

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

JAMAICA

ENERGY MANAGEMENT AND EFFICIENCY PROGRAM

(JA-G1003)

PROJECT PROFILE

This document was prepared by the project team consisting of: Malaika Masson (ENE/CJA) Team Leader; Christiaan Gischler, Alternate Team leader; Javier Cuervo, José Antonio Urteaga, Veronica Prado, Javier Garcia, Stephanie Suber (INE/ENE); Pilar Jiménez (LEG/SGO); Alejandra Boibo, Matheus de Paula (LEG/CLA); Ileana Pinto (VPC/FMP); Steven Collin (VPS/ESG); Kai Hertz, Dimas Tejero (ORP/GCM); Rene Herrera, Naveen Jainuth (FMP/CJA); Anaitée Mills (CSD/CCS); Jodykay Maxwell (CCB/CJA); under the supervision of Ariel Yépez (INE/ENE) and Therese Turner-Jones (CCB/CJA).

Under the Access to Information Policy, this document is subject to Public Disclosure.

PROJECT PROFILE JAMAICA

I. BASIC DATA

Project Name:	European Union Caribbean Investment Facility (EU-CIF) Energy Management and Efficiency Programme		
Project Number:	JA-G1003		
Project Team:	Malaika Masson (ENE/CJA) Team Leader; Christiaan Gischler, Alternate Team leader; Javier Cuervo, José Antonio Urteaga, Veronica Prado, Javier Garcia, Stephanie Suber (INE/ENE); Pilar Jiménez (LEG/SGO); Alejandra Boibo, Matheus de Paula (LEG/CLA); Ileana Pinto (VPC/FMP); Steven Collin (VPS/ESG); Kai Hertz, Dimas Tejero (ORP/GCM); Rene Herrera, Naveen Jainuth (FMP/CJA); Anaitée Mills (CSD/CCS); Jodykay Maxwell (CCB/CJA); under the supervision of Ariel Yépez (INE/ENE) and Therese Turner-Jones (CCB/CJA)		
Borrower:	Jamaica		
Executing Agency:	Petroleum Corporation of Jamaica (PCJ)		
Financial Plan:	Inter-American Development Bank (IDB):	Equivalent US\$	10,000,000 ¹
	EU-CIF	[Euros]	[9,170,000]
	Local:	US\$	0
	Total:	US\$	10,000,000
	Policies triggered:	B.1: (OP-102, OP-704, OP-761) B.4, B.10, B.11, B.14, B.17, B.2, B.3, B.5, B.6., B.7	
Safeguards:	Classification:	Category B	

II. GENERAL JUSTIFICATION AND OBJECTIVES

- 2.1 Jamaica is the third largest island in the Caribbean region with an area of 11,000 square kilometers (Km²) and a population of approximately 2.72 million people. Jamaica has a small, open economy, characterized by low growth and high debt. Like many Caribbean countries, Jamaica produces very little energy from indigenous resources, relying on fossil fuel imports that averaged 20.4 million Barrels of Oil Equivalent (BOE) per annum between 2010-2015.² During this five-year period, the importation of petroleum products cost an annual average of US\$1.9 billion or 13.5% of the Gross Domestic Product (GDP). These oil imports

¹ Approximate amount: provided in Euros. This EU-CIF contribution of US\$10 million or €9,170,000 includes the fee (US\$218,102 or €200,000) to be received by IDB. The exchange rate used at the time of Eligibility Review Meeting on May 5th, 2017 was €0.915 to one US\$. The specific exchange rate for this project will be defined at the (POD)–QRR stage.

² MSET's Petroleum Import statistics online. <http://mset.gov.jm/petroleum-imports>.

represent more than one-third of Jamaica's total import bill, and more than 125% of the country's total merchandise exports.

- 2.2 In 2015, approximately 25% of total energy imports was used to generate 5,344GWh. Of this, 393GWh (7.4% or 750,660 BOE as fuel oil) were consumed by Public Sector Facilities, costing the Government of Jamaica (GOJ) around US\$36 million in BOE, and an estimated US\$102 million in electricity bills. Approximately 88GWh (22.3%) of electricity was consumed by Health, Education and Public Agency (HEPA) facilities, representing 1.6% of total electricity consumed in Jamaica. HEPA facilities cost the GOJ US\$23.7 million in electricity bills, 168,591 in BOE and implied over 400,000 tons of CO₂ equivalent (CO₂e) emissions.
- 2.3 Electricity bills reflect high tariffs³ because fuel costs to generate electricity represent approximately 50% of the tariff, there are significant system losses on the central grid⁴ and electricity generation depends on old, inefficient diesel generators.⁵ High electricity prices also affect the amount of cash available to the government as it relates to operating costs⁶ for HEPA facilities, thus impacting government expenditure management and the effectiveness of these public services.
- 2.4 The Electricity Act (2015) provides the Ministry of Science, Energy and Technology (MSET) with a new energy and electricity planning mandate, requiring MSET to produce an Integrated Resource Plan (IRP) that will guide the integration of new Renewable Energy (RE) and Liquefied Natural Gas (LNG)⁷ investments to the grid, alongside Energy Efficiency and Conservation (EEC) initiatives. The MSET is currently preparing Jamaica's first Integrated Resource (Electricity) Plan but lacks the resources and capacity to develop a wider plan that integrates the energy needs of other sectors such as mining and transport.⁸
- 2.5 To address these challenges, the IDB approved in December 2016, a US\$30 million joint loan operation with the Japan International Cooperation Agency (JICA) for the Energy Management and Efficiency Programme⁹ (EMEP or 'Programme') (3877/OC-JA:), to promote EEC as one approach to reduce the GOJ fuel bill, mitigate oil price volatility and contribute to Greenhouse Gas (GHG) emissions reduction. The programme targets EEC primarily in the electricity generation sector that consumes over 25% of energy used in Jamaica. Given the

³ Despite the decrease from 0.39 to 0.27US\$/kWh, between 2012-2015 Jamaica's average electricity tariff remained high, compared to other countries in the region (i.e. Barbados and Trinidad and Tobago with 0.24 and 0.06 US\$/kWh, respectively).

⁴ Technical and non-technical losses were 26.9% and 18.3%, respectively, as of February 2015.

⁵ 40% of the generation capacity is over 30 years and the conversion efficiency of old steam generation plants is less than 30%.

⁶ University Hospital of the West Indies receives GOJ funding estimates that on average, annual electricity bills are 4% of operating costs. This is considered high in the context of kWh usage per hospital bed. In the United States, one hospital bed uses an average of 6,000 kWh electricity per year and in Jamaica, an IDB funded Investment Grade Audit of four hospitals completed in 2016, showed an average of 8,200kWh per bed, annually.

⁷ The first LNG vessel arrived at Bogue Power Plant (120MW) in October 2016 and it is expected at Old Harbour (190MW) by 2018.

⁸ See [Capacity Building Study in the MSET](#).

⁹ The PCJ as Executing Agency is advancing in meeting the four special conditions precedent to first disbursement of the IDB loan by Q4, 2017.

GOJ's commitment to enhanced efficiency and quality of public sector services and infrastructure, the focus of the programme is on retrofitting outdated equipment and inefficient systems in public buildings, focusing on HEPA facilities, and demonstrating the attractive economic and environmental benefits of EEC retrofits and investments.

- 2.6 This operation builds on data from an IDB-commissioned report,¹⁰ that analyzed over 4,000 electricity accounts and 106 audits to identify, in discussions with the GOJ,¹¹ a group of HEPA facilities (four hospitals, nine schools and ten public agencies) to be retrofitted with modern EEC equipment and measures. In March 2017, the GOJ confirmed to the IDB its interest to extend the EMEP operation by obtaining non-reimbursable grant resources from the (EU-CIF). The extension is aimed at hospitals given the 24 hour-7-day operation, high energy usage, and importance to the community in extreme weather events. Additionally, given that the GOJ continues to be the main source of financing for the health sector (8% of government expenditure and 5.4% of GDP), improving efficiency and productivity are critical to improving expenditure management. Investment Grade Audits conducted by the IDB in four hospitals revealed that EEC interventions could save the GOJ US\$1.84million or 6.5GWhr annually by switching to energy efficient equipment such as high efficiency rated central air systems, light-emitting diode (LED) lighting, and solar photovoltaic (PV) in addition to measures that optimize conservation.
- 2.7 The EU-CIF is a regional blending facility aimed at mobilizing resources for development projects by combining grants with other resources, such as loans, to leverage additional financing in infrastructure. The EU resources would be channeled through a Project Specific Grant to the IDB pursuant to the terms of the Framework Administrative Agreement between the EU and the IDB, signed on June 10, 2015 (GN-2605-2). The EU-CIF grant will provide additional resources to expand the EMEP by approximately 9.17 million Euros (or US\$10 million), adding to the existing co-financing programme of US\$30 million loan funds provided by IDB (US\$15 million) and JICA (US\$15 million).
- 2.8 **Objective.** The general objective of this operation is to promote more efficient use of energy resources that would make available more public funds through avoided oil imports, helping the GOJ to create additional fiscal space for productive spending. The specific objectives and expected results of this programme are: (i) reduced electricity consumption in public facilities; (ii) reduced GHG emissions as a result of reduced electricity consumption; and (iii) support to MSET's IRP.
- 2.9 This operation is aligned with the Updated Institutional Strategy 2010-2020 (AB-3008), in respect to productivity and innovation as reduced electricity consumption can result in savings, lowering the operational cost of hospital facilities. These savings can be redirected to other necessary investments and upgrades. This operation is also aligned with the cross-cutting issues of: (i) Climate Change & Environmental Sustainability through avoided GHG

¹⁰ IDB-(2011) Energy Efficiency and Conservation Technical Assistance.

¹¹ The main criteria i for the selection of HEPA facilities included: high kWh consumption; suitable condition of the facilities; significant return on investment; ease of access and stakeholder buy-in; and access to the facility as a shelter during emergencies/natural disasters.

emissions and by contributing to Jamaica's Intended Nationally Determined Contribution; and with (ii) Institutional Capacity and the Rule of Law as it will strengthen MSET's expertise in energy and electricity planning. This operation will also support the climate finance goal of the Inter-American Development Bank Group (IDBG) of 30% of combined IDB and Inter-American Investment Cooperation operational approvals by the end of 2020. Additionally, this operation is aligned with: (i) the IDBG Country Strategy with Jamaica 2016-2021 (GN-2868), which aims to reduce government expenditure; (ii) the Bank's Climate Change Sector Framework Document (GN-2835-3) by reducing GHG emissions; (iii) the Sustainable Infrastructure for Competitiveness and Inclusive Growth Strategy (GN-2710-5); and (iv) the Energy Sector Framework Document (GN-2830-3).

- 2.10 **Component 1. Retrofitting public hospitals (US\$9,531,898)** will finance the implementation of EEC measures in 7 public hospitals: (i) the purchase, installation, operation and maintenance of EEC technologies; and (ii) the design and implementation of a Communications and Visibility Plan to raise awareness among targeted stakeholders regarding EEC and RE, building codes, equipment standards and Net Billing Programme implementation charges for solar PV grid connection.
- 2.11 **Component 2. Support to Electricity Planning and MSETs IRP (US\$250,000)** will finance studies related to the development of Jamaica's Integrated Energy Plan that complements the IRP for the electricity sector by enhancing MSET's planning expertise within the wider energy sector.
- 2.12 Additionally, US\$218,102 will be allocated for IDB administrative fees.
- 2.13 The expansion of EMEP to include seven additional hospitals for EEC retrofits implies an increase in expected annual savings from 11.5GWh to 19.72GWh saved, from 21,874 to 37,613 BOE fuel imports avoided and from 12,512 to 21,515 tons of Carbo Dioxide emissions (CO₂e) avoided.

III. TECHNICAL ISSUES AND SECTOR KNOWLEDGE

- 3.1 The estimated execution period of this operation is four years. The operation will be executed by the (PCJ), a statutory corporation under the purview of the MSET. PCJ's mandate is to drive energy diversification, facilitating and promoting EEC, biofuels and increasing RE and oil and gas exploration.
- 3.2 IDB has gained knowledge and experience with projects that address the implementation of EEC. See [Lessons Learned Annex](#). In Jamaica, between 1973-2011, the Bank approved and disbursed approximately seven loans (US\$200 million) and eight technical co-operations (US\$1.3 million) covering energy efficiency,¹² rural electrification, hydrocarbon exploration, hydroelectricity generation and private sector participation in energy development. In 2009, the Energy Efficiency and Conservation Technical Assistance Report (ATN/MC-11651-JA; US\$349,030) supported the development of energy audits

¹² See [lessons learned annex](#).

which helped to develop the investment loan (2629/OC-JA; US\$20 million) entitled “Energy Efficiency and Conservation Programme” (EECP) (2629/OC-JA). The EECP achieved 1,076GWh/year or cost-savings of US\$341,516/year, 666BOE/year and 857 tons of avoided CO2 emissions per year. Nevertheless, after four years, the programme experienced challenges in staffing and procurement, and was eventually cancelled.

- 3.3 In 2015, the GOJ requested a follow-on operation to EECP. The EMEP was designed considering key lessons learned from the EECP in order to avoid a recurrence of challenges experienced with the EECP. Since this project extends the EMEP, its design reflects the lessons learned and is expected to be successful. Through the EMEP, the operation is supported by a Project Executing Unit (PEU) and associated services such as training (including a gender target)¹³ and waste-management associated with retrofitting.

IV. ENVIRONMENTAL SAFEGUARDS AND FIDUCIARY SCREENING

- 4.1 In accordance with OP-703 and the Bank’s safeguard filters, the project has been classified as Category B, as it is anticipated that it is likely to cause mostly local negative environmental and social impacts for which effective mitigation measures should be implemented. Construction and retrofitting activities will generate relevant quantities of solid (scrap wood, concrete, glass, and cardboard, etc.) and hazardous waste (mercury from fluorescent light bulbs and thermostats, hydrofluorocarbons and other refrigerant gases from air conditioning units, used oils, asbestos containing materials, etc.). A Waste Management Plan needs to be developed by the Borrower. Additional impacts may relate to operational health and safety, general construction activities, and natural disaster risk; however, all impacts can be adequately mitigated through the implementation of specific management plans and mitigation measures.
- 4.2 **Fiduciary Risk.** The PCJ will be the Executing Agency (EA) of this operation, with a dedicated budget of approximately 10% of EMEP programme funds (as opposed to only 4.7% in EECP), and funds from an Operational Support Technical Cooperation: “Support to the EMEP” (ATN/OC-15617-JA). This will support project management and experts in critical functions including procurement, finance, monitoring and evaluation, environmental management, and electrical compliance.
- 4.3 Notwithstanding, the strong assessment provided by the Bank’s Institutional Capacity Assessment (ICAS)¹⁴ of PCJ’s internal control, compliance and financial reporting systems, given that the operation will now be financed by the EU, the Bank and JICA, the main fiduciary risk relates to the limited capacity of the PCJ to address the additional EU-CIF requirements of related in particular to

¹³ 350 HEPA maintenance staff will be trained under the EMEP. Since women tend to be under-represented, at least 25% of the training beneficiaries have to be women.

¹⁴ The ICAS performed by the Bank has deemed the fiduciary risk as low, considering the strong internal controls over the management, administrative functions and financial reporting of the EA. This operation will entail additional fiduciary requirements and operational complexities, and hence the TC will support the efforts in the mitigation of these risks.

procurement, financial management and monitoring requirements. From a procurement standpoint, the inclusion of the EU-CIF funding implies an expansion of countries that are eligible to bid on contracts from EMEP. The IDB is considering providing additional technical cooperation to strengthen PEU fiduciary expertise and project management capacity required to execute the combined operation.

- 4.4 The PEU will establish an Energy Management and Efficiency Project Coordination Committee which will meet quarterly during the first two years of the programme and thereafter, biannually, and will consist of beneficiary government agencies to guide strategic decision making and keep abreast of the progress made under the programme.

V. OTHER ISSUES

- 5.1 **Sustainability.** The prime contractors (together with their sub-contractors) responsible for implementing the retrofit plan in HEPA government facilities, will be tasked with ensuring that all purchased EEC equipment have associated operational and maintenance guarantees. Once these initial contracts expire, facility managers and maintenance personnel that have been trained throughout the implementation of the programme, will be able to effectively take over these activities.

VI. RESOURCES AND TIMETABLE

- 6.1 The preparation of the project will require administrative resources for a total of US\$27,700. The Proposal for Operation Development (POD) will be distributed to the Quality and Risk Review (QRR) by May 31st, 2017, and for consideration by the Bank's Board of Executive Directors on August 2nd, 2017.

CONFIDENTIAL

¹ The information contained in this Annex is confidential and will not be disclosed. This is in accordance with the "Deliberative Information" exception referred to in paragraph 4.1 (g) of the Access to Information Policy (GN-1831-28) at the Inter-American Development Bank.



Safeguard Policy Filter Report

Operation Information

Operation		
JA-G1003 Energy Management and Efficiency Program		
Environmental and Social Impact Category	High Risk Rating	
B	{Not Set}	
Country	Executing Agency	
JAMAICA	{Not Set}	
Organizational Unit	IDB Sector/Subsector	
Caribbean Group	ENERGY EFFICIENCY AND RENEWABLE ENERGY IN END USE	
Team Leader	ESG Lead Specialist	
MALAIKA EBONY ANIETIA MASSON	LUCA MARINI	
Type of Operation	Original IDB Amount	% Disbursed
Investment Grants	\$0	0.000 %
Assessment Date	Author	
26 Apr 2017	Imarini ESG Lead Specialist	
Operation Cycle Stage	Completion Date	
ERM (Estimated)	8 May 2017	
QRR (Estimated)	29 May 2017	
Board Approval (Estimated)	{Not Set}	
Safeguard Performance Rating		
{Not Set}		
Rationale		
{Not Set}		

Safeguard Policy Items Identified

[B.1 Bank Policies \(Access to Information Policy– OP-102\)](#)

The Bank will make the relevant project documents available to the public.

[B.1 Bank Policies \(Disaster Risk Management Policy– OP-704\)](#)

The operation is in a geographical area exposed to [natural hazards](#) ([Type 1 Disaster Risk Scenario](#)). Climate change may increase the frequency and/or intensity of some hazards.



Safeguard Policy Filter Report

B.2 Country Laws and Regulations

The operation is expected to be in compliance with laws and regulations of the country regarding specific women's rights, the environment, gender and indigenous peoples (including national obligations established under ratified multilateral environmental agreements).

B.3 Screening and Classification

The operation (including [associated facilities](#)) is screened and classified according to its potential environmental impacts.

B.5 Environmental Assessment Requirements

An environmental assessment is required.

B.6 Consultations

Consultations with affected parties will be performed equitably and inclusively with the views of all stakeholders taken into account, including in particular: (a) equal participation by women and men, (b) socio-culturally appropriate participation of indigenous peoples and (c) mechanisms for equitable participation by vulnerable groups.

B.7 Supervision and Compliance

The Bank is expected to monitor the executing agency/borrower's compliance with all safeguard requirements stipulated in the loan agreement and project operating or credit regulations.

B.10. Hazardous Materials

The operation has the potential to impact the environment and occupational health and safety due to the production, procurement, use, and/or disposal of hazardous material, including organic and inorganic toxic substances, pesticides and persistent organic pollutants (POPs).

B.11. Pollution Prevention and Abatement

The operation has the potential to pollute the environment (e.g. air, soil, water, greenhouse gases).

B.14. Multiple Phase and Repeat Loans

The operation is a repeat or second phase loan.

B.17. Procurement

Suitable safeguard provisions for the procurement of goods and services in Bank financed operations may be incorporated into project-specific loan agreements, operating regulations and bidding documents, as appropriate, to ensure environmentally responsible procurement.

Potential Safeguard Policy Items

B.1 Bank Policies (Gender Equality Policy– OP-761)

The operation has the potential to affect negatively women or gender equality ([Negative gender impacts may include the following](#))

B.4 Other Risk Factors



Safeguard Policy Filter Report

The borrower/executing agency exhibits weak institutional capacity for managing environmental and social issues.

Recommended Actions

Operation has triggered 1 or more Policy Directives; please refer to appropriate Directive(s). Complete Project Classification Tool. Submit Safeguard Policy Filter Report, PP (or equivalent) and Safeguard Screening Form to ESR.

Additional Comments

[No additional comments]



Safeguard Screening Form

Operation Information

Operation		
JA-G1003 Energy Management and Efficiency Program		
Environmental and Social Impact Category	High Risk Rating	
B	{Not Set}	
Country	Executing Agency	
JAMAICA	{Not Set}	
Organizational Unit	IDB Sector/Subsector	
Caribbean Group	ENERGY EFFICIENCY AND RENEWABLE ENERGY IN END USE	
Team Leader	ESG Lead Specialist	
MALAIKA EBONY ANIETIA MASSON	LUCA MARINI	
Type of Operation	Original IDB Amount	% Disbursed
Investment Grants	\$0	0.000 %
Assessment Date	Author	
26 Apr 2017	Imarini ESG Lead Specialist	
Operation Cycle Stage	Completion Date	
ERM (Estimated)	8 May 2017	
QRR (Estimated)	29 May 2017	
Board Approval (Estimated)	{Not Set}	
Safeguard Performance Rating		
{Not Set}		
Rationale		
{Not Set}		

Operation Classification Summary

Overridden Rating	Overridden Justification
Comments	



Safeguard Screening Form

Conditions / Recommendations

Category "B" operations require an environmental analysis (see Environment Policy Guideline: Directive B.5 for Environmental Analysis requirements)

The Project Team must send to ESR the PP (or equivalent) containing the Environmental and Social Strategy (the requirements for an ESS are described in the Environment Policy Guideline: Directive B.3) as well as the Safeguard Policy Filter and Safeguard Screening Form Reports. These operations will normally require an environmental and/or social impact analysis, according to, and focusing on, the specific issues identified in the screening process, and an environmental and social management plan (ESMP). However, these operations should also establish safeguard, or monitoring requirements to address environmental and other risks (social, disaster, cultural, health and safety etc.) where necessary.

Summary of Impacts / Risks and Potential Solutions

Generation of solid waste is [moderate](#) in volume, does not include [hazardous materials](#) and follows standards recognized by multilateral development banks.

Solid Waste Management: The borrower should monitor and report on waste reduction, management and disposal and may also need to develop a Waste Management Plan (which could be included in the ESMP). Effort should be placed on reducing and re-cycling solid wastes. Specifically (if applicable) in the case that national legislations have no provisions for the disposal and destruction of hazardous materials, the applicable procedures established within the Rotterdam Convention, the Stockholm Convention, the Basel Convention, the WHO List on Banned Pesticides, and the Pollution Prevention and Abatement Handbook (PPAH), should be taken into consideration.

Project construction activities are likely to lead to localized and temporary impacts (such as dust, noise, traffic etc) that will affect local communities and [workers](#) but these are [minor](#) to [moderate](#) in nature.

Construction: The borrower should demonstrate how the construction impacts will be mitigated. Appropriate management plans and procedures should be incorporated into the ESMP. Review of implementation as well as reporting on the plan should be part of the legal documentation (covenants, conditions of disbursement, etc).

The negative impacts from production, procurement and disposal of [hazardous materials](#) (excluding POPs unacceptable under the Stockholm Convention or toxic pesticides) are [minor](#) and will comply with relevant national legislation, [IDB requirements on hazardous material](#) and all applicable International Standards.



Safeguard Screening Form

Monitor hazardous materials use: The borrower should document risks relating to use of hazardous materials and prepare a hazardous material management plan that indicates how hazardous materials will be managed (and community risks mitigated). This plan could be part of the ESMP.

The project is located in an area prone to [coastal flooding](#) from [storm surge](#), high wave activity, or erosion and the likely severity of the impacts to the project is [moderate](#).

A Disaster Risk Assessment, that includes a Disaster Risk Management Plan (DRMP), may be necessary, depending on the complexity of the project and in cases where the vulnerability of a specific project component may compromise the whole operation. The DRMP should propose measures to manage or mitigate these risks to an acceptable level. The measures should include risk reduction (siting and engineering options), disaster risk preparedness and response (contingency planning, etc.), as well as financial protection (risk transfer, retention) for the project. They should also take into account the country's disaster alert and prevention system, general design standards, coastal retreat and other land use regulations and civil defense recommendations in coastal areas.

The project is located in an area prone to [hurricanes](#) or other [tropical storms](#) and the likely severity of the impacts to the project is [moderate](#).

A Disaster Risk Assessment, that includes a Disaster Risk Management Plan (DRMP), may be necessary, depending on the complexity of the project and in cases where the vulnerability of a specific project component may compromise the whole operation. The DRMP should propose measures to manage or mitigate these risks to an acceptable level. The measures should consider both the risks to the project, and the potential for the project itself to exacerbate risks to people and the environment during construction and operation. The measures should include risk reduction (siting and engineering options), disaster risk preparedness and response (contingency planning, etc.), as well as financial protection (risk transfer, retention) for the project. They should also take into account the country's disaster alert and prevention system, general design standards and other related regulations.

The project is located in an area prone to [inland flooding](#) and the likely severity of the impacts to the project is [moderate](#).

A Disaster Risk Assessment, that includes a Disaster Risk Management Plan (DRMP), may be necessary, depending on the complexity of the project and in cases where the vulnerability of a specific project component may compromise the whole operation. The DRMP should propose measures to manage or mitigate these risks to an acceptable level. This must take into consideration changes in the frequency and intensity of intensive rainfall and in the patterns of snowmelt that could occur with climate change. The DRMP includes risk reduction measures (siting and engineering options), disaster risk preparedness and response (contingency planning, etc.), as well as the financial protection (risk transfer, retention) of the project. The DRM Plan takes into account existing vulnerability levels and coping capacities, the area's disaster alert and prevention system, general design standards, land use regulations and civil defense recommendations in flood prone areas. However, the options and solutions are sector- and even case-specific and are selected based on a cost analysis of equivalent alternatives.

The project is located in an area prone to [landslides](#) and the likely severity of the impacts to the project is [moderate](#).



Safeguard Screening Form

A Disaster Risk Assessment, that includes a Disaster Risk Management Plan (DRMP), may be necessary, depending on the complexity of the project and in cases where the vulnerability of a specific project component may compromise the whole operation. The DRMP should propose measures to manage or mitigate these risks to an acceptable level. The measures should consider both the risks to the project, and the potential for the project itself to exacerbate risks to people and the environment during construction and operation. The measures should include risk reduction (siting and engineering options), disaster risk preparedness and response (contingency planning, etc.), as well as financial protection (risk transfer, retention) for the project. They should also take into account the country's disaster alert and prevention system, general design standards and other related regulations.

The project is located in an area prone to [earthquakes](#) and the likely severity of impacts to the project is [moderate](#).

A Disaster Risk Assessment, that includes a Disaster Risk Management Plan (DRMP), may be necessary, depending on the complexity of the project and in cases where the vulnerability of a specific project component may compromise the whole operation. The DRMP should propose measures to manage or mitigate these risks to an acceptable level. The measures should consider both the risks to the project, and the potential for the project itself to exacerbate risks to people and the environment during construction and operation. The measures should include risk reduction (siting and engineering options), disaster risk preparedness and response (contingency planning, etc.), as well as financial protection (risk transfer, retention) for the project. They should also take into account the country's disaster alert and prevention system, general seismic design standards and other related regulations.

Disaster Risk Summary

Disaster Risk Level

Moderate

Disaster / Recommendations



Safeguard Screening Form

The reports of the Safeguard Screening Form (i.e., of the Safeguards Policy Filter and the Safeguard Classification) constitute the Disaster Risk Profile to be included in the Environmental and Social Strategy (ESS). The Project Team must send the PP (or equivalent) containing the ESS to the ESR.

The Borrower prepares a Disaster Risk Management Summary, based on pertinent information, focusing on the specific moderate disaster and climate risks associated with the project and the proposed risk management measures. Operations classified to involve moderate disaster risk do not require a full Disaster Risk Assessment (see Directive A-2 of the DRM Policy OP-704).

The Project Team examines and adopts the DRM summary. The team remits the project risk reduction proposals from the DRMP to the engineering review by the sector expert or the independent engineer during project analysis or due diligence, and the financial protection proposals to the insurance review (if this is performed). The potential exacerbation of risks for the environment and population and the proposed risk preparedness or mitigation measures are included in the Environmental and Social Management Report (ESMR), and are reviewed by the ESG expert or environmental consultant. The results of these analyses are reflected in the general risk analysis for the project. Regarding the project implementation, monitoring and evaluation phases, the project team identifies and supervises the DRM approaches being applied by the project executing agency.

Climate change adaptation specialists in INE/CCS may be consulted for information regarding the influence of climate change on existing and new natural hazard risks. If the project requires modification or adjustments to increase its resilience to climate change, consider (i) the possibility of classification as an adaptation project and (ii) additional financing options. Please consult the INE/CCS adaptation group for guidance.

Disaster Summary

Details

The project is classified as moderate disaster risk because of the likely impact of at least one of the natural hazards is average.

Actions

Operation has triggered 1 or more Policy Directives; please refer to appropriate Directive(s). Complete Project Classification Tool. Submit Safeguard Policy Filter Report, PP (or equivalent) and Safeguard Screening Form to ESR.

Environmental and Social Strategy (ESS)

Operation Name	Energy Management and Efficiency Program (EMEP)
Operation Number	JA-G1003
Operation Details	
IDB Sector	Energy - Energy Efficiency and Renewable Energy in End Use
Type of Operation	IGR - Investment Grants
Impact Categorization	B
Disaster Risk Rating	Moderate
Borrower	Jamaica
Executing Agency	Petroleum Corporation of Jamaica (PCJ)
IDB Loan US\$ (and total project cost)	US\$ 10 million (US\$ 10 million)
Applicable Policies/Directives	OP-102; OP-704; OP-761; OP-703 (B.1, B.2, B.3, B.4, B.5, B.6, B.7, B.10, B.11, B.14, B.17)
Operation Description	
<p>Jamaica's electricity generation is dependent on old, inefficient diesel generators that run on expensive oil imports, and to a transmission system that continues to suffer from high technical and non-technical losses. Energy Efficiency and Conservation (EEC) technologies and measures, has been recognized by the Government of Jamaica (GOJ) within its National Energy Policy (NEP) 2009-2030 as the least expensive, lowest risk and most effective strategies for immediately reducing energy consumption and related negative environmental impacts. The Ministry of Science, Energy and Technology (MSET) and its agency, Petroleum Corporation of Jamaica (PCJ), are mandated to promote the increased take-up of EEC and renewable energy (RE) in Jamaica, supporting diversification away from fuel imports. MSET is also required to assess how much additional RE is needed to meet its targets and how this capacity affects grid reliability and cost to final consumers.</p> <p>The general objective of the program is to promote a more efficient use of energy resources that would free public funds through lower government hospital electricity bills and reduced oil imports, contributing to GHG emissions reduction. The proposed project is an expansion of the project "Energy Management and Efficiency Programme" (JA-L1056), approved in 2016. With financing from the European Union Caribbean Investment Facility (EU-CIF) the project will enable the addition of 7 government-funded hospitals receiving a deep EEC retrofit package and bringing the total number of government facilities receiving support from 23 to 30. Additionally, it will also provide more support to Electricity Planning. The specific components of the project could be summarized as follows:</p> <p>a) Retrofitting of 7 hospitals – will finance the implementation of EEC measures in 7 public hospitals facilities: (i) purchase, installation, operation and maintenance of EEC technologies, including related activities such as waste management; (ii) training workshops and manuals for facilities personnel and (iii) the design and implementation of a Communications and Visibility Plan to raise awareness among targeted stakeholders regarding EEC and RE, specifically with respect to building codes, equipment standards, solar PV connection charges and net-billing implementation guidelines.</p> <p>b) Support to Electricity Planning and Jamaica's Integrated Resource Plan (IRP) for Electricity – will finance (i) the development of Jamaica's Integrated Energy Plan (IEP) that builds upon the IRP and widens it to consider the energy needs in the transport and mining sectors.</p>	
Key Potential ESHS Risks and Impacts	

The key potential Environmental, Social and Health and Safety (ESHS) risks and potential impacts associated with the project mainly refer to the retrofitting of the seven hospitals (purchase, installation, operation and maintenance of EEC technologies,), and could be summarized as follows:

- Construction activities might generate impacts on current users of the facility and nearby communities, generating temporary minimal to moderate potential impacts: traffic disruption; dust and minimal to moderate air emission and affectation of air quality; impacts on water/soil, especially if waste and hazardous materials are not adequately managed; temporary noise impacts; occupational and community health and safety impacts.
- Construction and retrofitting activities will generate relevant quantities of solid (scrap wood, concrete, glass, and cardboard, etc.) and hazardous waste (mercury from fluorescent light bulbs and thermostats, hydrofluorocarbons and other refrigerant gases from air conditioning units, used oils, asbestos containing materials, etc.). Solid waste can be disposed in existing landfills, however, up to date there are no hazardous waste disposal facilities in Jamaica (currently hazardous wastes are either disposed of in local landfills or shipped abroad to treatment facilities).
- The operations of the hospitals will continue generating impacts associated to solid and hazardous waste and wastewater generation, traffic and affectation of nearby communities, that will need to be properly mitigated and managed.
- The hospitals might be exposed to natural hazards (flooding, storm surge, hurricanes, seismicity, landslides) and climate change could increase the risk of many of these hazards.
- The local authority might not have the in-house capacity to ensure the proper management of all ESHS aspects associated with the project.

Given that the Project objectives are to promote energy and resources efficiency, it is expected that there will be long term positive environmental and social impacts. A more efficient use of energy resources will generate a GHG emissions reduction. The Project may bring also additional indirect benefits as improved patient, visitors, worker well-being from better air conditioning and lighting.

Information Gaps and Strategy for Analysis and Management

The project has been classified as Category B, as it is anticipated that it is likely to cause mostly local negative environmental and social impacts for which effective mitigation measures should be implemented. Consequently, following B.3 and B.5 Directives of Operation Policy 703 (OP-703), it is required that the Borrower undertakes appropriate Environmental and Social Analysis (ESA) and prepares an Environmental and Social Management Plan (ESMP), with the aim of identifying and managing ESHS impacts and risks of the operation (during both construction and operation), including meaningful consultation with stakeholders.

The ESA and ESMP will assess the impacts of the Program during all phases, with special focus to construction, as temporary minimal to moderate potential impacts to local communities are expected, especially in relation to traffic disruption, dust and minimal to moderate air emission and affectation of air quality, temporary noise impacts, occupational and community health and safety impacts.

The ESA and ESMP will include specific provisions for solid and hazardous wastes that will be generated by the Project during all phases. These will include details on how to handle, dispose and treat all contaminated components to reduce occupational and community health and safety risks. e Provisions and instructions for treatment and disposal facility selection (most likely hazardous wastes to be shipped abroad as treatment facilities are not available on the island) and auditing of the facility will also be included. A specific Solid and Hazardous Waste Management Plan (SHWMP) will be developed.

The ESA and ESMP will also assess natural disaster risks, defining procedures and mitigation measures to prevent, and be applied during, any relevant event.

The Borrower will develop an Emergency Preparedness Plan (EPP) for the hospitals, for all phases, to ensure all measures are in place in case of any event (i.e. medical emergency, evacuation, etc.).

The Borrower will develop yearly Resource Efficiency Report, to assess and monitor energy consumption and resource efficiency at all locations, and reporting GHG emissions.

The Borrower will carry out inclusive, meaningful, gender-sensitive and sociocultural appropriate consultations with all affected groups (i.e. communities living nearby the hospitals). Following B.6 Directive, the main goal of the consultations will be to inform, gather comments, and adjust the ESA and the corresponding ESMP. A comprehensive Stakeholders Engagement Plan (SEP) that includes a Grievance Mechanism (GM) will be prepared, and will be continuously assessed and improved at the different stages of the operation, aiming at ensuring that proper information sharing, stakeholders involvement and GM have been put into practice.

A fit-for-disclosure ESA, ESMP, SEP, and SHWMP must be ready for review and public disclosure prior to the analysis mission through the Borrower and IDB's webpage following the Access to Information Policy OP-102. No ESHS documentation has yet been submitted for review.

The Bank will assess if the Borrower has enough organizational capacity to properly assess and manage all ESHS aspects of the Project, especially in relation to meaningful consultation activities with possible affected stakeholders (i.e. hiring a dedicated social specialist to support the Borrower).

Since the Project is a repeat loan based on JA-L1056, during the analysis the IDB will assess whether significant ESHS liabilities related to the first loan are still pending resolution, as per OP-703 B.14.

Opportunities for IDB Additionality (if any)

Through this Program, IDB will help the Borrower reducing its GHG emissions. The Borrower will develop yearly Resource Efficiency Report, to assess and monitor energy consumption and resource efficiency at all locations, and reporting GHG emissions. Furthermore, building upgrades may have also additional indirect benefits, including improved patient, visitors, and workers' well-being from better air conditioning and lighting.

Annex Table: Operation Compliance with IDB Safeguard Policies

Operation Compliance table attached at the end of the document.

Additional Annexes (if any)

NA

Table: Operation Compliance with IDB Safeguard Policies

Policies / Directives	Relevant Aspect of Policy / Directive	Is This Policy / Directive Applicable?	Rationale for Applying Policy / Directive Rationale	Actions required during Preparation & Analysis
OP-703 Environment and Safeguards Compliance Policy				
B.2 Country Laws and Regulations	Project Design	Yes	The project will comply with Jamaica ESHS laws and regulations.	The Borrower will comply with Jamaica ESHS regulations (i.e. file for NEPA permits).
B.3 Screening and Classification	Screening and Classification	Yes	The project was screened and classified as Cat. B.	No Actions Required.
B.4 Other Risk Factors	Institutional Capacity	More information required	PCJ might not have the capacity to ensure the proper management of all ESHS aspects of the project.	During due diligence, the Bank will assess PCJ capacity to manage ESHS aspects of the project.
	GHG – Energy and Resource Efficiency	Yes	The project promotes energy and resource efficiency, and GHG reduction.	The Borrower will develop yearly Resource Efficiency Report, to monitor energy/resource efficiency and reporting GHG emissions.
B.5 Environmental Assessment and Plans Requirements	ESA and ESMP	Yes	ESA and ESMP are required.	The Borrower will develop the ESA and ESMP for all phases in line with IDB requirements.
B.5 Social Assessment and Plans Requirements	ESA and ESMP	Yes	The presence of nearby community triggers the need of a Social Assessment, a SEP, and a GM.	The Borrower will include in the ESA a Social Assessment, and in the ESMP a SEP and GM.
B.6 Consultation	Meaningful consultations with key stakeholders and affected population	Yes	Since this projects have been categorized as Category B, gender-sensitive and socio-culturally appropriate consultation activities with all the affected parties are necessary during project preparation. A SEP will need to be included as part of the ESMP.	The Borrower will report on public consultation activities per IDB requirements. IDB will support the Borrower to guarantee that meaningful consultations are carried out during the preparation of the project. IDB will supervise the SEP implementation during the execution phase.

B.7 Supervision and Compliance	Monitoring from IDB	Yes	Continuous monitoring is necessary to ensure compliance with ESA, ESMP, Loan Agreement, and IDB Requirements.	ESHS requirements will be included in the loan agreement. Ensure that budget for monitoring activities is allocated. in the project total costs The IDB will supervise the indicators included in the Environmental and Social Monitoring Plan (part of ESMP)
B.8 Transboundary Impacts	-	No	Impacts are local.	No actions required
B.9 Natural Habitats	Natural Habitats	No	The Operations are carried out in urbanized areas, within already existing structures.	No actions required
B.9 Invasive Species	Invasive Species	No	The Operation will not introduce invasive species.	No actions required
B.9 Cultural Sites	Cultural Sites	No	The Operations are carried out in urbanized areas, within already existing structures.	No actions required
B.10 Hazardous Materials	Use of hazardous materials	Yes	Construction works and operations will include the use, generation, and disposal of hazardous materials and waste.	The Borrower will include in the ESMP a specific Solid and Hazardous Waste Management Plan (SHWMP). Provisions and instructions for treatment and disposal facility selection (most likely hazardous wastes to be shipped abroad) and auditing of the facility will also be included.
B.11 Pollution Prevention and Abatement	Pollution prevention	Yes	Construction work and operation will cause possible pollution (air, noise, water, and soil).	The Borrower will include in the ESMP specific mitigation measures to ensure pollution prevention and monitoring during all phases.
B.12 Projects Under Construction	-	No	Project still in the design phase.	No Action Required

B.13 Noninvestment Lending and Flexible Lending Instruments	-	No	Not Applicable	No Action Required
B.14 Multiple Phase and Repeat Loans	Repeat Loan	Yes	The Project is a repeat loan based on JA-L1056	During the analysis, the IDB will assess whether significant ESHS liabilities related to the first loan are still pending resolution.
B.15 Co-financing Operations	-	No	Not Applicable	No Action Required
B.16 In-Country Systems	-	No	Bank Policies will be applied	No Action Required
B.17 Procurement	Incorporate sustainable procurement into loan agreement, operating manual and bidding documents	Yes	ESHS requirements should be included into the contracts of all contractors.	Contractors contract will include reference to IDB ESHS requirements.
OP-704 Natural Disaster Risk Management Policy				
Disaster Risk Assessment	Exposure to natural disaster risks	Yes	Due to the location, natural disaster risks could be moderate, generating possible affection to structures, facilities users, and local community.	In the ESA, the Borrower will assess natural disaster risks and impacts that could affect the operation.
Disaster Risk Management Plan	Exposure to natural disaster risks	Yes	Possible exposure to natural disaster risks.	Within the ESMP, the Borrower will include specific procedures and mitigation measures to prevent, and be applied during, any event. The Borrower will develop an EPP for both phases.
OP-710 Operational Policy on Involuntary Resettlement				
Resettlement Minimization	Resettlement	No	The project will not involve any type of resettlement.	No Action Required
Resettlement Plan Consultations	Resettlement	No	The project will not involve any type of resettlement.	No Action Required
Impoverishment Risk Analysis	Resettlement	No	The project will not involve any type of resettlement.	No Action Required

Resettlement Plan or Resettlement Framework (Prior to Analysis Mission/Board Approval)	Resettlement	No	The project will not involve any type of resettlement.	No Action Required
Livelihood Restoration Program (LRP)	Resettlement	No	The project will not involve any type of resettlement.	No Action Required
Consent (Indigenous Peoples (IP) and other Rural Ethnic Minorities)	IP Resettlement	No	The project will not affect the territories of indigenous people or rural ethnic minorities and therefore, no consent is required.	No Action Required
OP-765 Operational Policy on Indigenous Peoples				
Sociocultural Evaluation	Indigenous People	No	No Indigenous People are affected by the project.	No Action Required
Good-faith Negotiations	Indigenous People	No	No Indigenous People are affected by the project.	No Action Required
Agreement with Affected Indigenous Peoples	Indigenous People	No	No Indigenous People are affected by the project.	No Action Required
Indigenous Peoples Protection, Compensation, and Development Plan or Framework prior to Board Approval	Indigenous People	No	No Indigenous People are affected by the project.	No Action Required
Discrimination Issues Assessed and Addressed	Indigenous People	No	No Indigenous People are affected by the project.	No Action Required
Transborder Impacts Addressed	Indigenous People	No	No Indigenous People are affected by the project.	No Action Required
Impacts on Isolated Indigenous Peoples Addressed	Indigenous People	No	No Indigenous People are affected by the project.	No Action Required
OP-761 Operational Policy on Gender Equality in Development				
Gender-based Exclusion Addressed	Gender-based Exclusion	No	No gender-based exclusion is expected.	No Action Required
Equal Access to Project Benefits/ Compensation Measures	Equal Access	No	The project will not introduce unequal requirements for access to project benefits.	No Action Required
Uneven Impact Burden Addressed	Gender-based adverse impacts	No	No gender-based adverse impacts are expected.	No Action Required

Disaggregation of Impact Data by Gender	Disaggregate project impacts and beneficiaries by gender	Yes	The project indicators will be disaggregated by gender	The social baseline of the ESA will include impact data disaggregated by gender.
Consultation of Affected Women	Consultation	Yes	The project will seek the equitable participation of women and men in its consultation process. If applicable, specific measures will be implemented.	The Borrower will seek equitable participation of women and men. The IDB will monitor the inclusion of women at all consultation activities.
OP-102 Access to Information Policy				
Disclosure of relevant Environmental and Social Assessments ¹ Prior to Analysis Mission, QRR and submission of the operation for Board consideration ²	Disclosure of information	Yes	A fit-for-disclosure ESA, ESMP, SEP, SHWMP, must be ready for review and public disclosure prior to the analysis mission through the Borrower and IDB's webpage. IDB will disclose the final versions of the documents prior to the QRR.	The Borrower will prepare the relevant assessments. The Bank will ensure they are disclosed prior to the analysis mission through the Borrower and IDB's webpage. In addition, IDB will disclose the final versions of the documents prior to the QRR.
Provisions for Disclosure of Environmental and Social Documents during Project Implementation	Disclosure of information	Yes	In case during the project execution phase new relevant ESHS documents are delivered, these will be made available to the public.	The Borrower will publish all new relevant ESHS documents that will be developed during the Project's implementation. It will be also included as condition in the Loan Contract.

¹ Environmental and Social Assessments include ESIA's, ESMPs, RPs, RFs, and ESMFs.

² Please refer to the Protocols for ESHS Documentation and Information Disclosure for more details on the disclosure timing of the different Environmental and Social Assessments.

INDEX FOR PROPOSED SECTOR WORK

Area	Study/Technical Support	Description of works	Dates	References and electronic links
Knowledge	"Capacity Building for MSET's Energy Planning and Integrated Resource (Electricity) Plan for Jamaica"	This report describes the existing expertise and technology gaps within MSET to develop and implement energy planning as it relates to an Integrated Resource Plan (IRP) for the electricity sector. It recommends training and software required to fill the capacity gaps.	2016	Capacity Building for MSET's Energy Planning and Integrated Resource (Electricity) Plan
Knowledge	Energy Efficiency Measures in Government Buildings in Jamaica	This study will provide an analysis of the energy efficiency (EE) initiatives undertaken in Jamaica and previous work conducted within the context of IDB programs and government audits.	2016	Energy Efficiency Measures in Government Buildings in Jamaica
Banks Operations	Energy efficiency and conservation program (JA-T1120)	The general objective of this Operational Support (OS) Technical cooperation (TC) is to support the implementation of the Energy Management and Efficiency Program (EMEP) by strengthening the expertise and capacity of the Project Execution Unit (PEU) within PCJ to successfully implement the Program. It will also support the creation the Program's Operational Manual.	Approved in 2016	Energy efficiency and conservation program (JA-T1120)
Missions	Evaluation & Analysis	Estimated dates, August 2017.	2017	
Missions	Negotiation	Estimated dates, October 2017.	2017	

CONFIDENTIAL

¹ The information contained in this Annex is confidential and will not be disclosed. This is in accordance with the "Deliberative Information" exception referred to in paragraph 4.1 (g) of the Access to Information Policy (GN-1831-28) at the Inter-American Development Bank.