in operation, this reduction in the tariff is expected to be up to 27%.

- 2.10 The Project departs from the analysis that a very substantial volume of solar electricity, generated during daytime, cannot be used in the absence of a simultaneous demand from the regional grid; this can be addressed by incorporating a dedicated BESS into the PIC power system. The unused electricity is estimated at about 6-MWh for a typical working day (simulation made for August 2021) with a peak demand of 2.8-MW drawn from the SPP. During weekends, when industrial activity is low, the surplus energy amounts to around 30-MWh (6-MW/day).
- 2.11 The Project envisions the installation and commissioning by Q4 2022, of a BESS with a capacity of 6-MWh and 3-MW peak (6-MWh/3-MW) to provide surplus PV electricity to the regional grid during evening hours, when PV generation is zero. At a typical investment cost of US\$417/kWh, total CAPEX of the 6-MWh battery is about US\$2.5 million including procurement, installation and commissioning. Funding is sought through an investment grant from the Clean Technology Fund (CTF) administered by the Bank. The technical and economic lifetime of the BESS is determined at 10 years.
- 2.12 In the current scenario, the BESS will not be replaced after this period as with growing energy consumption in the PIC and from connected households in the NE grid, daytime demand, will be sufficient to absorb surplus PV electricity immediately without further need for storage. The BESS is a first-of-a-kind investment in storage technology in Haiti at this size, and as such, is expected to provide a host of operational data and experiences to build on.¹¹
- 2.13 In the understanding that CAPEX is absorbed by the CTF grant, capital costs are not reflected in the price of electricity sold to the TEP. The thermal operator will have fossil fuel savings of the order of US\$179,971.2 in Year 1. The operational costs are estimated at 0.5% of CAPEX (US\$12,500 per year), which will be passed in the cost of the energy to the thermal operator. At a unit cost of about US\$¢ 3.0/ kWh and a supply of 1,030 MWh, the cost of PV electricity from the BESS for the thermal operator accrue to only about US\$30,109.9 in Year 1, yielding a net benefit of US\$149,861. Most of this benefit will be passed to the end user tariff by the thermal operator.
- 2.14 With decreasing surpluses over time, the Net Present Value (NPV) of benefits over 10-year lifetime is calculated at about US\$369,411.6. Additional economic benefits are derived from the avoided social cost of GHG emissions, estimated at US\$ 63,359 (NPV), which brings total NPV at US\$432,770.9. This value is based on a discount rate of 12%, which reflects the avoided costs of fossil fuel (expenditure in hard currency) and social cost (GHG impact). The benefit from the BESS is expected to result in a more affordable tariff to the residential users of the NE as regulated by ANARSE in the contract with the thermal operator.
- 2.15 **IDB experience and knowledge of Haiti's energy sector.** The IDB has been a key partner for the GoH to finance the repair of damaged infrastructure after the 2010 earthquake and hurricane Matthews and has supported the reform and transformation of the sector through several investment: GRT/HR-14830 and 3413/GR-HA "Rehabilitation of the Peligre Transmission Line (US\$23.7 million), 2073/GR-HA, 2684/GR-HA (US\$20 million), 2394/GR-HA and 2349/GR-HA "Rehabilitation of the Electricity Distribution System in Port-au-Prince" (US\$29.5 M), GEF-funded operation GRT/FM-12093-HA "Emergency Program for Solar Power Generation and Lighting"

¹¹ See [technical](#) and [economic](#) analysis.

(US\$0.5 M) and the GRT/MC-12067-HA Sustainable Energy and Climate Change Initiative project “Emergency Program for Solar Generation” (US\$1 M) and budgetary operations: GRT/HR-13877-HA and 2953/GR-HA (2013, US\$25M), 2735/GR-HA (2010, US\$12M), 2548/GR-HA (2011, US\$35M) and ATN/SF-12271-HA (2010, US\$0.1M) “Towards a Sustainable Energy Sector Haiti – White Paper. More recently the Bank approved operations 4900/GR-HA and GRT/CF-17708-HA (“Improving Electricity Access in Haiti”).

- 2.16 **Strategic Alignment.** This operation is aligned with Bank’s Updated Institutional Strategy 2020-2023 (AB-3190-2), with regards to development challenges of: (i) Social Inclusion and Equality, through the provision of a more affordable and sustainable basic service (electricity) in vulnerable communities, which is essential to achieve inclusive development and close inequality gaps; and (ii) Productivity and Innovation, by promoting innovative technologies regarding renewable energy and energy storage. The operation is also aligned with the cross-cutting area of Climate Change and Environmental Sustainability by reducing Green House Gas emissions from the electricity generation in the PIC. The operation is aligned with the Corporate Results Framework (CRF) 2020-2023 (GN 2727-12) through greenhouse gas emission avoided and with the Strategy for Sustainable Infrastructure for Competitiveness and Inclusive Growth (GN-2710-5). It is also in line with IDB Integrated Strategy for Mitigation and Adaptation to Climate Change and Sustainable Energy by supporting modern and sustainable decentralized solutions. The Program is aligned with the Energy Sector Framework (GN-2830-8) as it focuses on sustainable rural electrification and deployment of RE solutions. 100% of program resources are invested in climate change mitigation activities, according to the [joint methodology of the Multilateral Development Banks \(MDBs\) for estimating climate finance](#). These resources contribute to IDB’s climate finance target, 30% of the total amount approval per year.
- 2.17 The operation is consistent with the IDBG Country Strategy (CS) with Haiti 2017-2021 (GN-2904) which includes energy as an area of dialogue. The operation will also contribute to the overarching strategic objectives of the CS, to foster inclusive and sustainable growth by supporting GoH’s goals of expanding and sustaining private and public investment and enhancing access to basic public services. The program further promotes the dialogue with the GOH on supporting the continuous development of the PIC. Lastly, the operation will finance preparation of projects located in the Northern Department with high concentration of poverty as prioritized in the CS. The operation is considered in Haiti’s Country Program Document (CPD) 2021.
- 2.18 The operation is aligned with Haiti’s Post COVID Recovery Plan with regards to Pillar 2 “Improvement of infrastructure and services and its strategic objective of providing accessible and competitive energy based on low carbon emission technologies that at the same time, promotes the diversification of the energy matrix.
- 2.19 The program is aligned with the Global Battery Storage program of the CTF and its scope of investing into batteries and energy management systems supporting batteries, policy interventions, technical assistance and knowledge coordination to help countries to fully take advantage of the multiple system benefits the BESS can bring to their power systems and that is already underway in some parts of the world.¹²

¹² [CTF’s Dedicated Private Sector Program – Battery Storage](#)

III. Description of activities/components and budget.

- 3.1 **Component I. Supply, installation and commissioning of the BESS (US\$2.65M) (HA-G1048).** This component will finance the investment costs for the acquisition, installation and commissioning of the BESS with a capacity of 5.7-MWh storage and power load of about 3-MW. The BESS lifetime is 10 years and after commissioning it will be transferred to the PIC and operated by the solar operator. This component will be executed by MEF using the executing agency of the program 4900/GR-HA and GRT/CF-17708-HA. It also includes financing of supervision services of the project.
- 3.2 **Component II. Technical support for the design, procurement and installation of the BESS (US\$ 0.35M) (HA-T1302).** This component will support: (i) preparation of final studies for the technical specifications of the BESS; (ii) preparation of main bidding documents for the construction of the project¹³; (iii) preparation of contractual specifications for the operation and commercial relation between the solar operator and thermal operator for sale of the electricity provided by the BESS; (iv) creation of a mechanism within UTE enabling it to effectively monitor the project, assess system and operator performance and identify opportunities for future development; and (v) final technical evaluation of the project. This component will be executed by IDB.
- 3.3 Total project's costs are US\$ 3,000,000 provided by the Clean Technology Fund (CTF) in the form of a non-refundable investment grant administrated by the IDB. The US\$3,000,000 total cost is separated into (HA-G1048) US\$2,650,000 and (HA-T1302) US\$350,000. The indicative budget is presented in the following table:

Indicative Budget (US\$)¹⁴

Component	Description¹⁵	HA-G1048 (IDB/CTF)	HA-T1302 (IDB/CTF)	Total (USD)
Component I- Supply, installation and commissioning of the BESS (Executed by UTE/MEF)	Supply, installation, commissioning of the BESS, and supervision services.	2,650,000	0	2,650,000
Component II – Technical Support for the design, procurement and installation of a BESS at the PIC (Executed by IDB)	Technical assistance for final specification, preparation of bidding documents, support to evaluation of proposals and monitoring instrument of the BESS.	0	200,000	200,000
	(iv) Contractual specifications for the operation and commercial relation	0	50,000	50,000

¹³ The bidding documents will cover technology type, minimum battery enclosure and safety requirements, electrical infrastructure, and ancillary buildings and systems, minimum technical availability, and operational performance projections. The documents will also consider PIC rules and local regulations, health and safety plans and flood risk as a requirement of the installation plan. The procurement process will follow an International competitive process; however, there is the option to do a direct contracting with the companied to be awarded for the design and construction of the SPP.

¹⁴ Administration and financial audits will be financed as part of the program 4900/GR-HA and GRT/CF-17708-HA executed by MEF/UTE.

¹⁵ All knowledge products derived from this Technical Cooperation will be the Bank's intellectual property. Knowledge products will be published through the Bank's web page and other means accounted for in the indicative budget".

	between the SPP and TEP for sale of the electricity from the BESS			
	(vi) Consultancy services for final evaluation of the operation HA-G1048 and communication campaign of benefits of the project.	0	100,000	100,000
TOTAL COST		2,650,000	350,000	3,000,000

IV. Executing agency and execution structure

- 4.1 The Beneficiary is the Republic of Haiti. The Executing Agency of Component I (HA-G1048) will be the Ministry of Economy and Finance (MEF), through its *Unite Technique d 'Execution* (UTE) using the same execution structure of the program 4900/GR-HA and GRT/CF-17708-HA. MEF/UTE was selected as the executing agency of this program due to its experience in managing the PIC and conducting procurement processes for similar projects. While MEF/UTE will be responsible for the fiduciary arrangements this component, ANARSE and the MTPTC, through its Energy Cell, will facilitate technical support for its execution.¹⁶
- 4.2 At the request of the beneficiary, the IDB, through the Energy Division (INE/ENE) in coordination with IDB's Country Office in Haiti (CHA), will act as the EA of Component II (HA-T1302). In accordance with document OP-619-4, being the Bank the EA of this component is justified under Annex II "*Compliance with internal requirements would delay the execution of the technical cooperation, jeopardizing achievement of its objectives*". These internal requirements are related to several controls included in the procurement processes lead by any public entity in Haiti. The preparation of the bidding documents requires immediate attention as the final design of the SPP is expected to be completed immediately after the project is approved by IDB and it will require coordination with the solar operator, the thermal operator, MEF/UTE, Cellule d'Energie, ANARSE and USAID. IDB procurement procedure together with the capacity of the team to coordinate the dialogue with stakeholders will ensure alignment of the project with the execution of the SPP.
- 4.3 **Special contractual clause prior to the first disbursement of Component 1.** The Beneficiary will provide evidence to the satisfaction of the Bank of the existence of a contract signed between the Beneficiary and the contractor selected for the design and construction of the 8-MWp and 4-MWp Solar Power Plants at the PIC¹⁷, and the reception of its mandatory contract performance bond.
- 4.4 **Procurement policies.** Component I will follow IDB's Procurement Policies: Policies for the Procurement of Goods and Works Financed by the IDB (GN-2349-15) and Policies for the Selection and Contracting of Consultants Financed by the IDB (GN-2350-15), as applicable. The UTE will follow procurement processes of the program as described in the Procurement Plan (PP) and to be approved by the Bank, which will cover the entire duration of the project starting on the date the Grant Agreement for this program enters into effect. The PP will be updated semiannually with the semester report, or whenever necessary or as required by the Bank.

¹⁶ See [Operation Manual](#) and [interinstitutional agreement between MEF, ANARSE and Energy cell](#)

¹⁷ PIC's Solar Power Plants will be financed under operation HA-L1140 y HA-G1045.

- 4.5 In Component II, IDB will be responsible for the selection and contracting of consulting firms and individual consultants, which will be carried out in close coordination with the beneficiary. The Bank will contract individual consultants, and consulting firms in accordance with the Bank's current procurement policies and procedures: (i) the individual consultants will be hired in accordance with the guidelines set out in the AM-650; (ii) the procurement process for consulting firms will follow the Bank Policy for the Selection and Contracting of Consulting Firms for Bank-executed Operational Work (GN-2765-4) and the related Operational Guidelines (OP-1155-4); and (iii) the procurement of non-consultant services will follow the Bank Corporate Procurement Policy (GN-2303-20). In adherence with the Procedures for the Processing of Technical Cooperation Operations and Related Matters (OP-619-4).
- 4.6 **Financial management and disbursement.** Disbursements for Component I will be based on cash flow plans that will be sized according to the program's execution liquidity needs and with a rolling 12 month planning horizon. Disbursements for investment costs will be covered with advance of funds equivalent to up to six months of investment and operational costs/expenses anticipated and will be subject to ex-post supervision.
- 4.7 **Audit.** MEF will submit to the Bank, annual audited financial statements of component I within 120 days following the close of the respective fiscal year. The audit will be conducted by an independent firm of auditors acceptable to the Bank, to be selected in accordance with the Bank's policies and procedures. The determination as to scope and other related aspects will be governed in accordance with the Financial Management Policy for IDB financed Projects (document OP-273-12) and the Guide for the Preparation of Financial Statements and External Audits. Audit costs will be financed with the proceeds of the program 4900/GR-HA and GRT/CF-17708-HA.
- 4.8 **Monitoring.** The project will be monitored using the Bank's supervision instruments. The EA will be responsible for integrating and presenting the following: (i) the multi-year execution plan; (ii) the annual work plans; (iii) the procurement plan and results matrix; (iv) financial plans; (v) audited financial statements; (vi) environmental audits; and (vii) semiannual reports. The semiannual reports will include: (i) a description of the activities executed; (ii) progress towards fulfillment of the indicators in the results matrix; (iii) a summary of the project's financial situation; (iv) a cash flow estimate for the following six-month period; (v) in the year-end annual reports, the updated annual work plan and the procurement plan; (vi) an analysis of any problems encountered and the corrective measures adopted; and (vii) problems that might pose a risk to timely execution of the project.
- 4.9 **Evaluation.** MEF will present a mid-term evaluation for Component I 60 days after the date on which 50% of the grant has been disbursed, and a final evaluation report 90 days after the date on which 90% of the resources have been disbursed.

V. Major issues

- 5.1 For the execution of the operation two institutional risk are identified, the first related with delay in the signature of a power purchase agreement between the solar operator and the thermal operator for the purchase of the energy from the BESS to further reduce energy prices to residential end-users. This risk is considered medium. This can be mitigated through the execution of the program 4900/GR-HA and GRT/CF-17708-HA where the exchange of energy between both operators will be formalized through a similar contract regulated by ANARSE where residential users are some of the main beneficiaries. A Term Sheet to this purpose was developed as part of

program 4900/GR-HA and GRT/CF-17708-HA. In the event that no agreement is reached between the thermal operator and the solar operator for the use of energy of the BESS, such energy will be consumed by the PIC to further reduce the use of thermal power.

- 5.2 Another risk considered medium, is execution delays resulting from the impact of the COVID-19 pandemic and episodes of social unrest in Haiti. These risks will be mitigated as follows: (i) anticipating additional time for the supply of material and equipment in the project execution tools; (ii) maintaining a constant dialogue with the GoH and its institutions to update project activities according to the needs of the country; and (iii) concentrating all works and installations inside the premises of the PIC.

VI. Exceptions to Bank policy

- 6.1 No exceptions to the Bank's policies are requested.

VII. Environmental and Social Strategy

- 7.1 According to the Environmental and Safeguards Compliance Policy (OP-703), this operation has been classified as Category "C". The BESS will be located inside the PIC which is already for industrial purposes and will need to follow PIC rules and regulations. There are minor potential environmental and social risks due to the construction and future inventions which will be managed in collaboration with the Solar Operator and PIC's management. The BESS will be operated by the PIC's solar operator who will be required to prepare an Environmental and Social Management Plan (ESMP) for PIC' SPPs, the BESS and its final disposal. This ESMP will consider the mitigation measures for the acquisitions, storage, operation and decommissioning of the batteries and other equipment as well as health and safety measures for workers (ie, working at heights, COVID-19 precautions).
- 7.2 In addition, the ongoing international competitive process under operation HA-L1140 y HA-G1045 to select the PIC's Solar Operator is fully aligned with *IDB Group Measures to Address Risk of Forced Labor in the Supply Chain of Silicon-based Solar Modules. Revised Version* (GN-3062-1). Section IV of the Request for Proposals (RFP) requires the ESMP is to be submitted by the Solar Operator for the approval of the UTE/MEF before the start of civil works and proceeding with purchase orders. The ESMP must include a labor assessment to identify measures to assess, prevent, mitigate and continuously monitor any Labor and Working Conditions risks and impacts to workers directly engaged by the contractor or through thirds parties, such as subcontractors and primary suppliers of polysilicon solar panels. If the assessment identifies inadequate labor and working conditions as defined by the Core Labor Standards of the International Labor Organization (ILO) in any of the Solar Operator's subcontractors and primary suppliers of polysilicon solar panels that cannot be avoided or mitigated, the Solar Operator will shift its primary suppliers to suppliers that can demonstrate adequate Labor and Working Conditions and comply with the specifications of the technical offer. UTE/MEF will reserve the right to approve these changes based on the documentation provided and its own analysis.
- 7.3 Finally, operation HA-L1140 is currently providing support to strengthen UTE's institutional capacity. For further details, please see the [Safeguard Policy Filter Report](#) and the [Safeguard Screening Form](#).

Required Annexes:

- [Request from the Client](#)
- [Results Matrix](#)
- [Terms of Reference](#)
- [Procurement Plan and Management tools](#)