Investment Grant (IGR) Document

I. Basic Information for IGR

▪ Country/Region:	HAITI
▪ IGR Name:	Additional solar photovoltaic capacity to further replace fossil fuel in the Caracol Industrial Park of Haiti and neighboring communities
▪ IGR Number:	HA-G1060
▪ Team Leader/Members:	Tejeda Ricardez, Jesus Alberto (INE/ENE) Team Leader; Juarez Olvera, Mariel (CSD/CCS) Alternate Team Leader; Gonzalez Vidales, Ana (VPC/FMP); Albano Clement Rene Bonaventure (INE/ENE); Jimenez Mosquera, Javier I. (LEG/SGO); Juan Tulande Lopez (INE/ENE); Hinestroza Olascuaga Laura Marcela (INE/ENE); Sanabria, Angel (VPC/FMP); Michel, Patrick (VPS/ESG); Guerra Silva, German Gustavo (INE/ENE); Elizalde Baltierra Alberto (INE/ENE); Vila Saint Etienne, Sara (LEG/SGO); Marthe Denise Archambault, Aude Gabrielle (VPS/ESG)
▪ Taxonomy:	N/A
▪ Operation Supported by the IGR:	N/A
▪ Date of IGRf Abstract authorization:	July 01, 2024
▪ Beneficiary:	Republic of Haiti
▪ Executing Agency:	Ministere De L'Economie Et Des Finances
▪ Donors providing funding:	Strategic Climate Fund(SCX)Strategic Climate Fund(SCX)
▪ IDB Funding Requested:	US$2,500,000.00
▪ Local counterpart funding, if any:	US$0
▪ Disbursement period (which includes Execution period):	36 months
▪ Required start date:	August 2024
▪ Types of consultants:	N/A
▪ Prepared by Unit:	INE/ENE-Energy
▪ Unit of Disbursement Responsibility:	CID/CHA-Country Office Haiti
▪ IGR included in Country Strategy (y/n):	Y
▪ IGR included in CPD (y/n):	N
▪ Alignment to the New Institutional Strategy:	Social inclusion and equality; Productivity and innovation; Institutional capacity and rule of law; Environmental sustainability(i) poverty and inequality reduction, by providing basic electricity service in unserved communities; and (ii) addressing climate change, through investments in pursuing the reduction of emissions

II. Background

2.1 This Investment Grant (IGR) operation (“the Project”) builds upon the program “Improving Electricity Access in Haiti” (“the Program”) (HA-L1140 [4900/GR-HA] and

HA-G1045 [GRT/CF-17708-HA]). The general objective of the Program is to increase reliable electricity access in Haiti for economic development and to strengthen electricity sector governance. The specific objectives are: (i) the development of decentralized electrical mini-grids with private sector participation; (ii) fostering the supply of electricity with renewable energy (RE) in the *Parc Industriel de Caracol* (PIC); and (iii) strengthening sector regulatory and planning capabilities. The program is comprised by three components: Component 1. Development of decentralized hybrid mini-grids with private sector participation; Component 2. Sustainable and competitive supply of electricity in the PIC's network; and Component 3. Strengthening of electricity sector institutions. The Program was approved by the Bank on November, 2019 with a total budget of US$38,000,000, (US$31,500,000 provided by the IDB Grant Facility (GRF) (4900/GR-HA) and US$6,500,000 by the *United States Agency for International Development* (USAID) (GRT/CF-17708-HA) as a Project Specific Grant (PSG). Thanks to the contribution of the *Clean Technology Fund* (CTF), on December 16th, 2021, the Bank approved a parallel budget of US$2,650,000 to provide storage capacity up to 10MWh (IGR, GRT/TC-19125-HA, HA-G1048). In July 2024, the Program was modified to adapt its approach to the country's context and evidence progress to date, adjust the result matrix to reduce effectiveness risk, and increase its budget by an additional US$5,000,000 to finance new activities and its implementation until 2026.

2.2 **Program progress.** As of July 8th, 2024, when the Bank approved the modification of the Program, 10.2% of the original budget has been disbursed. It was evidenced that the remaining resources were committed with contracts: Component 1: five sites for the construction of mini-grids through private sector concession were awarded to three developers. The Concession Agreements and key supporting agreements between the *Ministère des Travaux Public, Transports et Communications* (MTPTC), the municipalities, and the developers were signed in July 2024. Component 2: After two international competitive processes (ICB) attempts, a group of Korean companies Sae-A STX Entech Co. Ltd. / SHINSUNG E&G CO. LTD / Ssangyong E&C Co. Ltd. ("the Consortium") was selected to design, build, commission, operate and maintain the 12MWp solar photovoltaic power plant with a storage system (SPP/BESS) in the *Parc Industriel de Caracol* (PIC). The contract was awarded in 2023, signed in April 2024, and became fully effective in July 2024. Component 3: several consultancies for technical and legal support to the *Autorité Nationale de Régulation du Secteur Énergétique* (ANARSE) as well as online and in-person training activities were carried out.

2.3 **Country context.** Haiti is a Caribbean country located on the western part of the island of Hispaniola in the northern Caribbean Sea, a territory it shares with the Dominican Republic, with a population of approximately 11.45 million people (as of 2021).[1] During the last decades, the country's socioeconomic development has been affected by debt, political instability, increasing insecurity, economic setbacks, and devastating natural disasters (i.e., hurricanes, and earthquakes).[2] As a result, Haiti is the poorest country in the Latin America and the Caribbean region (LAC), with a Gross Domestic Product (GDP) per capita of about US$1,751 (2023); the Human Development Index (HDI), at 0.552 (in 2022), is below the average LAC (0.76) and the food insecurity affects approximately 50% of the population (in 2024).[3] Haiti is one of the most fragile countries in the world, ranked 10 out of 179 countries in 2023.[4] Haiti's Fragility, Conflict, and Criminal Violence (FCCV) situation is associated with complex challenges on each of

1 Source: World Bank, 2022.
2 Source: CFR, 2022.
3 Source: National Coordination on Food Security (CNSA), 2024.
4 Fragile States Index, 2023.

the elements of this condition: fragility, conflict, and criminal violence. This socioeconomic landscape is coupled with a lack of access to basic services, including electricity, sanitation, and healthcare.

2.4 **Sector challenges.** Haiti faces significant challenges in the energy sector, including: (i) a low electricity access rate in the country of about 45% (as of 2024) of which only 12.5% are legally connected to the grid. Rural areas are particularly affected by the lack of coverage with massive disparities between rural and urban electrification rates (82% in urban areas vs 18% in rural areas); (ii) at a national level, per capita energy consumption is around 36kWh/year, the lowest on the American continent; (iii) frequent breakdowns and poor quality of electrical service to customers connected to EDH's grid are recurring problems, resulting in only 5 to 9 hours of electricity per day; (iv) much of the electricity supply infrastructure is old and in need of modernization. Generation capacity is insufficient to meet current needs, resulting in 30-60% unmet demand; (v) around 55% of electrical losses, technical and non-technical, and a billed electricity rate of only 45%; (vi) heavy dependence on fossil fuels and non-renewable energy sources to produce electricity, with 82% of installed generation capacity coming from thermal power plants; (vii) limited local experience in renewable energy and low access to international solar PV expertise and technologies; (viii) vulnerability to natural disasters, such as earthquakes and hurricanes, which can cause major damage to electrical infrastructure; (ix) nearly 96%[5] of the population lack access to clean cooking fuels, relying on wood and charcoal fuels for home energy consumption; and (x) these conditions translate into high tariffs, especially in rural areas,[6] which remain insufficient to cover operational costs, resulting in an annual deficit of between US$250 and US$300 million for the Haitian state (~1.5% of national GDP).

2.5 To address these challenges, the IDB, through the Program, is currently supporting the GoH's efforts in closing the energy access gap, providing a reliable and clean energy service with adequate infrastructure, and unlocking opportunities for RE. Specifically, the Project will make it possible to further reduce electricity costs by replacing diesel and heavy fuel oil with RE in the PIC and surrounding communities connected to the park.

2.6 **Territorial approach.** In line with the IDBG Framework to Support Populations in Situations of Fragility, Conflict, and Criminal Violence, 2024-2027 (FCCV Framework, GN-3199-2), the Program incorporates adaptive management practices to increase its effectiveness in fragile situations like Haiti. In recent years, the IDBG has been implementing a programming approach in the North of the country, focusing on the creation of jobs and economic opportunities to support the improvement of living conditions. This territorial approach allows for synergies and positive external effects. Access to electricity is an essential component of this strategy.

2.7 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).7 The PIC is a

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5 Source: United Nations, 2023.

6 Average tariff in rural zones of Haiti varies between US$0.60/kWh to US$1.5/kWh using mini-grids with private sector participation. *Reference Cellule Energie-MTPTC*.

7 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. The Program and the Project contribute 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

mixed-use light manufacturing park and industrial free zone in the northeast, which in 2021 employed more than 15,000 people. The PIC electrical system is becoming the backbone of the northeast electrical network. Its electricity supply depends on a 10MW heavy-fuel oil Thermal Power Plant (TEP) operated since 2012 by the National Rural Electric Cooperative Association (NRECA) on behalf of USAID. However, between 2019 and 2023, rising fuel costs and inflation[8] have driven the cost of subsidized electricity up by 58%, undermining the competitiveness of the PIC and the provision of electricity to communities of the northeast. 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 the PIC. The TEP offers an electricity tariff of approximately US$0.32/kWh. Without a fuel subsidy, the average cost of electricity in this area would reach about 60 cents/kWh. In 2022, the fuel crisis in Haiti produced a 54-day shutdown of the PIC contributing to job losses of about 50%. Thus, the shared rationale behind the Program and the Project is to ensure an uninterrupted, cleaner, and sustainable electricity supply at a competitive tariff to the PIC tenants and residential users connected to the park. In the baseline, with the SPP/BESS, the Program is expected to replace an estimated 55% of fossil fuel consumption in the PIC with RE and achieve a lower, stable, industrial tariff of 27 cents/kWh, and a residential tariff of about 32 cents/kWh. The SPP/BESS considers the purchase of solar photovoltaic panels and inverter equipment with IDB and USAID financing (4900/GR-HA; GRT/CF-17708-HA), while the battery system is financed by the CTF (GRT/TC-19125-HA).

2.8 Following the signing of the contract for the construction of the SPP/BESS, the opportunity opens to increase in about 1.6MWp the solar generation capacity in the PIC from 12MWp to 13.6MWp, using resources from the Strategic Climate Fund (SCX) through the Project.

III. Objectives and Justification

3.1 The objective of the Project is to support the sustainable and competitive supply of clean and cheaper electricity to industrial and residential users in the PIC's network through the development of a modern power system increasing the share of RE energy in the PIC.

3.2 With the Project, the natural effect of incorporating 1.6MWp of additional photovoltaic capacity, is the increase in the share of RE in the generation matrix which reaches up to 58% in the first year of operation. This translates into a lower thermal production requirement, lower fuel costs, fewer emissions, and as well as reduced periods of higher maintenance of the TEP. With the expansion of the SPP/BESS, any subsidy to the fuel is removed from the operation of the new power system of the PIC.

3.3 **Economic analysis.** An economic evaluation has been carried out to assess the incremental effect of adding 1.6MWp to the SPP/BESS (12MWp). The main effects of the additional capacity are expected to include improvements in terms of renewable share, reduction in fuel use, CO_2 emissions, and fewer scheduled maintenance requirements of the TEP given the expected lower hours of use. With this cost reduction, the Medium Voltage (industrial) and Low Voltage (residential) tariffs are further reduced, which translates into higher economic surpluses for residential and industrial customers. The sum of these quantified benefits converts into favorable economic feasibility

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).

[8] Source: IMF, 2024.

indicators for the Project, reaching an Economic Net Present Value (ENPV) of US$3.44 million and an Internal Rate of Return (IRR) of 35% for a 20-year horizon, such that the investment is economically recovered within the first four years of operation.

3.4 **Expected results and long-term impact.** With the Project, the RE participation increases from 55% to 58% in the first year (+1,061.6 MWh), further reducing CO_2 emissions by approximately 9% over the first 12 months (821 tons). Over 20 years, the Project is expected to generate an extra 24,630.1 MWh of solar electricity and prevent 19,058 tons of CO_2 emissions. The medium voltage electricity rate is also favored during the first year, going from an estimated 27 to 26 cents/kWh, while the residential rate decreases from around 32 to 31 cents/kWh.

3.5 **Gender and diversity.** Nearly half of Haitian households are women-led, meaning that an adult female is the sole or main income producer and decision maker. This is one of the highest proportions in the world.[9] Yet, women and girls face structural discrimination, violence, and significant obstacles to accumulate assets and access economic opportunities. Women manage only 36% of firms compared to 64% of men. In general, 9% of women hold professional/technical or managerial position compared to 17.2% of men, while single women and women with higher education are overwhelmingly represented in this percentage. The sectors where women are most employed are mostly informal and thus offer fewer benefits: sales and services (71%), household and domestic services (8.2%), and agricultural and self-employed (7.6%).[10] While data is scarce for the energy sector, the apparel industry, which employs 68% of women in its workforce, has only 20% in managerial positions.[11]

3.6 The Project is aligned with the Program where at least 10% of women in managerial positions are considered in the new company that will operate the new PIC's electricity system.[12]

3.7 **Programming approach.** The Bank has been a key partner for the Government of Haiti (GoH), financing programs to address the following three challenges (i) **Electricity access**-the Bank contributed to the financing of the emergency programs after the 2010 earthquake and the Matthew's hurricane from 2012, through the implementation of small-scale solar generation and lighting projects, and more recently with the initial phase of electricity access programs with mini-grids and solar PV systems in rural communities (GEF Emergency Program for Solar Power Generation and Lighting (GRT/FM-12093-HA), Improving Electricity Access in Haiti (4900/GR-HA and GRT/CF-17708-HA), BESS to Maximize the Use of Surplus Energy from a SPP located in the PIC of Haiti (GRT/TC-19125-HA)). As a result, Haiti has a rural electrification model designed with support from the IDB and the World Bank, which allows the selection of projects proposed by the communities and integrates private and public financing in the execution and operation of new rural mini grids; (ii) **EDH's operation and performance** - the largest hydroelectric plant (Peligre), and its transmission line, have been rehabilitated with resources from IDB operations (2684/GR-HA, GRT/HR 14830 and 3413/GR HA). As a result, Haiti has recovered close to 20% of the total generation of the national system and more than 90% of the total capacity with

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9 Haiti: A bright light for practical considerations in infrastructure PPPs, Getting Infrastructure Finance Right, World Bank, 2020.

10 Haiti's Untapped Potential: An Assessment of the Barriers to Gender Equality, World Bank, 2023.

11 Understanding Gender-Based Violence through the Lens of Haitian Garment Workers, World Bank, 2019.

12 HA-L1140 Outcome indicator SDO 2.3. Women in managerial positions in the operation of PIC's electricity system (EOP target: 10%).

renewables. The new transmission infrastructure contemplates a growth in demand that facilitates the development of new generation projects in the area; and (iii) **Private sector participation-** the institutional and regulatory framework of the electricity sector has been revised to give more certainty to the development of the sector with public and private participation in rural zones, thanks to the following programs: Institutional Transformation and Modernization Program of the Energy Sector I, II and III (2548/GR-HA, 2735/GR-HA, GRT/HR-13877-HA and 2953/GR-HA), and Development of Sustainable Energy Access Projects in Haiti with Private Sector Participation (GRT/LE-19861-HA).[13] All of this effort has resulted in the recent approval of eight new concession agreements to the private sector for the development of mini-grids with renewable energy in rural areas of the country.

3.8 **Strategic alignment.** Consistent with the Program, the Project is also aligned with the IDB Group Institutional Strategy: Transforming for Scale and Impact (CA-631) with the objectives of poverty and inequality reduction; and addressing climate change. The Project is also aligned with the operational focus areas of: (i) institutional capacity, rule of law, and citizen security, (ii) productive development and innovation with private participation in the O&M of the SPP/BESS; (iii) sustainable, resilient, and inclusive infrastructure; and (iv) biodiversity, natural capital, and climate action.

3.9 The Project is aligned with IDB Country Strategy 2017-2021 (GN-2904),[14] which focuses on expanding and sustaining private and public investment and enhancing access to basic public services. This is achieved by facilitating the technical dialogue and promoting sustainability in the energy sector through the diversification of the electricity matrix, reduction of generation costs, reduction of tariff, private sector participation in operation and maintenance, and continued capacity building of sector institutions. The Project also remains consistent with the IDB's Sustainable Infrastructure for Competitiveness and Inclusive Growth Strategy (GN-2710-5), the Climate Change Sector Framework (GN 2835-13), the Energy Sector Framework (GN 2830-8), the FCCV Framework (GN-3199-2), and the Gender and Diversity Sector Framework (GN-2800-13).

3.10 **Lessons learned and best practices.** Key lessons learned from IDB collaboration in the sector include the following: (i) supporting Technical Cooperation (TC) to prepare tender documents and evaluate bids, helps expedite the execution of programs and increase the capacity of the EA; (ii) hiring a dedicated monitoring and evaluation specialist within the EA is important to follow-up on key program milestones; (iii) carrying out regular coordination meetings with the EA and other participating institutions and stakeholders helps identify potential execution risks and optimize the use of resources; (iv) hiring a supervision firm before the start of construction contracts to support the approval of final design; (iii) implementing online procurement processes and supporting the promotion of investment opportunities using different platforms and fora such as ConnectAmericas; and (v) reviewing by the Bank, including IDBInvest, of alternatives that can facilitate access to guarantees, which currently affects all sectors. The following additional recommendations can be considered to overcome challenges associated to fragile environment: (i) implementing the Early Execution Initiative during program

[13] The approved amounts for each of the operations are US$2,000,000, GRT/FM-12093-HA; US$1,000,000 GRT/MC-12067-HA); US$20,000,000, 2684/GR-HA; US$16,000,000, GRT/HR-14830; US$7,700,000, 3413/GR-HA); US$35,000,000, 2548/GR-HA; US$12,000,000, 2735/GR-HA; US$3,000,000, GRT/HR-13877-HA, US$22,000,000, 2953/GR-HA; US$31,500,000, 4900/GR-HA; US$6,500,000, GRT/CF-17708-HA; US$2,0650,000, GRT/TC-19125-HA; and US$2,500,000, GRT/LE-19861-HA.

[14] The Country Strategy has been extended is still valid until December 2024 (GN-2904-3).

preparation favors the execution of complex bidding processes in the first year of implementation; (ii) implement a new mechanism where execution is outsourced via a private Project Management Office (PMO), where the GoH oversees execution through a steering committee with IDB participation to provide guidance and ensuring timely disbursements and payments to the PMO based on performance; (iii) public financing should continue to be at the forefront of the infrastructure, reducing risks to leverage future private resources; (iv) a list of preselected qualified international firms, with experience working in fragile environments and willing to collaborate with the GoH and the IDB in the development of critical infrastructure and services should be established; (v) the creation of a business intelligence institution staffed with skilled personnel dedicated to collect and properly manage sector information is urgent in Haiti to ensure transparency, reliability, the timely publication of information, and to foster knowledge generation and transfer; and (vi) publishing bidding documents in French and English and allowing the submission of offers in either language could increase the potential number of firms interested submitting bids.

IV. Description of activities/components and budget

4.1 **Component 1 – Support the sustainable and competitive supply of electricity in the PIC's network (US$2,100,000)**. The Project has one unique component to finance the design, installation, and commissioning of an additional 1.6MWp solar photovoltaic capacity for the SPP/BESS of the Program. The main activities associated with the construction of the Project include the purchase and installation of solar panels, inverters, civil works, and electrical works (see Technical Specifications for the contracting of the Project). The Project will be executed through an amendment to the contract awarded for the construction of the SPP/BESS of the Program.[15]

4.2 The contract for the SPP/BESS includes the O&M of the system for the first five years.[16] The Project will be carried out within the same timeframe granted for the SPP/BESS construction. The tariff structure will be sustainable, covering all O&M costs, and accessible to the level of income of residential customers connected to the PIC.

4.3 **Project management, monitoring, and contingencies (US$400,000)**. This budget will finance the hiring of audits, monitoring, contingencies, and evaluations of the Project. Management costs also consider incremental costs to retain and attract the hiring of qualified personnel for the EA that has been affected by the fragile and conflicting environment of the country.

4.4 **Indicative Budget.** The total cost of this project is US$2,500,000 which will be provided by the Strategic Climate Fund (SCX) in the form of a non-refundable investment grant administrated by the IDB. Table 1 provides an indicative budget needed to achieve the expected outputs. The largest budget item dedicated to the procurement of the additional solar capacity has been estimated based on the unit costs established in the 12MWp SPP/BESS contract signed recently in the second quarter of 2024.

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15 The proposed modification of the contract will be less than 10% of the original cost.

16 In the medium and long term and based on the level of performance, the contract for the O&M of the SPP/BESS is expected to be renewed.

Table 1. Indicative budget (US$)

Activity/Component	Description	IDB/Fund Funding (SCX/SREP) US$ millions
Component 1	(i) procurement of a 1.6MWp solar photovoltaic plant; (ii) supervision	2,100,000
Project management and monitoring	Audits, monitoring, contingencies, and evaluation of the project	400,000
Total		**2,500,000**

4.5 **Beneficiaries.** Like the Program, the Project will directly benefit nearly 14,000 users connected to the PIC network in the northeast of Haiti, including industrial tenants and residential customers, while reducing the risk of shutdown of the PIC due to the lack of fuel in Haiti. Indirect beneficiaries are new local jobs, as a result of new investments in the PIC resulting from more attractive and reliable electricity.

V. Executing agency and execution structure

5.1. The Executing Agency (EA) of the Project is the Ministry of Economy and Finance (MEF) through its Unité Technique d'Exécution (UTE) using the same execution arrangement of the Program, which include maintaining the institutional agreement between the MEF, and ANARSE to support the execution of the Project. While MEF/UTE will be responsible for the fiduciary arrangements of the Project, the national regulatory authority (ANARSE) will facilitate technical support during execution. MEF/UTE was selected as the executing agency of the Program due to its experience in managing the PIC and conducting procurement processes for similar projects. Additional measures to strengthen the capacities of the MEF/UTE in the execution of projects have been adopted with the Program (₱6.1).

5.2. **Procurement policies.** The execution of the Project 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. UTE will follow the procurement processes of the Project 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 operation enters into effect. The PP will be updated semiannually or as required by the Bank.

5.3. The Project will be executed through an amendment to the contract **AOI-CT-AMACEH-006** awarded to the Consortium for the construction of the SPP/BESS. A proposal of amendment to this contract is under discussion with the Consortium to analyze the scope and cost of work within the resources of the Project. The additional solar capacity of 1.6MWp has been determined using the unit prices offered by the Consortium for the 12MWp SPP/BESS system as a reference, and the budget of US$2,000,000 allocated from SREP contribution. A price revision form has been designed to facilitate the validation of the required adjustments with the Consortium (see Price Offer Revision form). The reference costs proposed by the Consortium for the construction of the SPP/BESS were recently revised by the UTE during the negotiation process of the contract signed in April 2024. The negotiation process already considered

an incremental cost justified by an increase in the inflation rate, the cost of import of equipment and materials, and the deterioration of Haiti's risk profile (*see ¶2.2 of the Program document*). In addition, there is an advantage of economy of scale in the Project, where various items already purchased for the 12MWp SPP/BESS, will be used for the Project.

5.4. The Consortium is in a more favorable position to achieve economies of scale and match the unit cost of the SPP/BESS than another firm coming to Haiti solely for the additional 1.6MWp capacity. The Project is expected to be carried out within the same timeframe granted in the contract for the SPP/BESS construction.

5.5. **Conditions to be fulfilled before the first disbursement.** The conditions for the disbursement of the resources of the Project are: (i) Component 2 of the Program is in execution and disbursing; (ii) the amendment of the contract AOI-CT-AMACEH-006 considering the scope of the Project, has been approved and signed; and (ii) a supervision firm has been hired (see Terms of Reference for the competitive hiring of a supervision firm).

5.6. **Financial management and disbursement.** Disbursements will be based on cash flow plans that will be sized according to the Project's execution liquidity needs and with a rolling 12-month planning horizon. Disbursements for investment costs will be covered with the advance of funds equivalent to up to six months of investment and operational costs/expenses anticipated and will be subject to ex-post supervision.

5.7. **Audit.** MEF will submit annual audited financial statements of the Project to the Bank 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 following 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 Guideline for the Preparation of Financial Statements and External Audits. Audit costs will be financed with resources from the Project management, monitoring, and contingencies budget.

5.8. **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. The Bank will provide direct support in the monitoring and supervision using a dedicated tool designed to track the evolution of execution every month, allowing for a more proactive replanning toward meeting expected annual targets.

5.9. The Project team will be responsible for the preparation and submission to the donor of the project reporting, in compliance with the stipulations of the Financial Procedures Agreement of the SCX trust fund.

5.10. **Evaluation.** MEF will present a mid-term evaluation following the Project Completion Report (PCR) format of the Bank, 60 days after the date on which 50% of the grant has been disbursed. The final evaluation of the Project will be prepared together with the Project Completion Report of the program 4900/GR-HA and GRT/CF-17708-HA

VI. Major issues

6.1 **Fiduciary risks**. For the execution of the Program, an Analysis of Institutional Capacities (PACI) of the UTE was previously completed that identified average risks for the financial and procurement management of the Program: (i) bottlenecks due to administrative flows and delegation of authorities; (ii) delays due to increased workload for EA's personnel (including fiduciary); and (iii) lack of experience in the preparation and evaluation of tender documents for concessions that increases the risk of failure. Those risk have been addressed with the following actions during execution : (i) a Procurement Plan (PP) that covers the entire project life, allowing for a better planning considering possible bottlenecks; (ii) support the GOH to proceed with the preparation of the initial steps of procurement before the grant is approved by IDB; (iii) hiring of a procurement specialist and a financial specialist; (iv) early reinforcement of the EA with international consultants knowledgeable in the preparation of similar projects; (v) at least two workshops with ANARSE, MTPTC and MEF/UTE, at the early stages of the program preparation, related to planning methodologies, preparation of management tools and the early preparation of bidding documents of projects proposed in the financing; (vi) technical support from ANARSE and MTPTC to MEF in the preparation and evaluation of tender documents following recent similar experience; and (vii) early preparation of a new international tender process for the award of concessions following IDB procurement policies.

6.2 In line with the new risks identified for the execution of the modified Program 4900/GR-HA and GRT/CF-17708-HA, the following risks apply to the Project: (i) if the country's level of insecurity keeps driving professionals to leave the country, including the loss of qualified national staff in ministries and executing agencies, the government may struggle to find technical staff and maintain a stable executing team, which could impair the implementation of the Project. To mitigate this risk, and to attract qualified personnel, the Bank will provide technical assistance to the executing unit and will promote the implementation of contract incentives for key staff to attract qualified personnel; and (ii) low participation of qualified local or international bidders given Haiti's socio-economic situation, which affects the execution of the Project. To mitigate this risk, the Executing Agency prior to the No Objection of the Bank will amend the contract AOI-CT-AMACEH-006 with the Consortium. If the reference unit price of the Consortium to execute the Project is increased, following a review of the rationale of the modification, the Project has allocated contingency resources up to 10% of the cost of the Project to cover the incremental cost. If such modification cannot be justified, the UTE will call for a new ICB.

6.3 **Other key issues and risks.**

Table 2. Main risk identified

RISK AND TYPE	CLASSIFICATION	MITIGATION
Political environment. Socio-political unrest that leads to lockdowns, crises in the supply chain of goods, fossil fuel supply shortages, and high prices, or worse insecurity, may affect program execution of the Project, causing delays and cost overruns.	High	▪ Implementation of remote monitoring measures, continuous tracking of changes in the socio-economic situation of the country and the international market outlook, as well as the inclusion of provisions and budget for greater security and other contingencies in contracts for unforeseen events. Additionally, the contracts already awarded are concentrated in Haiti's northeast region where the situation is less critical and minimum-security conditions are guaranteed.

RISK AND TYPE	CLASSIFICATION	MITIGATION
Political environment. Socio-political unrest could limit the supervision missions of the IDB team, which may cause delays in program execution.	Medium-High	▪ Implementation of remote monitoring measures, and continuous tracking of changes in the socio-economic situation of the country
Human resources. Insufficient technical and institutional capacity in the supervision and monitoring of the Project's contract may cause difficulties in the supervision of project execution, causing delays and cost overruns.	Medium-High	▪ Hiring supervision firms before the start of construction contracts, with contracts considering milestone-based payments. Remote monitoring measures include cameras at construction sites and the use of virtual platforms for progress supervision and real energy consumption monitoring.
Natural environment. If a natural disaster occurs in the region during project execution, the works may be affected and could need repairs, which would delay the program and increase costs.	Medium-High	▪ Consider the implementation of resilient infrastructure in contracts financed by the program. ▪ Consider hurricane seasons as part of the program planning.
Organizational structure. As the elections approach, if there is a change in leadership at the institutions participating in the program's execution, it may lead to a considerable slowdown in the execution of the Project and create additional pressure for a new extension of the Project's final disbursement date.	Medium-High	▪ Continued tracking of political scenario in Haiti with Bank support.
Economic and financial environment. If inflation exhibits high values as occurred in 2022 and early 2023, and/or if the Haitian Gourde (HTG) depreciates further, the cost of activities may be higher than the estimated project budget.	Medium-High	▪ Use of allocated contingency resources of the Program and the Project.
Integrity. If there is a lack of required coordination and insufficient institutional capacity, the execution of the project may be affected, which could lead to delays in the program and result in cost overruns.	Medium-High	▪ Implementation of specific recommendations from the Office of Institutional Integrity (OII), aimed at strengthening the UTE's capacity to manage integrity risks. These recommendations will be reflected in the Program's Operations Manual and the supervisory efforts of both the Project Team and the Haiti Country Office.
Technical and environment. If the contractor and its primary suppliers of solar photovoltaic panels struggle to demonstrate compliance with international practices to avoid forced labor in the supply chain of solar photovoltaic panels, the Project will suffer delays and eventually cost overruns.	Medium-High	▪ Early dialogue with the Executing Agency and the contractor to guide the proper preparation of the socio-environmental management plan and the implementation of mitigation measures. ▪ Use of contingencies resources to mitigate delays due to justified cost overruns.

VII. Exceptions to Bank policy

7.1. No exceptions to the Bank´s policies are requested.

VIII. Environmental and Social Aspects

8.1. The Project will finance the design, installation, and commissioning of an additional 1.6MWp solar photovoltaic capacity for the SPP/BESS of the PIC. The terms of reference and products will be consistent with the applicable requirements of the Environmental and Social Policy Framework (ESPF). The SPP/BESS will be located inside the PIC which is already operating for industrial purposes and will have to follow the rules and regulations of the PIC. It is not expected that there will be additional vegetation impact on the area initially planned for the 12MWp plant, given that the area confirmed in the tender for the construction of this plant was reduced thanks to technological improvement considering higher capacity panels in a smaller area. The additional 1.6MWp will be installed on the same site next to the 12MWp plant. There are minor potential environmental and social risks due to construction and future interventions which will be managed in collaboration with the solar operator and PIC management (see E&S screening filter). The SPP/BESS will be operated by the PIC solar operator who will prepare an Environmental and Social Management Plan (ESMP). This ESMP will consider mitigation measures for the acquisition, storage, operation and decommissioning of batteries and other equipment as well as health and safety measures for workers. The environmental and social contractual clauses included in the SPP/BESS contract will remain applicable to cover the additional scope of the Project as part of the contract amendment to be signed with the Consortium.

8.2. The international competitive process within the framework of the Program to select the solar contractor and operator of the PIC is finalized (contract signed) and is fully aligned with the IDB group's measures to address the risk of forced labor in the supply chain of silicon-based solar modules. The call for tenders required that the ESMP be submitted by the solar operator for approval by the EA before the start of civil works and to proceed with purchase orders. The EA will request no objection from the IDB before approving the ESMPs. This ESMP must include a workforce assessment to identify measures to assess, prevent, mitigate, and continuously monitor all risks and impacts related to workforce management and working conditions of workers directly engaged by the contractor or through third parties, such as subcontractors and main 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) at any of the solar operator's subcontractors and of the main suppliers of polysilicon solar panels which cannot be avoided or mitigated, the solar operator will change its main suppliers with suppliers who can demonstrate adequate labor management and working conditions and comply with the specifications of the technical offer. The EA reserves the right to approve these changes based on the documentation provided and its own analysis.

Required Annexes:

- Request from the Client
- Results Matrix
- Procurement Plan
- E&S screening filter
- Terms of Reference for the hiring of a supervision firm