

**Jamaica**

**Energy Management and Efficiency Programme**

**(JA-L1056 / JA-G1003)**

**OPERATIONAL MANUAL OF THE PROGRAMME**

**Final**

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Acronyms

AC Air Conditioning

AOP Annual Operations Plan

AFS Audited Financial Statements

BOE Barrels of Oil Equivalent

BSJ Bureau of Standards, Jamaica

CBA Cost Benefit Analysis

CO2 Carbon Dioxide

CORE Cofinancing for Renewable Energy and Energy Efficiency

CFSP Common Foreign and Security Policy of the European Union

EA Executing Agency

EC Energy Conservation

EC/EU European Commission

EE Energy Efficiency

EMEP Energy Management and Efficiency Programme

EMEPCC Energy Management and Efficiency Programme Coordinating Committee

EECTA Energy Efficiency and Conservation Technical Assistance

EU European Union

(EU-CIF) European Union Caribbean Investment facility

GAAP Generally Accepted Accounting Practices

GHG Greenhouse Gas Emissions

GL General Ledger

GOJ Government of Jamaica

IDB Inter-American Development Bank

IGA Investment Grade Audit

JICA Japan International Cooperation Agency

J$ Jamaican Dollar

kWh Kilo-watt hour

LED Light-Emitting Diode

MSET Ministry of Science Energy and Technology

MOF Ministry of Finance and Public Service

M&E Measurement and Evaluation

M&V Measurement and Verification

NCC National Contracts Commission

OMP Operational Manual of the Programme

PAGODA Pillar Assessed Grant or Delegation Agreement

PCJ Petroleum Corporation of Jamaica

PEP Pluriannual Execution Plan

PEU Project Executing Unit

PIOJ Planning Institute of Jamaica

PP Procurement Plan

POD Proposal for Operation Development

PRAG Procedures and practical guide

PS Permanent Secretary

PSG Programme Specific Grant

PTL Project Team Lead

PV Photo voltaic

RE Renewable Energy

RFP Request for Proposals

SBD Standard Bidding Documents

SRPP Standard Request for Proposals

US$ Dollar of the United States of America

€ Euro

1. Overview
2. The Operating Manual of the Programme (OMP)
	1. Objective and scope.

The present OMP constitutes the basic management tool for the execution of the “ENERGY MANAGEMENT AND EFFICIENCY PROGRAMME” (JA-L1056/JA-G1003). The OMP establishes the general policies and terms and conditions applicable to the activities of the Programme as contained in the loan contract and non-reimbursable agreement.

 The OMP integrates the operation's objectives and scope, a description of the activities that produce the expected outputs, investment eligibility criteria, organizational structure, roles, responsibilities, strategies and policies, technical, administrative and financial standards and procedures, and the appropriate support, such as regulations, working guidelines, conventions, codes and forms. Therefore, the OMP is the management tool which ensures the proper implementation of the activities contemplated in the loan and PSG Agreements between the borrower, JICA, EU and the IDB in the main documents that support the operations.[[1]](#footnote-1)

 Users of the OMP: The main users of the OMP will be the EA and PEU, however it will be referenced by the GoJ, IDB, JICA and EU.

 The OMP will be in effect throughout the duration of the execution of the IDB/JICA and EU-CIF funded Project. Should modifications to the OMP be deemed necessary during the execution period, the EA will proceed in accordance with the Special Conditions of the Loan Contract. Changes to the content of the OMP will be submitted for consideration of the IDB, and will be undertaken through “addenda” to the specific articles of the OMP, while maintaining the rest of the articles unaltered. Such changes will form an integral part of the OMP on the date of the approval of the project by the Bank. It is the responsibility of the EA through the PEU to maintain an updated version of the OMP at all times. In those cases, where modifications affect the EU-IDB Delegation Agreement, the Bank shall take the appropriate steps to inform and/or obtain the EU’s approval. Similarly, in those cases where modifications affect the JICA Agreement, steps will be taken to inform and/or obtain JICA’s approval.

* 1. Structure

This OMP has 7 sections:

* + 1. *Section I: Introduction*.
		2. *Section II: Regulatory framework*.
		3. *Section III:* EU requirements
		4. *Section IV: Project Structure.* This section includes:
			1. Organizational structure: a summary of the institutional and organizational framework to implement the operation, and the execution team, describing roles, responsibilities and coordination mechanisms;
			2. Technical execution structure: describing the tasks and processes that must be implemented to achieve the expected outputs for each component;
			3. Operational delivery structure: describing the summary of the procedures to manage resources, in particular the procurement of works, goods and services, the hiring of consultants, and the administrative and financial procedures to manage and control the financing;
			4. Monitoring and evaluation structure: describing a summary of the monitoring and evaluation schema and the main tasks to implement and update the Monitoring and Evaluation Plan, to prepare the project completion activities to develop information systems that generate monitoring and evaluation data.
		5. *Section V: Environmental and Social Safeguards:* This section includes a summary of the tasks to implement and monitor the environmental and social safeguards management plan.
		6. *Section VI: Risks Management.* this section includes the initial Risk Mitigation Matrix, and the mechanisms for monitoring and updating it during execution
		7. Section VII: Appendices
1. Introduction:
2. The Project

Objective

* 1. The general objective of this program is to promote energy efficiency in government facilities and fuel conservation in road transportation to contribute in reducing the debt of the Government of Jamaica by avoiding fuel imports. The specific objectives and expected results of this program are: (i) reduced electricity consumption within health, education and public agency government facilities, which translates in lower Carbon Dioxide (CO2) emissions; (ii) reduced travel times and avoided fuel consumption through improved traffic control management, which translates in lower CO2 emissions; and (iii) increased capacity within the Ministry of Science, Energy and Technology (MSET) to enable it to update its Integrated Resource Plan for Jamaica.
	2. Components
	3. **Component 1. Retrofitting HEPA Government Facilities (US$ $30.87M**)- will finance EE and conservation measures in 80 Health, Education and Public Agencies (HEPA) government facilities, with deep, comprehensive retrofits in 30 government facilities and LED lighting retrofits in 50 facilities. Activities in this component include: (i) IGAs for 24 facilities; (ii) the purchase, installation, operation and maintenance of EE technologies and measures in government facilities, including related waste disposal activities; (iii) training workshops and manuals for facilities personnel; and (iv) a communications and raising awareness campaign focused on disseminating the results of the program and sensitizing the public and private sector to EE standards, particularly those highlighted within the Building Code.
	4. **Component 2. Implementation of an UTMS (US$3.50M)** - will finance the purchase and installation of equipment to complete the UTMS in Kingston and consists of: (i) a central control ITS integration platform for traffic monitoring, operation, planning and modelling; (ii) upgraded traffic controllers, closed-circuit television cameras, detectors, and communication switches at intersections to provide real-time traffic counts and patterns; and (iii) training and coaching of NWA staff for planning, operation and maintenance of the UTMS.
	5. **Component 3. Support to electricity planning ($2.03M)-** provides MSET with additional expertise and systems capacity. In particular: (i) training and coaching to support the implementation of the IRP; (ii) contracting of technical experts knowledgeable in EE and demand side management, electricity sales and rates, and transmission and distribution to supplement MSET expertise and provide on-the-job training; (iii) technical studies to support the implementation of the IRP; (iv) a diagnostic study to understand the most appropriate software/IT platform required for implementing and updating the IRP; and (v) the purchase and installation of appropriate software/IT for IRP implementation. (vi) Technical studies that feed into the IRP
	6. **Project management (US$3.38M)-**will support the PEU through the contracting of consultant expertise for program, financial and procurement management. This component will also support the contracting of additional experts such as those covering: environmental impact management, electricity safety and compliance, quantity surveying, and monitoring and evaluation.
	7. Costs
	8. The cost of the program is estimated at US$40,000,000. The IDB approved on December 14, 2016 the EMEP loan (3877/OC-JA), which comprises US$15 million resources from the IDB ordinary capital and US$15 million to be provided as parallel co-financing by JICA through the Co-financing of Renewable Energy and Energy Efficiency (CORE) mechanism. In March 2017, the GOJ confirmed to the IDB its interest to extend and complement the retrofit activities in the EMEP loan by obtaining non-reimbursable co-financing resources from the European Union Caribbean Investment Facility (EU-CIF), of a further US$ 10 million.
	9. The Programme comprises two operations (JA-L1056 and JA-G1003) and three sources of funds: an IDB loan for US$15 million, a JICA loan for US$15 million (as Joint Cofinancing, see definition below) and, an EU-CIF grant for US$ 10 million (as a Cofinancing Administered by the IDB, see definition below), totaling US$40 million.
	10. Joint Cofinancing: according to the JICA Framework Agreement, means a Cofinancing extended to an Eligible Borrower whereby the IDB and JICA, through its respective and separate loan agreements with the same borrower, finance jointly a common list of goods, works and services (consulting services and non-consulting services) required for an Eligible Project of Cofinancing or its component(s) in agreed proportion. In this form of cofinancing, the project is supervised by the IDB but the financing from the JICA loan is not channeled through the IDB. Payments to the Borrower are made directly by JICA.
	11. Cofinancing Administered by the IDB: means the form of cofinancing contemplated under the EU Framework Agreement by which the IDB receives the funds from the EU by means of a Contribution Agreement and then transfers such funds to the beneficiary government by means of a Supplementary Agreement. The IDB administers, supervises and monitors the use of the EU funds. In this modality, IDB makes the payments to the beneficiary.

The EU-CIF grant (JA-G1003) will complement the EMEP Loan (JA-L1056) by financing the deeper retrofits in 7 additional hospitals, communications and awareness programmes and complementary Technical Studies to support electricity and energy planning.

Table 1: Programme Cost by Source and Component

| **Components** | **IDB** | **JICA****(parallel financing)[[2]](#footnote-2)** | **EU-CIF** | **Total** |
| --- | --- | --- | --- | --- |
| **US$** | **US$** | **US$** | **US$** |
| 1 | Component 1: Retrofitting HEPA Government Facilities | 10,668,125 | 10,668,125 | 9,531,897.49 | 30,868,147.49 |
| 2 | Component 2: Implementation of an Urban Traffic Management System | 1,750,000 | 1,750,000 |  | 3,500,000 |
| 3 | Component 3 – Support to Electricity Planning | 890,000 | 890,000 | 250,000 | 2,030,000 |
| 4 | Project Management and Other Costs | 1,426,875 | 1,426,875 |  | 3,383,750 |
| 4.1 |  *Financial Audits* | 90,000 | 90,000 |  |  |
| 4.2 |  *Mind-term & Final Evaluation* | 50,000 | 50,000 |  |  |
| 4.3 |  *M&E and Audit* | 125,000 | 125,000 |  |  |
| 4.4 |  *Project Management* | 1,527,500 | 1,527,500 |  |  |
| **TOTAL** | **15,000,000** | **15,000,000** | **9,781,897.49** | **40,000,000[[3]](#footnote-3)** |

* 1. For more details, see Appendix H. Pluriannual Execution Plan Budget.

Expected results

* 1. The expected outcomes at the end of the Programme are[[4]](#footnote-4):
		1. An annual reduction of electricity consumption in 80 HEPA government facilities of 23.6 GWh which translates to 34,675 tons of CO2 equivalent emissions avoided a year;
		2. Approximately 104 million litres of transport fuel avoided annually, which translates to 203,160 tons of CO2 equivalent emissions a year avoided as a result of 55 million hours of travel time reduced per year;
		3. The strengthening of expertise and capacity within MSET to enable it to update and revise its IRP at least once over the duration of the program.
	2. The expected outputs of the Programme are[[5]](#footnote-5):
		1. EE equipment installed and operating as part of a deep retrofit approach in 30 HEPA government facilities, including IGA’s and waste disposal activities;
		2. EE lighting technology replaced, installed, and operating in 50 HEPA government facilities;
		3. 9 communication activities completed to raise awareness on EE management and maintenance in HEPA government facilities, including 5 workshops developed and 2 multimedia campaigns;
		4. Equipment to upgrade the central control system and to modernize and coordinate the traffic signals for the UTMS in Kingston is purchased, installed and operating;
		5. 4 capacity building packages (a combination of workshop, online training and communication awareness campaign) on the ITS are delivered;
		6. 2 technical studies to support IRP revision or update are completed;
		7. 4 technical Studies to support electricity and energy planning are completed;
		8. 3 training modules to support technical capacity in MSET are delivered and
		9. At least 3 technical experts are contracted to reinforce capacity and develop training plans within MSET to enable staff to revise or update the IRP.
	3. For more detail see Appendix B, Results Matrix[[6]](#footnote-6).
1. Regulatory Framework
2. Operation Documentation

Source of Funds:

As explained above, the Energy Management and Efficiency Program comprises three sources of funds: an IDB loan for US$15 million, a JICA loan for US$15 million (as Joint Cofinancing, see definition above) and, an EU-CIF grant for an estimated US$ 10 million (as a Cofinancing Administered by the IDB, see definition above), totaling US$40 million. Bank Policies and standards:

* 1. **Procurement:** The procurement of works, goods, services and consultancy services for activities and contracts shall be done in accordance with the Bank Policy for the procurement of Goods and Works (GN-2349-9), Bank Policy for the selection and contracting consultants (GN-2350-9), and the Bank Policy for use of country systems, as may be amended from time to time. During the execution of the Programme, the following two exceptions to Bank procurement policies approved under GN-2610-2 (4.14 and 4.14) will apply: (i) All procurement processes under the overall Programme will be open to suppliers, consultants, contractors and service providers from IDB member countries and, also, from countries recognized by the European Union as eligible. This exception is required to apply to Bank’s own resources when used together with EU funds. The EC publishes the list of eligible countries (or any updates thereto) as an annex to the “Practical Guide to Contract. Procedures for EU External Actions” (the “PRAG”)[[7]](#footnote-7) which is available on its Internet website. The Bank will act based on the latest version of the PRAG published by the EC on that website; and (ii) In accordance with the Bank’s procurement policies (¶4 of the Appendix 1 of the documents GN-2349-9 and GN-2350-9, respectively), the Bank requires that the borrower or beneficiary retain relevant documentation during project implementation and to three years after the date of the final disbursement. The EA will have to extend the retention period from three to five years after the final disbursement, or longer if the Bank is aware of any claim initiated before the expiration of this term.
	2. **External control and reporting.**

Financial Audits. For each fiscal year during project execution, the PCJ will be responsible to submit AFS for the Programme. The external audit of the Programme will be done by independent public accountants that are acceptable to the bank and will follow the Bank’s Financial Management Guidelines (OP-273-6) and Financial Reports and External Audits Handbook for Bank financed operations. Standard financial reporting requirements of the Bank will apply. These financial audits will have to be delivered by the PCJ to the Bank and JICA: (a) Annually: within 90 calendar days after the Jamaica’s fiscal closing date; (b) Final Audit: within 90 calendar days after to the final disbursement date as defined in the Non-Reimbursable financial agreement. The costs for the audits will be financed with resources from the EMEP loan operation. These audited financial statements are a key input for the signing of the Management Declaration. In the case of the EU resources, the audited financial statements and the Management Declaration will have to be submitted together by the Bank to the EC and within the above-mentioned timeframe. Project teams are responsible for producing and delivering to the EC, progress reports covering a period defined in the Delegation Agreement signed between the EU and IDB.

Narrative Reports will include a narrative and a financial part. The narrative part shall include information on the:

1. Actual results (with an updated table on the project results matrix)
2. Activities carried out
3. Implementation of the visibility and communications plan carried out
4. Control/supervisions measures conducted by the Bank (PTL) with information on possible weaknesses, and corrective measures or changes introduced and
5. Work plan for the following period

 The financial part requires tracking and reporting of expenses at the activity level, based on the approved detailed budget structure. The reporting of expenses will be in $US, i.e., the project’s accounting currency. Legal commitments, receipts and costs incurred in currencies other than the project accounting currency shall be converted following the Bank’s application of exchange rate method defined in OP-273-6.

Summary of Reporting / Audit statement delivery dates

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Responsible | Recipient | Documents | Due Date | Periodicity |
| Narrative Reports  | EA | Project Team Leader | Annual Report / Final Report | 30 Calendar days before the end date of EA's country fiscal year | Annual |
| Final Report | EA | Project Team Leader | Final Report | 90 Calendar days after the end project’s end date.  | Final |
| Audited Financial Statements | EA | Project Team Leader | Audited Financial Statements | 90 Calendar days after the end date of EA's country fiscal year | Annual |
| Audited Financial Statement | EA | Project Team Leader | Final Audited Financial Statement | As established in PSG agreement | Final |

**Reporting**

* 1. As the Executing Agency of the Programme, the PCJ-through the PEU- will present to the IDB a series of periodic reports which will allow the Bank to establish, among others, the progress and attainment of targets and indicators with respect to physical and financial implementation of the Programme, the compliance with the norms and procedures established in the Loan Contract, and other aspects relevant to the successful execution and administration of the Loan’s resources.

**Initial Report**

The Executing Agency of the Programme, through the PEU, will present to the IDB an initial document which will contain:

1. The Pluriannual Execution Plan (PEP).
2. The Annual Operations Plan (AOP) for the first 12/18 months of Programme Implementation.
3. The Procurement Plan (PP) for the first 18 months of the Programme.
4. The detailed Financial Plan for the Programme by sources and uses of funds based on the programmatic structure and Chart of Accounts agreed with the Bank, by component and also based on the investment categories of the Programme.
	1. **Semiannual Progress Reports**

Within 60 days after the closing of each semester, the PEU will present to the Bank a report on the course of implementation of the Programme which will contain the assessment of the physical and financial progress, taking into consideration the indicators, products and target dates contained in the Results Framework and based on the PEP, AOP and PP. These semiannual reports will also contain: (a) a description of the problems and obstacles encountered during the period and the corrective measures and decisions adopted to resolve them; (b) the review of the environmental and social aspects related to the implementation of the Programme; and (c) lessons learned which have implications on future actions and efforts of the Programme.

* 1. **Annual Operations Plans**

The Annual Operating Plan (AOP) for the first year of the execution of the Project, will be submitted within 60 days after the entry into effect of the Contract. The AOP will be subject to revision at the start of the Barrower’s fiscal year. Such document will contain, as a minimum:

(a) The physical and financial implementation plan adjusted based on previous year’s progress, as well as the modifications foreseen in the execution and timeline for the operating and investment activities of the Programme.

(b) The activities to be undertaken during the year along with the corresponding costs and internal instances in the PEU and PCJ responsible for their implementation, and taking into consideration the outputs and targets of the Results Framework.

(c) The procurement activities expected for the year, contained in the Procurement Plan (PP), which will be annexed to the AOP and updated based on the accomplishment of previous year’s targets as well as the modifications to the AOP. The PP will contain the procurement activities by component, category, estimated cost, procurement method and date for execution.

(d) The personnel and instances responsible to undertake, in an efficient and effective manner, the activities contained in the AOP.

(e) The transfers required between investment categories with the previous non-objection of the Bank.

(f) The disbursement forecasts.

(g) Other activities and relevant information related to Programme implementation

The AOPs for each of the subsequent years will be submitted for the Bank’s non-objection before November 30 of each calendar year, and will cover the activities to be carried out in the following year.

* 1. **Mid Term and Final Evaluations**: As in section IV
	2. **Environmental and Social.** The Environment and Safeguards Compliance Policy (OP-703), the Disaster Risk Management Policy (OP-704) and the Disclosure of Information Policy (OP-102), the Involuntary Resettlement Policy (OP-710), the Operational Policy on Indigenous Peoples (OP-765) and the Gender and Equity in Development Policy (OP-270) and their respective guidelines will be followed and respected. Environmental and Social guidelines and policies of JICA and the EU will be respected, where applicable.

Operating Manual:

* 1. A final version of the Operating Manual will receive a no-objection from the IDB after its submission from the EA.

**Disbursements**

* 1. A final commitment for a calendar of disbursement will be agreed between the IDB and the PEU during the start-up plan meetings. The expected disbursement calendar for the IDB-JICA financed components will be as follows:

Table 2 JA-L1056 (subject to change)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Indicator | Unit | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Final Target  |
| Total Project  | US$M |  $ 4.20  |  $ 9.20  |  $ 9.40  |  $ 6.20  |  $ 0.50  |  $ 0.50  |  $ 30.00  |
| % of total | % | 14% | 30% | 31% | 21% | 2% | 2% | 100% |

* 1. Disbursement period.

It is expected that all EU-CIF resources will have a four-year disbursement period. Loan resources are to be fully disbursed within six years from the effective date of the loan agreement.

Table 3 shows total disbursements over the four-year period and shall be consistent with the payment schedule agreed upon in the EU-IDB Delegation Agreement.

Table 3 Ja-G1003 (subject to change)[[8]](#footnote-8)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Component** |  | **2018** | **2019** | **2020** | **2021** | **TOTAL** |
| COMP 1 - Retrofitting Public Buildings | EUR | - | €18,340 | €3,422,940 | €5,299,470 | €8,740,750 |
| COMP 2 – Support to Capacity Building for Energy Planning | EUR | €64,190 | - | €33,012 | €132,048 | €229,250 |
| **TOTAL** | **EUR** | **€64,190** | **€18,340** | **€3,455,952** | **€5,431,518** | **€9,170,000** |
| TOTAL % | % | 2.8%[[9]](#footnote-9) | 0.2% | 38% | 59% | 100% |

Given that the disbursement period for the EU grant is less than the IDB/JICA loan, in the case of final payment request (IDB-EU), the IDB will seek agreement with the EU to have a program annual report which will be used for the final disbursement request; and an annual financial audit report will be considered the EU final audit report[[10]](#footnote-10).

**Conditions prior to first disbursement of the IDB-JICA Loan and EU Grant:**

In order to facilitate the negotiation of the operation, outlined below are agreements and requirements which will be incorporated into the special conditions:

**Special conditions: precedentto first disbursement.** To include the following requirements:

* The establishment of the PEU and the contracting of the PEU Programme Manager, Finance Specialist and Procurement Specialist.
* The agreement between Ministry of Finance and Public Service and the EA for transferring of the loan resources and establishing project implementation activities, pursuant to the terms previously agreed with the Bank has entered into effect.
* The loan agreement to be executed between the Borrower and JICA has entered into effect.

**Special conditions:** **precedent to execution.** Prior to the execution, the EA shall provide evidence that:

* The Program Manager, Financial Specialist and Procurement Specialist have been selected pursuant to terms of reference satisfactory to the Bank.
* The Project Operating Manual (OM) has been approved with the terms previously agreed with the Bank, including fiduciary management, inter-institutional governance arrangements and the composition of the Energy Management and Efficiency Program Coordination Committee[[11]](#footnote-11).

**Disbursements of Resources**

* 1. Whenever resources from the financing are requested through an Advance of Funds, they will be deposited into a Special Consolidated Fund Account at the Central Bank denominated in US$. The PEU commits to maintain strict control over the utilization of the Advance so as to ensure the easy verification and reconciliation of balances between the Executing Agency’s records and IDB records. EU resources shall not be used for retroactive financing purposes, i.e. no expenditures prior signature date of the EU-IDB Delegation Agreement shall be considered eligible for financing by the EU-CIF contribution. JICA resources will also not be used for retroactive financing purposes. The PEU will ensure that EU resources can be properly traced and are readily identifiable to auditors.
	2. The project will provide adequate justification of the existing Advance of Funds balance, whenever 80% of said balance has been spent (and 100% of previous installments). Advances will normally cover a period not exceeding 180 days and no less than 90 days.

The following disbursement methodologies will be used for the programme:

* + 1. Reimbursement of Payments Made (will be minimally used).
		2. Direct Payment to Supplier subject to approval
		3. Advance of Funds (to provide for the liquidity needs and facilitate the day to day operation).
	1. In accordance with CORE agreement[[12]](#footnote-12) between JICA-IDB, and the EU-IDB Delegation Agreement, the IDB will act as Project Administrator and shall process all requests for disbursements.

Applicable Disbursement Method[[13]](#footnote-13)

Out of four (4) disbursement methods available at the IDB, (i) Reimbursement to Borrower or Executing Agency, (ii) Advances (iii) Direct Payments and (iv) Letter of Credit method, only Reimbursement to Borrower or Executing Agency, Advances and Direct Payments shall be applicable under the Eligible Project of Cofinancing.

(JICA Non-Eligible Expenses)

The following expenses are not eligible under the JICA Loan Agreement:

taxes and duties, general administration[[14]](#footnote-14) expenses of the EA, purchase of land and other real property, compensation, and other indirect items;

any payments made under contract/lot/package specified in Section 3.1.2. of the Agreement; and

consulting services shall not be eligible under JICA’s Advances method in case the interest rate applied for consulting services category is different from the one applied for other categories under JICA Loan Agreement (to be determined by JICA).

In the event that certain expenses are deemed ineligible only by JICA and not the IDB, the Parties will determine after the date of last disbursement what expenses would be attributable to the disbursements of each Party based on the auditor’s final report. See details in Section V 2.-CORE

Flow of Procedures

(Request for Disbursement from EA) (corresponds to ① of Annex 3 “Diagram (Flow)”)-CORE

The IDB shall require the EA to send Disbursement Documents to the IDB in two (2) separate sets including all necessary supporting documents attached to each Disbursement Request (one set addressed to JICA and the other to the IDB), and both sets to be signed and authorized by an authorized signatory of the relevant EA.

* 1. Activities financed prior to the Implementation Period of the Agreement cannot be covered with resources from the EU. The implementation period begins the day after the last Party’s signature of the Non-Reimbursable Financing Agreement
	2. **Bank accounts**. Following the execution structure EMEP the bank accounts are as follows:
1. JICA Portion: a non-resident Yen account opened at The Bank of Tokyo-Mitsubishi UFJ, Ltd
2. Three Sub Accounts, opened and managed by the IDB
3. Three GoJ Bank Accounts, opened and managed by the MOFPS
4. One EA Bank Account J$ opened and managed by the PCJ, as approved by the MOFPS during the first year of operation as per Central Treasury Management System requirements.

**IDB Statement on Central Treasury Management System (CTMS)**

The Bank commits to explore the possibility of using the CTMS of the country, as the default bank account of the Programme, providing it is satisfied with the internal control mechanism in place over this account, over the receipt, expenditure, separate accounting and reporting, and overall sound financial management as required by the financing parties.

* + 1. Payment of Advances:

for the IDB / EU Portion: The Bank (PTL) may use the instalments received from the EC/EU as it deems appropriate for the proper management and implementation of the project, i.e. the installments defined in the article 4 of Special Conditions of the Delegation Agreement can be used to finance one or more tranches (Advanced of Funds) between the Bank and the EA.

* + - 1. for the JICA Portion: an account in the IDB’s Approved Currency (normally in USD) to be opened exclusively[[15]](#footnote-15) for JICA’s Advances method.
		1. Reimbursement method,
			1. for the IDB Portion: a project account opened at the central bank or commercial bank. Such account will be shared with the IDB’s Advances account (and JICA’s Advances account as the case may be); and
			2. for the JICA Portion: a non-resident Yen account opened at The Bank of Tokyo-Mitsubishi UFJ, Ltd.
		2. Direct Payments method,
			1. for the IDB / EU Portion, a, beneficiary’s account specified in the Disbursement Request; and
			2. for the JICA Portion, a non-resident account opened at the Bank of Tokyo-Mitsubishi UFJ, Ltd, which consequently be transferred to the beneficiary’s account.
	1. Generally, supporting documentation for Justifications of Advances and Reimbursement of Payments made will be kept at the office of the PEU. Supporting documentation for direct payments will be sent to the Bank for processing. The modality for disbursement will be ex- ante. There are supporting documents to be presented to JICA through IDB in accordance with Disbursement Handbook of CORE.
	2. **PEU Accounting and Payment Procedures**

**1. Principles**

* 1. As part of project execution, the PEU will adopt the “Energy Management and Efficiency Programme - Accounting Policies and Procedures Manual” developed by the PEU and authorized by the Executing Agency, following national accounting, financial management and internal control norms and guidelines, as well as IDB financial administration, control and fiduciary requirements.

The main principles and controls contained in the Manual include, among others:

The utilization of Cash Accounting as the method to record and maintain all the transactions of the Programme.

The application of the specifically designed “Chart of Accounts” based on the programmatic structure of the Programme.

The recognition of receipts/income of the Programme based on the following transactions: (i) advances of funds from the IDB; (ii) direct payments made by the IDB to contractors, vendors and consultants on behalf of the Programme; and (iii) interest payments made by the GOJ and accounted by the Bank. Receipts are recognized upon confirmation from the Bank.

The request for Advances of Funds following the Programme’s PEP, AOP and PP, based on the cash flow projections and liquidity needs of the Programme and supported by signed commitments, planned activities and corresponding cash flow projections, and eligible expenses for the period. This in addition to the preparation and submission to the Bank of: (i) “Disbursement Request Form”; and (ii) the “Financial Plan – Model to Request Advances”

The recognition of expenses upon the receipt of appropriately documented invoice from the contractor, consultant or supplier.

Expenditures made exclusively on the direct benefit to the Programme, and corresponding payments approved strictly based on approved and budgeted expenditures. All transactions will be completely and accurately recorded accordingly.

Applicable procedures for the execution of payments from the US$ account and J$ account taking into consideration strict control measures and segregation of duties from the commitment, approval and payment for each budgeted transaction.

**2. Payment Responsibilities**

**With respect to the J$-denominated account**:

The Finance Specialist will enter the Purchase Orders in the financial software System for process control.

The Administrative Officer will document the receipt of the invoices from contractors, vendors or consultants.

All invoices must be approved by the Programme Manager or the Group General Manager or designate of PCJ.

Invoices must be appropriately recorded by the Administrative Officer in the Software System.

Preparation of Payment Vouchers will be the responsibility of the Finance Specialist utilizing the Financial Software System, and approved by the Programme Manager and designated signatories of PCJ.

The Finance Specialist will be responsible for the preparation of the cheques/wire transfer based on the information contained in the Payment Vouchers.

The Finance Specialist will submit the cheques/wire transfer for approval by the designated signatories of the PEU and PCJ.

The Finance Specialist or the Programme Manager will disburse the check to the contractor or vendor upon the verification of the necessary identification.

The Finance Specialist will update the Cash Disbursement Analysis.

Administrative Officer will update the Financial Software System with the relevant payment documentation.

The Finance Specialist will perform the pertinent accounting entries to the General Ledger.

The Finance Specialist or the Administrative Officer will file the payment documents to the corresponding IDB Loan File and Vendor/Consultant File.

The Finance Specialist will be responsible for the monthly expenditure report and bank reconciliation based on the physical bank statements received by the MOFP from the commercial bank and provided by such Ministry to PCJ/PEU.

**With Respect to $US-denominated account**

Upon approval of the Group General Manager or his designate, a cover letter and wire transfer instructions are sent to the MOFPS by the Financial Specialist based on the information contained in the Payment Vouchers.

All invoices must be approved by the Programme Manager or the Group General Manager or designate of PCJ.

Invoices must be appropriately recorded by the Administrative Officer in the Software System.

Preparation of Payment Vouchers will be the responsibility of the Finance Specialist utilizing the Financial Software System, and approved by the Programme Manager and designated signatories of PCJ.

The Finance Specialist will update the Cash Disbursement Analysis.

Administrative Officer will update the Financial Software System with the relevant payment documentation.

The Finance Specialist will perform the pertinent accounting entries to the General Ledger.

The Finance Specialist or the Administrative Officer will file the payment documents to the corresponding IDB Loan File and Vendor/Consultant File.

* 1. The Finance Specialist will be responsible for the monthly expenditure report and bank reconciliation based on the physical bank statements received by the MOFP from the commercial bank and provided by such Ministry to PCJ/PEU
	2. **Direct Payments**

The Finance Specialist will be responsible for the preparation of the documentation for the request of direct payments to suppliers and contractors by the IDB including: (a) the disbursement request form; (b) the statement of expenses or payments; (c) approved copy of suppliers’ invoice; (d) copy of contract; and (e) progress reports of contractors and consultants. The disbursement request form will be signed by the Programme Manager and the Group General Manager or designate of PCJ. This documentation will be delivered to the IDB Country Office in Jamaica.

The Finance Specialist will be responsible for the recognition of receipts/income of the Programme based on the following transactions: (i) advances of funds from the IDB; (ii) direct payments made by the IDB to contractors.

Execution.

* 1. **General Contractual Clauses prior to the execution of the programme:** In addition, The Borrower shall provide evidence that:
		1. Legal Opinion has been received from the GoJ
		2. Designation of Authorized Signatory has been completed
		3. The Bank Information has been provided by the EA
		4. Adequate Financial Management has been provided by the EA
		5. Appointment of Environmental and Social Specialist has been completed
		6. In compliance with the environmental and social obligations stated in Section V of the ESMR (Annex V): The IDB or an E&S consultant appointed by the IDB shall certify compliance with all E&S requirements of the loan agreement including any Corrective Action Plans, if applicable.[[16]](#footnote-16)
		7. Copies of relevant permits, contracts and agreements shall be submitted to the Bank[[17]](#footnote-17)
	2. For details on organizational structure, roles and responsibilities, refer to section IV.

**Conditions Prior to Execution of Works**

1. MOUs between NWA/PCJ and MSET/PCJ have been completed
2. E&S Consultant Appointed
3. Certification of Environmental, Social, Health, Safety & Labour Compliance

Fiduciary agreements for IDB-JICA loan and EU Grant

* 1. Conditions for first disbursement and execution will be respected.
	2. The PEU will be trained through in house training on IDB’s procurement (and special EU eligibility criteria), financial management procedures and requirements during programme design and throughout programme execution.
	3. Rate of exchange agreed with the executing agency. If the program’s expenditures have been incurred in local currency, the EA and the Bank will agree on the exchange rate to be used in the justification and reimbursement. For purposes of the justification of expenditures to the Bank (including reimbursement/recognition of expenditures, and local counterpart) the equivalent amount to be reported in the project or disbursement currency will be determined using the effect exchange rate used to convert the funds denominated in the program’s currency to the local currency**.**

The EU PSG contribution payments will be made in Euros, and immediately converted to US Dollar when received by the Bank’s Finance Department. The Finance Department will inform the Project Team of the exchange rate at which each contribution is converted.

With regards to JICA, the effective exchange rate shall be, in principle, the buying rate as quoted by the Central Bank or a major commercial bank of the Borrower’s country, or another effective exchange rate, as defined in the IDB’s Project Disbursement Handbook, may be applied, with the condition that the evidence of such rate can be submitted by the EA to the Parties, when needed.

* 1. **Financial Statements and Reports.[[18]](#footnote-18) As stated in Section 2.5.** The reports will be prepared by the PEU-Financial Specialist, for presentation to the Auditors
	2. **Procurement.** Procurements for the proposed project will be carried out in accordance with the policies described in section 2.1
	3. **Programming and budget.** Each year, the MOFP publishes a Budget Circular requesting the submission of estimates of income and expenditure from ministries and other agencies for inclusion in the National Budget for the following fiscal year, April 1 to March 31. The PEU will prepare annual estimates in the required format for the review and approval by the Board of Directors (BoD) of the PCJ (or Group Managing Director in the absence of a governing BoD). The estimates will consider the total cost of financing required for execution of the programme. The budget is presented to Parliament before the close of the fiscal year. Once the budget is approved, amendments are made through the submission of Supplementary Budget by the MOF. The Borrower has committed to allocate, for each fiscal year of project execution, adequate fiscal space to guarantee the unfettered execution of the programme; as determined by normal operative instruments such as the Annual Operating Plan (AOP), the Financial Plan and the Procurement Plan. Even though no counterpart resources are contemplated in the original project budget, the Borrower will undertake to provide all required resources for the total and effective completion of the programme activities.
	4. **Accounting and information systems**. Project accounting will be performed using Microsoft Dynamics accounting software, in accordance with the FAAA and IFRS; IDB’s financial management requirements; the modified cash basis of accounting, which is a comprehensive basis of accounting other than IFRS. It is expected that the accounting system will facilitate the recording and classification of all financial transactions, provide information related to: planned vs. actual financial execution for the programme; the financial execution plan for the next 180 days that will be attached to each request for Advance of Funds. Additionally, the list of commitments will also accompany any request for Advance of Funds.
	5. The PEU commits to maintain strict control over the utilization of the Advance so as to ensure the easy verification and reconciliation of balances between the Executing Agency’s records and IDB records.
	6. According to EU-CIF policies, only those expenditures that have incurred after the signature of the delegation agreement will be eligible.
	7. The project will provide adequate justification of the existing Advance of Funds balance, whenever 80% of said balance has been spent. Advance of Funds will be made in accordance with Article 19 (Payments) of EU-CIF PAGODA. The following disbursement methodologies will be used for the programme:
		+ 1. Reimbursement of Payments Made
			2. Direct Payment to Supplier
			3. Advance of Funds (to provide for the liquidity needs and facilitate the day to day operations).
	8. Supporting documentation for Justifications of Advances and Reimbursement of Payments made will be kept at the office of the PEU. Supporting documentation for direct payments will be sent to the Bank for processing. In light of the experience garnered from the current and former operations the modality for disbursement will be ex-ante.
	9. Internal control and internal audit. The management of the project, at the level of both the EA and the PEU, will assume the responsibility for designing and implementing a sound system of internal control for the EMEP in its entirety.
	10. External control and reports. For each fiscal year during project execution, the PCJ will be responsible to submit AFS for the programme. These Financial Statements will be audited by an independent public accounting firm approved by the Bank’s country office. These financial audits will have to be delivered by the PCJ to the Bank: (a) Annually: within 90 calendar days after the Jamaica’s fiscal closing date; (b) Final Audit: within 90 calendar days after the final disbursement date as defined in the Non-Reimbursable financial agreement;
	11. Financial supervision plan. Financial Supervision Plan will be developed by the IDB based on the initial and subsequent risk assessments carried out for the programme. Financial, Accounting and Institutional Inspection visits will be performed at least once per year, covering, among other things, the following topics:
		+ 1. Review of the bank reconciliation and supporting documentation for Advances and Justifications.
			2. Review of compliance with the Programme OM.
			3. Conducting ex-post Reviews.
	12. EU access to project documents. The Bank will allow the EC, OLAF and the European Court of Auditors to conduct on-the-spot checks on the use made of EU contributions on the grounds of supporting accounting documents and any other documents related to the financing of the project. These desk-reviews and on-the-spot checks can occur at the Bank’s offices and the Executing Agency. The European Commission shall inform the Bank of the planned on-the-spot missions by agents appointed by the European Commission in due time in order to ensure that adequate procedural matters are agreed upon in advance, and the Bank will communicate to PCJ. These verification visits may be conducted at Bank offices or PCJ Offices.
	13. More details in Annex III, Fiduciary Arrangements.
1. EU requirements
	1. As indicated in section I, the programme will be co-financed by Japan International Corporation Agency (JICA), and by non-reimbursable resources from the European Union Caribbean Investment Facility, and does not include local counterpart funds. The EU-CIF has some EU-CIF specific implementation requirements. These are as follows:
	2. Procurement: As indicated in section 2, the IDB Framework Agreement and associated Operational Guidelines (OP-562-3) indicate that, the procurement of works, goods, services and consultancy services for activities and contracts financed by funds received from the EU shall be done in accordance with the Bank Policy for the procurement of Goods and Works (GN-2349-9), Bank Policy for the selection and contracting consultants (GN-2350-9), and the Bank Policy for use of country systems.

With the introduction of non-reimbursable resources from the European Union Caribbean Investment Facility to the Programme, the procurement of all works, goods, services and consultancy services for activities and contracts under the Programme (including both resources from the JICA Loan and from IDB Loan) initiated after the signature of the respective non-reimbursable agreement between the Bank and the Borrower will also be in accordance with the EU-IDB Framework Agreement (GN-2610-2, ¶4.13 and ¶4.14). This determines that: (i) all procurement processes under the programme will be open to suppliers, consultants, contractors and service providers from IDB member countries and, also, from countries recognized by the European Union as eligible (countries included in the list published by the EU as an annex to the “Practical Guide to Contract. Procedures for EU External Actions”); and (ii) the borrower or beneficiary shall retain relevant documentation during project implementation for a period of at least five years from the last disbursement date. Additionally, the Bank Policy for use of country systems, as may be amended from time to time applies. The Procurement Plan includes details on procurement for the first 18 months of execution. Activities may be amended accordingly, by agreement between the EA and the Bank. The EA will update the Procurement Plan at least once every 12 months.

This kind of eligibility also applies to the JICA and Bank own resources when used together with EU funds. This is an exception to the Bank’s procurement policies that has already been approved by the Bank and agreed by JICA.

* 1. Other EU-CIF specific implementation requirements include:

**Eligibility[[19]](#footnote-19) of expenses**:

**Article 18:** **ANNEX II - General Conditions for PA Grant or Delegation Agreements Eligibility of costs[[20]](#footnote-20)**

18.1The eligible direct costs of the Project Specific Grant are costs that meet all the following criteria:

1. they are necessary for carrying out the project, directly attributable to it, arising as a direct consequence of its implementation and charged in proportion to the actual use;
2. they are incurred in accordance with the provisions of EA-IDB non-reimbursable financing Agreement.
3. they are actually incurred by the EA, i.e. they represent real expenditure definitely and genuinely borne by the EA, without prejudice to Article 18.5;
4. they are reasonable, justified, comply with the principle of Sound Financial Management and are in line with the usual practices of the EA regardless of their source of funding;
5. they are incurred during the Implementation Period (as defined in the EA-IDB non-reimbursable financing agreement) with the exception of costs related to final report, final evaluation, audit and other costs linked to the closure of the Project which may be incurred after the Implementation Period;
6. they are identifiable and backed by supporting documents, in particular determined and recorded in accordance with the accounting practices of the EA and in line with IDB requirements;
7. they are covered by one of the line-items indicated in the estimated budget in the PP (Appendix C) and by the activities described in EA-IDB non-reimbursable financing agreement) they comply with the applicable tax and social legislation taking into account the IDB’s privileges and immunities

18.2 The following costs are **ineligible** for Union financing:

1. bonuses, provisions, reserves or non-remuneration related costs. Employers' contributions to pension or other insurance funds run by the EA may only be eligible to the extent they do not exceed the actual payments made by these schemes and that the amount provisioned does not exceed the contribution that could have been made to an external fund;
2. full-purchase cost of equipment and assets unless, for EU External Actions and CFSP, the asset or equipment is specifically purchased for the project and ownership is transferred in accordance with Article 9 of PAGODA;
3. duties, taxes and charges, including VAT, that are recoverable/deductible by the organization;
4. return of capital;
5. debts and debt service charges;
6. provision for losses, debts or potential future liabilities;
7. banking charges for the transfers from the EU to IDB;
8. costs incurred during the suspension of the implementation of the EU-IDB Agreement except the minimum costs agreed on in accordance with Article 12.8 of PAGODA;
9. costs declared by the EA to IDB under another agreement financed by the European Union budget (including through the European Development Fund);
10. costs of purchase of land or buildings, unless otherwise provided in the Special Conditions;

Ineligible expense activities financed prior to the implementation period of the Agreement cannot be covered with resources from the EC/EU (PAGODA Article 18:1d). The implementation period starting date is defined in the Delegation Agreement signed between the EU and IDB. All eligible and ineligible costs are listed in the PAGODA

**Budget Modification**. The EA may request budget modifications to IDB. Any such request shall be conducted in writing and must take place within the Execution Period. The EA shall request any modification 30 calendar days before the modification is intended to take effect and no later than 30 calendar days before the end of the Execution Period. Budget modifications may consist of: (a) transfers within a single budget heading (component), including cancellations and introduction of an item, or (b) a transfer between budget headings (components). In those cases, where the modification affects the original purpose of the project, and/or is greater than 25% of the original assigned budget heading amount, the Bank shall request the EC’s written approval. All other modifications that do not require the EC’s ex- ante approval, shall be informed to the EC/EU in writing, at the latest in the forthcoming Annual Report.

Modifications to the distribution of resources between components or activities within a component will have to be informed or authorized by the EC.

**Communications and Visibility plan**. Each project proposal shall include as an annexa public communication and visibility plan aimed at improving public understanding of the role of the involved parties. These activities need to be agreed upon with the EC prior project implementation.

**Procurement / document retention period.** Procurement as in section 2

* 1. With the addition of this programme, it is anticipated that additional manpower would be required. Consequently, additional resources will be contracted to provide the necessary institutional strengthening to the PEU.
1. Project Structure
2. A. Organizational Structure

Roles and responsibilities

* 1. The program execution structure will be composed of the EA (PCJ), an Energy Management and Efficiency Project Coordination Committee (EMEPCC) and a PEU which will be established within the PCJ and will execute the programme.

Figure 1: execution structure EMEP



* 1. **Financer: The Inter-American Development Bank (IDB).** It is the institution in charge of executing the disbursements and managing the request to disburse for the co-financer. It will monitor and evaluate the progress of the project, providing required technical support to guarantee the compliance with expected results and outcomes.
	2. **Co-Financer: Japan International Cooperation Agency (JICA).** It will provide parallel co-financing in coordination with the IDB and the PEU. It will coordinate with the IDB monitoring and evaluation activities.
	3. **Non-reimbursable co-financing resources (Grant) from the European Union Caribbean Investment Facility (EU-CIF),** This Grant is currently being processed for approval, with the expectation of signing the non-reimbursable agreement in December of 2017 and will be administered by the IDB
	4. **Borrower:** **The Government of Jamaica (GoJ).** Through the Ministry of Finance, it will be the entity responsible for the opening and management of the bank accounts where disbursed funds will be directed, facilitating the transferring of funding to the PEU. As the owner of the facilities targeted in this project, it will also be responsible to facilitate the coordination of the different public administrations involved.
	5. **Energy Management and Efficiency Project Coordination Committee (EMEPCC):** it will be represented by beneficiary government Ministries/agencies and will provide coordination among government agencies participating in the programme, ensuring proper support to the EA for the advancement in the execution of programme activities and achievement of expected outputs and outcomes. The coordination between government entities for the entire programme will be centralized within the EMEPCC and this Committee will also be used as an opportunity for donors (JICA and EU local delegations) to interact with the stakeholders of the programme, allowing for at least quarterly updates between GOJ and the donor agencies funding the programme
	6. The EMEPCC will meet at least quarterly.

The Funding agencies (IDB, JICA and EU) should be informed of the meeting dates and times, and representatives of JICA and the EU will attend. Duties of the EMEPCC will be:

* + - 1. Providing the strategic framework and guidance for programme execution.
			2. Providing input to the overall direction to the implementation of the programme.
			3. Facilitating and providing for the necessary inter-institutional coordination and collaboration, and expediting the effective participation of the various public-sector actors directly involved in the project, including beneficiary agencies.
			4. Monitoring the effective compliance with the strategic objectives of the project, by periodically assessing the progress and results, in accordance with the Results Framework of the project.
			5. Assessing the implementation of the various activities of the project. vis-à-vis the PEP and AOPs, and providing feedback on variance from targets.
			6. Informing the EA, PEU and IDB of any variations to GOJ policies and priorities which may impact the strategic direction and/or implementation of the project.
			7. Assisting in securing the necessary GOJ resources to expedite project execution and, thereby, contributing to guarantee the attainment of established timelines and targets.
			8. Reviewing and ratifying the prioritization and selection of GOJ entities to be retrofitted as part of the project.
			9. Identify obstacles that may arise during project implementation, and agree on the appropriate actions and ensure their implementation. These actions shall be coordinated with IDB JICA and the EU.

 Table 2: Composition of the EMEPCC structure

|  |  |
| --- | --- |
| Position in the Committee | Component |
| Chair  | The General Manager of PCJ |
| Secretary | The Programme Manager of the EMEP |
| Advisor | The Deputy Financial Secretary or designate of MOFPS |
| Advisor | The Director General or designate of the Planning Institute of Jamaica (PIOJ). |
| Advisor | The Manager of REED, PCJ |
| Advisor | The Chief Technical Director of the Public-Sector Modernization Division (PSMD) of the Office of the Cabinet |
| Advisor | The Senior Legal Officer of PCJ |
| Advisor | Permanent Secretaries and/or Heads of Partner Agencies or their designates as determined by the General Manager of PCJ. |
| Observers | Representatives of JICA and the EU |
|  |  |

* 1. **Executing Agency (EA):** **Petroleum Corporation of Jamaica (PCJ).** Primary responsibility over programme implementation rests with PCJ’s Group General Manager and more specifically with the Programme Manager (PM) assigned to the programme. The EA will:
		1. Provide strategic direction, coordination and support for the programme.
		2. Approve the OMP and their updates as necessary to facilitate an effective and efficient execution of the program
		3. Open the bank account
		4. Facilitate the receipt of funds disbursed by the IDB in accordance with outlined financial arrangements
		5. Monitor the progress and follow up on execution and accomplishment of programme results throughout the implementation period.
	2. **Project Executing Unit (PEU):** The PEU will be in charge of coordinating overall Programme activities with participating government ministries/agencies and divisions, procurement execution (including the hiring of external auditors), contract supervision, internal control and financial management, including the submission of disbursement requests, preparation and submission of audited financial statements, compliance with local and IDB environmental and consultation requirements in the implementation of Programme activities, and risk management.

The PEU is governed by the Financial Administration and Audit Act and International Financial Reporting Standards for financial management. The Central Government uses the Financial Management software for accounting purposes; this is fairly new and still in its implementation stage. The PEU will use a dedicated Microsoft Dynamics system for independent programme accounting purposes. This facilitates both a US$ and J$ transactions and general ledger; budgeting; reporting and other core accounting functions.

* 1. Specific PEU duties include:
		+ 1. administration of loan financing and procurement processes
			2. preparation of semi-annual progress reports consistent with the reporting requirements as defined in the loan and grant agreements;
			3. preparation, and implementation of the AOP;
			4. preparation of budgets, and disbursements;
			5. preparation of the PP;
			6. financial administration of the programme according to accepted accounting principles and presenting audited financial statements;
			7. ensuring the quality and efficacy of procurement processes and their compliance with both the policies of the Bank (including EU eligibility criteria) and that of the GOJ;
			8. ensuring that the day-to-day programme implementation actions respond to the requirements for the accomplishment of the expected annual and overall programme milestones, outputs and outcomes as outlined in the AOP and Results Matrix;
			9. ensure continuous data collection to enable the measurement of the indicators included in the Results Matrix; and
			10. function as the programme liaison with the Bank.

**Inter-Institutional Agreements**

 The inter-institutional agreement between the EA and the MSET will detail (i) the role of the MSET sub-project officer within the PEU regarding technical, procurement, logistical, coordination, and administrative support to ensure successful implementation of Component 3; (ii) the role of the PEU in supporting the MSET to achieve the implementation of Component 3 and (iii) the role of MSET in supporting the successful implementation of the Programme via its role on the EMEP Coordinating Committee.

 Similarly the inter-institutional agreement between the EA and the NWA will detail (i) the role of the NWA sub-project officer within the PEU regarding technical, procurement, logistical, coordination, and administrative support to ensure successful implementation of Component 2; (ii) the role of the PEU in supporting the NWA to achieve the implementation of Component 2 and (iii) the role of NWA in supporting the successful implementation of the Programme via its role on the EMEP Coordinating Committee.

* 1. The PEU will have three strategic positions: one Programme Manager, one Procurement Specialist and one Financial Specialist. It will be formed by, at least, the following professionals:

|  |  |
| --- | --- |
| **Position** | **Main Tasks** |
| Programme Manager | * Responsible for the overall management, coordination and execution of all components of the program.
* Provide direction and guidance to staff and ensuring that all activities are expedited
* Ensuring that the budget and all contractual obligations, as set out in the loan agreement are met.
* Facilitating external evaluations and ensuring that agreed recommendations are implemented
* program liaison with the Bank, JICA and EU
 |
| Project Engineer for Component 1 | * + - * Provide technical and project management support to the Programme Manager for the management, coordination and execution of component 1 of the Programme.
 |
| Project Officer for Component 2 | * + - * Responsible for the overall management, coordination and execution of component 2 of the Programme.
			* Act as liaison with NWA
 |
| Project Officer for Component 3 | * + - * Responsible for the overall management, coordination and execution of component 3 of the Programme.
			* Act as liaison with MSET
 |
| Finance Specialist | * + - * To ensure the financial integrity of the specifically funded activity of the stated project and to provide consolidated financial plans and reports for the project as needed by the various stakeholders.
			* Ensure the establishment and maintenance of the PMU’s accounting systems, procedures and controls in accordance with International Accounting Standards and the fiduciary requirements of the Bank.
* To set up each component within the Project Module to collect the associated costs, etc.
 |
| Procurement Specialist | * + - * Ensure the efficient conceptualization and implementation of procurement of all related project activities.
			* Engage appropriate sourcing strategies; manage supplier selection and evaluation via established methods.
			* Ensuring quality management, ensuring customer relationship management, e-procurement, performance measurement and compliance with the standards and regulations as set out by the Government of Barbados and the IADB.
			* Generate all Expressions of Interest
			* Prepare and decimate all bid documents - Generate and follow up on all Requests for proposals, and Invitations to Quote
			* Conduct all contract negotiations
			* Collaborate with the evaluation team on recommendations etc.
			* Source and recommend vendors and
			* Follow up the procurement of goods and services, communicate with the contractors/vendors and the customs broker, tracking same until delivery
 |
| **Position**  | **Main Tasks**  |
| Administrative Officer | * + - * Assist the PM with the design of appropriate project management framework for the project, defining/establishing critical project timelines/milestones, defining, planning, controlling and leading the project to a successful completion.
			* Assist with the overall management, coordination and execution of all components of the program, while ensuring the implementation of all Project Components.
* Generate all requisitions for the procurement of goods.
* Document the acquisition process.
* Ensure that all project documents are properly filed
 |
| Monitoring and Evaluation Specialist | * Responsibility of coordinating the creation of the biannual reports to be sent to the financers and the GoJ, coordinating the creation and gathering of financial and physical progress of the project.
* Coordinate the contracting and execution of annual financial audits.
* Coordinate the execution of planned evaluation activities.
* Follow up the compliance with indicators of the results matrix and provide advice for a successful implementation.
* Follow up, and update if necessary, the M&E plan
 |
| Quantity Surveyor | * Responsible for managing, verifying and reporting of all project’s costs and execution of the contracts, from the initial calculations to the final figures
* Gathering and managing all activities related with the invoices submitted by the contractors.
* Attending site meetings along with the PM
* Risk management and calculation
 |
| Environmental, Social and Gender Coordinator | * Responsibility of ensuring that all environmental, social and gender related aspects of the project are addressed.
* Follow up, and update if necessary, the ESMR and the ESA.
* Coordinate the contracting and execution of all environmental risks mitigation measures, particularly all actions related with the disposal of wastes.
* Coordinate all actions related with health and security measures during works.
* Ensure that gender additionality is respected during the implementation of all products of the project.
* Provide assistance in conflict resolution
 |
| Electrical Engineer Consultant | * Provide technical support to the Programme Manager for the implementation of all Project components to ensure all activities are expedited and within budget and conform to appropriate technical and engineering standards, including those relating to safety and health.
* Inclusive of these tasks are design, troubleshooting, supervisory and management of technical installation and operational systems
 |

**Document Flow**

As indicated earlier, the Programme Manager Reports to the Group General Manager. Implementation documents (including reports, procurement, non-objection requests responses to contractors, invoices for payment etc., will be submitted to the Legal, Financial and/or Technical teams from the EA for review. These will then be submitted to the Group General Manager, by the Programme Manager or his/her designate. In the instances where documents are not being returned in a timely manner-within 3-5 working days- the Programme Manger will expedite to the Group General Manager for his/her intervention.

Organogram\*

Environmental Specialist

MSET Sub-Project Officer (**Component 3**)

Financial Specialist

Procurement Specialist

Admin Officer

M and E Specialist

Quantity Surveyor

Project Engineer (**Component 1**)

Electrician

NWA Sub-Project Officer (**Component 2**)

Group General Manager

Programme Manager: IDB/JICA/EU-CIF

\*(Prepared by PEU/EA)

Consultant selection, recruitment and criteria.

* 1. Consultant selection, recruitment and in-house training criteria will be done in accordance with the IDB policies and agreed criteria.

**Technical execution structure**.

*Component 1*

* + 1. The PEU will coordinate with the different agencies and institutions using the facilities with the support of EMEPCC.
		2. Previous to each retrofitting, detailed investment grade audits will be carried out in each building to define needs.
		3. Health and contingencies protocols will be established in advance.
		4. A waste disposal management plan will be developed for each building previously to the execution of the retrofitting, in particular regarding mercury and asbestos removal.
		5. Mechanisms to involve the management teams of the buildings will be established.
		6. Training and manuals for the management teams will be developed during and after the retrofitting execution.
	1. *Component 2*
		1. Agreements between the EA and the NWA will be signed and a project officer for component 2 will be contracted.
		2. Before the execution, an assessment of civil works delivered by NWA will be carried out.
		3. Detailed project implementation will be developed, assessing detailed needs for the upgrade of the Traffic Control Center and the peripherals installed in the corridors.
		4. Necessary agreements with the city-hall of Kingston for the use of public space will be signed.
		5. Training and manuals for the management teams will be developed during and after the retrofitting execution
	2. *Component 3*
		1. Agreements between the EA and the MSET will be signed and a project officer for component 3 will be contracted.
		2. Assessment of gaps of the latest approved version of the IRP will be developed before the execution.
1. Operational delivery structure

Procurement.

1. Procurements for the proposed project will be carried out in accordance with the policies described in section II. The GOJ public procurement system has been undergoing intensive improvement and modernization toward harmonization with international standards and best practices. These improvements have been recognized by the Bank which entered into an Agreement with the GOJ in January 2017, for the Partial Use of the National/ Country Procurement Systems in Bank financed operations.

With the introduction of non-reimbursable resources from the European Union Caribbean Investment Facility to the Programme, the procurement of all works, goods, services and consultancy services for activities and contracts under the Programme (including resources from the JICA Loan) initiated after the signature of the respective non-reimbursable delegation agreement and the EU-CIF grant between the Bank and the Borrower will be open, both to Bank Member Countries, and to the European Union list of eligible countries published in the European Commission website as an annex to its “Practical Guide to Contract Procedures for EU External Actions”.

1. *Procurement of Goods, Works, and Non-Consulting Services.* The procurement plan for the Energy Management and Efficiency Program (EMEP) covering the first 18 months of project execution will indicate the procedure to be used for the procurement of Goods, the contracting of Works and Non-Consulting Services. The review of technical specifications in all cases, during the selection process is the responsibility of the IDB sector specialist of the program.

*Procurement of Consulting Services.* The procurement plan for the EMEP covering the first 18 months of programme execution indicates the procedure to be used for the procurement of Consultancy Services, and the method of selecting Consultants. The Borrower is responsible for preparing and implementing the programme, and therefore for preparing the Terms of Reference, short lists, selecting the Consultants, and awarding and subsequently administering the contract, with Bank supervision[[21]](#footnote-21), following the review method specified in the Procurement Plan.

1. *Recurring Expenses*. Include payment of utilities and other office operating expenses of the PEU. For more information on Country Threshold, refer to the Fiduciary Arrangements Annex III. EU resources shall not be used to finance recurring expenses.
2. In accordance with section 2.12 of the Policies for the Procurement of Goods and Works financed by the Inter-American Development Bank GN-2349-9 (¨Borrowers shall use the appropriate Standard Bidding Documents (SBDs) issued by the Bank with minimum changes, acceptable to the Bank, as necessary to address project-specific conditions. The information will also be included in BDS to be approved by the IDB.
	1. **Procurement Plan (PP).** The procurement plan indicates the procedure to be used for the procurement of Goods, the contracting of Works or Services, and the method of selecting Consultants, for each contract or group of contracts. It also indicates cases requiring prequalification, the estimated cost of each contract or group of contracts and the requirement for ex-ante or ex-post review by the Bank. The PP will be posted on the Bank’s website and will be updated annually or whenever necessary, or as required by the Bank.
	2. **Procurement Supervision[[22]](#footnote-22)**. The supervision method for procurement execution will be established ex ante until the Procurement expert has gained experience observing and executing Bank policies, procedures, and use of standard bidding documents. The ex post modality may be recommended by the Procurement Specialist to the Team Leader in accordance to outcomes of supervision visits, if appropriate evidence is presented to demonstrate capacity to perform under the ex post supervision modality. Supervision visits will be performed at least once per year. When ex post review is recommended, the ex-post visits will be performed jointly with supervision visits.
	3. **Records and Files.** All records and files will be maintained by the PEU, according to accepted best practices, and be kept for up to 5 years beyond the end of the operation’s execution period, this is understood as the final disbursement date. In case national regulations require it to keep records for a longer period, these will apply. However, given that the disbursement period for the EU grant is less than for the IDB loan, in the case of final payment request (IDB-EU), the IDB will seek agreement with the EU to have a programme annual report which will be used for the final disbursement request; and an annual financial audit report will be considered the EU final audit report. IDB will share its final overall report with EU for information purposes. Given that the Project Completion Report of the Bank includes information from the Programme’s final evaluation, it entails richer data and information than the one available at the end of the grant execution period.

Administration and financial structure.

* 1. **Internal control and internal audit.** The management of the project, at the level of both the EA and the PEU, will assume the responsibility for designing and implementing a sound system of internal control for the project. The EA’s Financial Specialist will work closely with the PEU’s Financial Officer to design and implement.
	2. External control and reports. as indicated in section 2.
	3. Financial supervision plan: As indicated in Annex III: Fiduciary Arrangements
1. Monitoring and evaluation structure

Monitoring

* 1. The Programme will be monitored by tracking a set of output indicators that measure performance in terms of project deliverables, as described in the Results Matrix appendix. The monitoring plan describes the instruments and processes used to track these output indicators, defines the tasks, assigns responsibilities, and defines the necessary budget for preparing these instruments.
	2. Measurement activities involve data collection, monitoring and analysis necessary to document the energy and demand savings and expected costs of the energy efficiency projects. Progress will be measured:
		1. for Component 1 against the IGAs that provide a detailed outline of the measures required;
		2. for Component 2 against the detailed technical specifications for the ITS system, and
		3. for Component 3 against the capacity building plan provided by the independent consultant.
		4. The PEU will hire a specialized and independent consulting firm to collect the data from: (i) The facilities and government agencies including the NWA on all matters related to component 2, (ii) MSET on all matters related to component 3, and (iii) JPS electricity bills for all retrofitted facilities, and from equipment installed
	3. **Performance Monitoring Report (PMR).** The PMR is the Bank tool used to track programme execution performance and accomplishment of expected outputs and outcomes. The PMR is to provide quantitative data (physical and financial) and qualitative information throughout the programme’s implementation period. The PMR content will generate a Synthetic Indicator (SI) that will allow to assign the following execution performance classifications to the programme: (a) alert or (b) satisfactory. This classification facilitates the identification of weaknesses in the programme execution and serves as an input for the internal decision-making process and the provision of corrective measures. The PEU will be responsible for providing the required information on the progress on a consistent manner to make the PMR reporting possible.
	4. For more details about monitoring structure, see Appendix G, Monitoring and Evaluation Plan.

Evaluation

* 1. Evaluation refers to a review of the entire programme including the implementation process, program cost effectiveness, and the attainment of its stated impact and outcomes indicators. The Evaluation Plan first defines what questions the indicators address, and then it describes the indicators that will be used to evaluate the results of the Programme. It also explains the before and after evaluation methodology and the instruments that will be used to evaluate the Programme. Lastly, it describes the institutional arrangements and work plan to carry out the Evaluation Plan.
	2. Within the context of the Programme, as detailed in the M&E the PEU will select and contract external consulting services to undertake a Mid-term Evaluation once 50% of the financing has been disbursed and justified, or after three years from the date of the first disbursement, whichever happens first. This evaluation will focus on analyzing progress achieved, aspects of coordination and execution, and recommendations to attain the proposed targets and investment sustainability.
	3. The IDB will follow a before-completion and after-completion methodology to evaluate the results of the Programme. Specifically, for a group of indicators, the IDB will compare baseline values against the values after the Programme is completed. This is the same methodology that is used for monitoring of outputs of the Programme. The only difference is the point in time when the methodology is applied. For monitoring the Programme, the methodology is applied from the point of Programme implementation and is done on a yearly basis. For evaluating the Programme, the methodology is used after the Programme is completed comparing baseline values and targets
	4. **Mid-term Evaluation:** The mid-project evaluation will be initiated after the earliest of three years after the project initiation or once 50% of the Project resources have been disbursed. This mid-project evaluation will assess the level of completion of the project output indicators in order to determine the project implementation status. This evaluation will be used to propose any changes in the project scope or process that may be required in order to reach the project’s targets
	5. **Final Evaluation**:[[23]](#footnote-23) The final evaluation will be completed by the PEU no later than 120 days after the final disbursement justification. The final evaluation includes: (a) the degree of fulfillment of the targets specified in the Results Matrix; (b) an ex-post CBA; (c) an assessment of the performance of the EA; (d) factors affecting implementation; and (e) lessons learned and recommendations for the design of future operations. The Final Evaluation will allow the Bank to finalize the Project Completion report (PCR).
		1. *Ex-post Cost Benefit Analysis (‘ex-post CBA’):* The ex-post CBA will measure whether the actual economic benefits of the Programme exceeded its actual economic costs and how these compared to estimations made when the Programme was designed. The ex-post CBA will follow the same methodology used for preparing the ex-ante CBA presented in the Cost Benefit Analysis Report which is an Optional Electronic Link of the POD.
		2. *Project Completion Report (PCR) and Project Completion Workshop.* The PCR is the Bank’s Management main instrument for documenting concrete results to its stakeholders and disseminating the lessons of a project’s experience. The IDB will base the PCR on mid-term and final evaluations and an ex-post CBA
	6. Also, in addition to the evaluation described in this section, the IDB Oversight Evaluation Office (OVE) may also separately evaluate the impact of the Programme.
	7. JICA, based on information provided by the IDB, may conduct ex-post evaluation of the applicable Eligible Project of Co-financing, in principle 2 years after the completion of the applicable Eligible Project of Co-financing.
	8. For more detail see Appendix G, Monitoring and Evaluation Plan.
1. Environmental and Social Safeguards

Environmental and social risks

* 1. In accordance with OP-703 and the Bank’s safeguard filters, the Program has been classified as B, as it will have net positive environmental effects due to the potential impacts in GHG emission reductions, substitution of fossil fuel based electricity generation and climate change mitigation brought by the implementation of EE measures. The type of operations currently envisioned for support by the program are likely to have minimal to moderate adverse environmental impact.
	2. Potential minor environmental impacts and risks associated with the program will occur during the installation phase and will be primarily associated with the EE retrofits in existing buildings. Main construction impacts include noise; dust generation; generation of waste materials (hazardous and non-hazardous); and occupational health and safety risks for the workforce. These potential impacts and risks are considered minor and can be adequately mitigated and managed through the implementation of the Environmental and Social Management Plan (ESMP).
	3. Therefore, medium and high environmental and social risks identified in the project’s Risks Analysis Risk analysis are: (i) contamination to environmental receptors due to inadequate handling and disposal of materials and equipment during the upgrade of facilities; mitigated with specific program funds to implement GOJ’s waste disposal guidelines as they relate to waste produced by the program and (ii) natural disasters that could affect the government’s facilities to be retrofitted under Component 1 due to its location along Jamaica’s coast line; mitigated by ensuring there are contractual obligation for Contractors to install EE/RE equipment according to international standards, and providing Program funds for annual inspections of equipment installed
1. Environmental and social safeguards management plan
	1. In compliance with OP-703, an Environmental and Social Assessment (ESA) was carried out and an Environmental and Social Management Report (ESMR) was produced. The ESA has been disclosed according OP-102 and a public consultation meeting was conducted on 22 September, 2016 at the PCJ auditorium. The public meeting was advertised in the local newspaper and a presentation was prepared and delivered
	2. The PEU will prepare annual reports concerning their environmental and social performance with respect to the Bank’s policies and directives. The Bank will have the option to conduct supervision of the environmental and social performance of the programme, throughout its duration.
	3. The IDB will require that all stakeholders involved in the project execution, at all times during the life of the Loan Agreement, comply with the following requirements:
		1. All applicable environmental, social, health and safety, and labor regulatory requirements of Jamaica.
		2. All requirements associated with any environmental, social, health safety, and labor related permits, authorizations, or licenses that apply to the Project, the Borrower or any party responsible for executing the Project or its mitigation measures.
		3. All environmental, social, health and safety, and labor requirements of the Project contracts and any subsequent modifications.
		4. All aspects and components of all of the Project’s environmental, health and safety, social and labor documents.
		5. All relevant IDB policies are respected.
		6. Comply with all the requirements indicated in the Environmental and Social Action Plan (ESAP), in the event an ESAP is required.
	4. For more detail see Appendix D, Environmental and Social Management Plan (ESMP).

**Obligations in compliance with the environmental and social obligations stated in Section VI of the ESMR (Annex V)**

* 1. The Borrower will comply and will require in its Project Agreement with each Project party (Sponsor/Borrower/Company) and other Project/Environmental parties, including construction companies and operators, and any contractors and sub-contractors, to comply at all times during the life of the Project with the following:
		1. All applicable environmental, social, health and safety, and labor regulatory requirements of Jamaica.
		2. All requirements associated with any environmental, social, health and safety, and labor related permits, authorizations, or licenses that apply to the Project, the Borrower or any party responsible for executing the Project or its mitigation measures.
		3. All environmental, social, health and safety, and labor requirements of the Project contracts and any subsequent modifications.
		4. All aspects and components of all of the Project’s environmental, health and safety, social and labor documents.
		5. All relevant IDB policies such as the Environment and Safeguards Compliance Policy (OP-703), the Disaster Risk Management Policy (OP-704) and the Disclosure of Information Policy (OP-102), the Involuntary Resettlement Policy (OP-710), the Operational Policy on Indigenous Peoples (OP-765) and the Gender and Equity in Development Policy (OP-270), as these may be amended from time to time, and their respective guidelines.
		6. All the requirements indicated in the Environmental and Social Action Plan (ESAP), in the event an ESAP is required.
1. Risk Management

Main risks and mitigation measures

* 1. The overall risk analysis classifies the main risks associated with this programme as ‘medium’. Risks classified as medium and the corresponding mitigation areas are the following:

(i) a lack of coordination among government agencies participating in the program that could slow down the execution; to mitigate this risk, the PEU will establish an Energy Management and Efficiency Project Coordination Committee (EMEPCC) which will initially meet quarterly during the. The EMEPCC will be represented by beneficiary government Ministries/agencies to help guide strategic decision making and keep updated on programme’s progress;

(ii) vulnerability of the country to external economic and natural shocks with negative consequences on fiscal space and project implementation priority; which will be mitigated by the fact that fiscal savings will keep the attractiveness of the program, validated by annual M&E reports on the savings provided; and

(iii) capacity building could result in trained staff leaving posts for better positions; which will be mitigated by establishing agreements with beneficiary ministries/agencies to consider performance incentives for high performing staff who complete training.

Environmental and Social Safeguard Risks

In accordance with OP-703 and the Bank’s safeguard filters, and drawing from the analysis conducted for the EMEP loan, this IGR operation project has been classified as Category B as it will have net positive environmental effects due to the potential impacts in GHG emission reductions, substitution of fossil fuel based electricity generation and climate change mitigation brought by the implementation of EE measures.

Medium environmental and social risks identified in the project’s risk analysis are: (i) contamination to environmental receptors due to inadequate handling and disposal of materials and equipment during the upgrade of facilities; mitigated by a specific Waste Management Plan funded through EMEP loan funds, that will cover the overall programme (combined EMEP loan and Grant operation) and that will be developed by the Executing Agency (EA) ; and (ii) natural disasters that could affect the government’s facilities to be retrofitted under Component 1 due to its location along Jamaica’s coast line; mitigated by ensuring that there are contractual obligation for contractors to install EE/RE equipment according to international standards, and using the EMEP loan funds for annual inspections of equipment installed.

The IGR operation is considered to have the same environmental and social safeguards risk needs as the EMEP loan operation, and therefore the same studies will be used.

* + - 1. Fiduciary Risk

Lessons learned from previous experiences indicate that it is necessary for PCJ, the EA of the programme, to be strengthened in project management. There is an additional risk identified related to dealing with multiple sources of funding (IDB, JICA and EU) and to specific implementation requirements. Therefore, in addition to frequent Bank training and capacity building for the PEU in fiduciary and program management, additional technical cooperation resources will be provided for the PEU to ensure the smooth integration of this IGR operation into the overall programme.

* + - 1. Other Key Issues and Risks

In addition to the environmental and fiduciary risks noted above, the overall risk analysis conducted for the retrofit activities under the EMEP loan, classifies the main risks associated with this grant operation as ‘medium’. Risks classified as medium and the corresponding mitigation areas are the following: (i) on public management and governance there may be limited coordination among government agencies participating in the programme that could slow down the execution; to mitigate this risk, the PEU has established an Energy Management and Efficiency Programme Coordination Committee (EMEPCC) with senior representatives from government agencies to help guide strategic decision making and keep updated on project progress; (ii) similarly, on public management and governance a lack of coordination among donors and government participating in the project could slow down the execution of the project; to mitigate this risk, the PEU will ensure that the EMEPCC will be represented by beneficiary government Ministries/agencies and EMEP donors to help guide strategic decision making and keep updated on the overall programme’s progress; (iii) exchange rate fluctuation between the Euro and the US dollar can influence final funds available for retrofitting buildings; to mitigate this risk, the project will reduce the number of facilities to be retrofitted in accordance with the available budget. In addition, IDB will request that the first disbursement from the EU represents a high percentage of their overall contribution; and (iv) on development of the project, a high risk is that EE capacity building could result in trained staff leaving posts for better positions; which will be mitigated by seeking to establish agreements with beneficiary ministries/agencies to consider performance incentives for staff who complete training

* 1. For more detail see Appendix E, Risk Matrix and Mitigation Measures.
1. Appendices
2. A. Loan Contract
	1. *(It will be available after loan’s eligibility)*
3. B. Results Matrix

|  |  |
| --- | --- |
| **Project objective:** | The general objective of this program is to promote Energy Efficiency (EE) in government facilities and fuel conservation in road transportation to help reduce the debt of the Government of Jamaica by avoiding fuel imports. The specific objectives and expected results of this program are: (i) reduced electricity consumption within health, education and public agency government facilities, which translates in lower CO2 emissions; (ii) reduced travel times and avoided fuel consumption through improved traffic control management, which translates in lower CO2 emissions; and (iii) increased capacity within the Ministry of Science, Energy and Technology (MSET) to enable it to update its Integrated Resource Plan (IRP) for Jamaica. |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Component 1****Retrofitting HEPA Government Facilities****Results Indicators** | **Units** | **Base (2015)** | **Year 1** | **Year****2** | **Year 3** | **Year 4** | **Year 5** | **Year****6** | **Final****Target****(EOP)** | **Source of Verification/ Comments** |
| **Expected Result 1: Reduced electricity consumed in 80 Health, Education and Public Agency (HEPA) government facilities** |
| Annual electricity consumed in 80 HEPA[[24]](#footnote-24) government facilities | kWh | **49,414,662** | - | - | - | - | - | - | **25,790,306** | Biannual Report from Petroleum Corporation of Jamaica (PCJ) M&E consulting firm report |
| **Expected Result 2: Reduced CO2 emissions resulting from reduced electricity consumption in 30 HEPA government facilities** |
| Annual GHG emissions resulting from kWh consumed in 80 HEPA government facilities | Tons of CO2 equivalent | **72,080.93** | - | - | - | - | - | - | **37,405.21** | Biannual Report from PCJ M&E consulting firm report |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Component 1: Retrofitting HEPA Government Facilities** **Output Indicators** | **Units** | **Base (2015)** | **Year****1** | **Year****2** | **Year****3** | **Year****4** | **Year****5** | **Year****6** | **Final****Target****(EOP)** | **Source of Verification/ Comments** |
| HEPA government facilities with EEequipment replaced, installed and operating | # of government facilities | 0 | 0 | 2 | 4 | 24 | 0 | 0 | 30 | Biannual reports from PCJ 24 Investment Grade Audits will be completed to achieve these outputs.Waste Disposal management activities will be completed to achieve these outputs. |
| EE light technology replaced, installed and operating in HEPA government facilities  | # of government facilities | 0 | 0 | 0 | 0 | 50 | 0 | 0 | 50 | Biannual reports from PCJEE light technology may include Light-Emitted Diode (LED). |
| Communication activities completed to raise awareness on EE management & maintenance[[25]](#footnote-25) in HEPA government facilities | # of activities | 0 | 0 | 1 | 1 | 5 | 1 | 1 | 9 | Biannual reports from PCJ List of participant and follow-up monitoring to participants per workshop Activities include workshops (3) and multimedia campaigns (2) |
| EE manuals developed for management and maintenance of HEPA government facilities | # of manuals | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 3 | Biannual reports from PCJ |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Component 2****Implementation of an Urban Traffic Management System (UTMS)****Results Indicators** | **Units** | **Base (2015)** | **Year****1** | **Year****2** | **Year****3** | **Year****4** | **Year****5** | **Year****6** | **Final****Target****EOP** | **Source of Verification/ Comments** |
| **Expected Result 1: Reduced transport fuel consumed in the Kingston Metropolitan Region (KMR)**  |
| Annual fuel consumed by traffic in the KMR corridors | Million litres | **296.8** | 0 | 0 | 0 | 0 | 0 | 0 | **192.7** | Biannual report from National Works Agency (NWA)Independent M&E Report |
| **Expected Result 2: Reduced CO2 emissions resulting from reduced transport fuel consumed in the KMR**  |
| Annual GHG equivalent emissions resulting from transport fuel consumed in KMR corridors. | Tons of CO2 equivalent | **579,203** | 0 | 0 | 0 | 0 | 0 | 0 | **376,044** | Biannual Report from PCJ M&E consulting firm report |
| **Expected Result 3: Reduced hours of annual travel time in the KMR** |
| Annual hours of travel time in the KMR corridors | Million hours | **155.2** | 0 | 0 | 0 | 0 | 0 | 0 | **99.96** | Biannual Report from NWAM&E consulting firm report |
|  |  |  |  |  |  |  |  |  |  |  |
| **Component 2: Implementation of an UTMS** **Output Indicators** | **Units** | **Base (2015)** | **Year****1** | **Year****2** | **Year****3** | **Year****4** | **Year****5** | **Year****6** | **Final****Target****EOP** | **Source of Verification/ Comments** |
| Equipment necessary to upgrade the central control system purchased, installed and operating | Binary(yes =1 no = 0)  | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | Biannual report from NWAIndependent M&E ReportEquipment will be used for traffic monitoring, operation, planning and modelling  |
| Equipment necessary to modernize and coordinate traffic signals purchased, installed and operating. | Binary (yes =1 no = 0) | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | Biannual report from NWAIndependent M&E ReportIncludes upgraded traffic controllers, closed-circuit television cameras, detectors, and communication switches at intersections.  |
| Number of Packages[[26]](#footnote-26) of Support for Training and Capacity Building in Intelligent Transportation System[[27]](#footnote-27) delivered | # of packages | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 4 | Biannual report from NWAIndependent M&E ReportIncludes System training; Planning training; Sun-Guide training and Coaching  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Component 3****Support to Electricity Planning****Result Indicator** | **Units** | **Base (2015)** | **Year****1** | **Year****2** | **Year****3** | **Year****4** | **Year****5** | **Year****6** | **Final****Target****EOP** | **Source of Verification/ Comments** |
| **Expected Result 1: Formal updates or revisions of IRP performed by MSET on a timely basis** |
| Number of formal updates or revisions of the IRP performed by MSET | # of updates/revisions | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | Biannual report from MSETIndependent M&E ReportFormal updates/revisions imply that the Ministry has approved the update or revision.  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Component 3: Support to Electricity Planning****Output Indicators** | **Units** | **Base (2015)** | **Year 1** | **Year****2** | **Year 3** | **Year 4** | **Year 5** | **Year****6** | **Final****Target****EOP** | **Source of Verification/ Comments** |
| Number of technical studies to support IRP revision or update completed | # of studies | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 4 | Biannual report from MSETIndependent M&E Report.This includes studies on electrical losses, and integrated energy planning and Complementary technical studies to support Electricity Planning and IRP(Studies will focus on fuel switching options, infrastructure, policy and regulation that can make a real difference to final energy cost, reliability and environmental externalities) |
| Number of training modules completed to support technical capacity in MSET to revise or update IRP[[28]](#footnote-28) | # training modules | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 3 | Biannual report from MSETIndependent M&E Report Training includes: distributed generation and reliability modelling in IRP; Dispatch, Production Costing Procedures and Systems and Policy Parameters and Trade-off Measures.  |
| Number of technical experts contracted to reinforce capacity and develop training plans within MSET to enable staff to revise/update IRP  | # technical experts | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 5 | Biannual report from MSETIndependent M&E Report.Experts to be contracted in the following areas: EE and Demand-Side Management; Electricity Sales and Rates and Transmission & Distribution |
| Diagnostic study completed on IT software required in MSET to support IRP coordination  | Binary(yes =1 no = 0)  | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | Biannual report from MSETIndependent M&E ReportStudy to prioritize software and IT platforms that would add value to IRP coordination and planning. |
| Appropriate IT software for coordinating IRP purchased, installed and operating  | # of software | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | Biannual report from MSETIndependent M&E Report |

1. C. Procurement Plans

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| EA: | Procurement Activity: | Procurement Method(Select one of the options): | Lots Quantity: | Process Number: | Estimated Amount  | Associated Component: | Review Method: | Dates |
| Estimated Amount, in US$  | Estimated Amount IDB %: | Estimated Amount JICA % | Estimated Amount EU-CIF % | Specific Procurement notice | Contract Signature |
| **WORKS** |
| PCJ | Deep Retrofit Lot 1A - Marcus Garvey High School | National Competitive Bidding | 1 | MG-EMEP/W1702 | 220 | 50% | 50% | 0% | Component 1 | Ex-Ante | 12-Dec-17 | 11-Jul-18 |
| PCJ | Deep Retrofit Lot 1B - Ebony Heart | National Competitive Bidding | 1 | EH-EMEP/W1703 | 450 | 50% | 50% | 0% | Component 1 | Ex-Ante | 12-Dec-17 | 5-Sep-18 |
| PCJ | Deep Retrofit Lot 1C - Falmouth, Mandeville, Cornwall Regional & Kingston Public/VJ Hospitals | Two-envelope International Competitive Bidding | 1 | KMCF-EMEP/W1704 | 7,690 | 50% | 50% | 0% | Component 1 | Ex-Ante | 12-Dec-17 | 5-Nov-18 |
| PCJ | Deep Retrofit Lot 3 - 17 Facilities  | Two-stage international competitive bidding | 2 | PA-EMEP/W1905 | 8,685 | 50% | 50% | 0% | Component 1 | Ex-Ante | 15-Mar-18 | 5-Jul-19 |
| PCJ | UTMS Implementation | International Competitive Bidding | 1 | UTMS-EMEP/W1701 | 3,400 | 50% | 50% | 0% | Component 2  | Ex-Ante | 4-Dec-17 | 15-Aug-18 |
| **GOODS** |
| PCJ | Lighting Retrofits Lot A - 50 Facilities  | International Competitive Bidding | 1 | LR-EMEP/G1904 | 2,866 | 50% | 50% | 0% | Component 1  | Ex-Ante | 8-Jan-19 | 31-Jan-20 |
| PCJ | Supply of Lift Truck  | Shopping | 1 | LT-EMEP/G1803 | 100 | 50% | 50% | 0% | Component 2 | Ex-Ante | 9-Apr-18 | 22-Aug-18 |
| PCJ | IT Software for Coordination of IRP | International Competitive Bidding | 1 | IT-EMEP/G1905 | 450 | 50% | 50% | 0% | Component 3 | Ex-Ante | 23-Jul-19 | 13-Jan-20 |
| PCJ | Programme Vehicle  | Shopping | 1 | VH-EMEP/G1701 | 130 | 50% | 50% | 0% | Other Activities & Cost  | Ex-Ante | 15-Nov-17 | 28-Feb-18 |
| PCJ | Office Supplies & Software Tools  | Shopping | 1 | OS-EMEP/G1702 | 100 | 50% | 50% | 0% | Other Activities & Cost  | Ex-Ante | 5-Dec-17 | 5-Feb-21 |
| **CONSULTING FIRMS** |
| PCJ | Communications & Awareness | Quality and Cost Based Selection | N/A | COM-EMEP/NC1811 | 250 | 50% | 50% | 0% | Component 1 | Ex-Ante | 14-Jun-18 | 16-Jan-19 |
| PCJ | Investment Grade Audits on 7 Hospitals | Selection Based on the Consultants' Qualifications | N/A | IGA-EMEP/C1701 | 90 | 50% | 50% | 0% | Component 1  | Ex-Ante | 5-Dec-17 | 11-Jun-18 |
| PCJ | Engineering Consulting Firm – Design & Supervision - HEPA | Quality and Cost Based Selection | N/A | ECF-EMEP/C1702 | 600 | 50% | 50% | 0% | Component 1  | Ex-Ante | 5-Dec-17 | 31-Oct-18 |
| PCJ | Environmental Plan- Mercury Handling & Disposal  | Single Source Selection | N/A | ESP-EMEP/C1807 | 250 | 50% | 50% | 0% | Component 1  | Ex-Ante | 5-Apr-18 | 16-Aug-18 |
| PCJ | Lighting Review Upgrade  | Selection Based on the Consultants' Qualifications | N/A | LR-EMEP/C1805 | 75 | 50% | 50% | 0% | Component 1 | Ex-Ante | 12-Jan-18 | 13-Jul-18 |
| PCJ | Programme Monitoring & Evaluation  | Quality and Cost Based Selection | N/A | PME-EMEP/C1809 | 250 | 50% | 50% | 0% | Component 1  | Ex-Ante | 16-Apr-19 | 23-Jan-20 |
| PCJ | Technical Study to Support the IRP | Quality and Cost Based Selection | N/A | IRP-EMEP/C1810 | 260 | 50% | 50% | 0% | Component 3  | Ex-Ante | 15-May-19 | 21-Feb-20 |
| PCJ | Diagnostic Study for IT Platform  | Quality and Cost Based Selection | N/A | IT-EMEP/C1808 | 100 | 50% | 50% | 0% | Component 3  | Ex-Ante | 9-Apr-18 | 7-Dec-18 |
| PCJ | Financial Auditing Nos. 1, 2 & 3 | Single Source Selection | N/A | AUD-EMEP/C1704 | 60 | 50% | 50% | 0% | Other Activities & Cost  | Ex-Ante | 5-Dec-17 | 4-Apr-18 |
| PCJ | Financial Auditing Nos. 4, 5 & 6 | Single Source Selection | N/A | AUD-EMEP/C2112 | 120 | 50% | 50% | 0% | Other Activities & Cost  | Ex-Ante | 5-Dec-21 | 6-Apr-22 |
| PCJ | Internal Control & Technical Study | National System | N/A | IC-EMEP/C1106 | 80 | 50% | 50% | 0% | Other Activities & Cost  | Ex-Ante | 5-Mar-18 | 1-Feb-21 |
| **INDIVIDUAL CONSULTANTS** |
| PCJ | Technical Expertise for MSET to Support IRP | National Individual Consultant | N/A | IRP-EMEP/IC1802 | 850 | 50% | 50% | 0% | Component 3  | Ex-Ante | 31-Jan-18 | 30-Apr-18 |
| PCJ | PEU Programme Management Consultancy  | National Individual Consultant | N/A | PEU-EMEP/IC1701 | 2,543 | 50% | 50% | 0% | Other Activities & Cost  | Ex-Ante | 27-Oct-17 | 4-Dec-17 |
| PCJ | Midterm Evaluation  | International Individual Consultant | N/A | ES-EMEP/IC2003 | 50 | 50% | 50% | 0% | Other Activities & Cost  | Ex-Ante | 21-Apr-20 | 19-Aug-20 |
| PCJ | Final Evaluation  | International Individual Consultant | N/A | ES-EMEP/IC2304 | 50 | 50% | 50% | 0% | Other Activities & Cost  | Ex-Ante | 25-Apr-23 | 23-Aug-23 |
| **TRAINING** |
| PCJ | Training for Facilities Managers/Operators  | Quality Based Selection | N/A | TRN-EMEP/T1701 | 160 | 50% | 50% |   | Component 1 | Ex-Ante | 5-Dec-17 | 20-Jun-18 |
| PCJ | Institutional Capacity Building for MSET | Quality and Cost Based Selection | N/A | ICB-EMEP/T1702 | 120 | 50% | 50% |   | Component 3 | Ex-Ante | 10-Mar-20 | 5-Nov-20 |

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| EA: | Procurement Activity: | Procurement Method(Select one of the options): | Lots Quantity: | Process Number: | Estimated Amount  | Associated Component: | Review Method: | Dates |
| Estimated Amount, in US$  | Estimated Amount IDB %: | Estimated Amount JICA % | Estimated Amount EU-CIF % | Specific Procurement notice | Contract Signature |
| **WORKS** |
| PCJ | Deep Retrofit Lot 2 - 7 Hospitals (EU-CIF) | Two-envelope International Competitive Bidding | 1 | EU-EMEP/W1906 | 9,332 | 0% | 0% | 100% | Component 1 | Ex-Ante | 4-Dec-18 | 27-Dec-19 |
| **CONSULTING FIRMS** |
| PCJ | Communications & Awareness | Quality and Cost Based Selection | N/A | COM-EMEP/NC1811 | 200 | 0% | 0% | 100% | Component 1 | Ex-Ante | 14-Jun-18 | 16-Jan-19 |
| PCJ | Technical Study to Support the IRP | Quality and Cost Based Selection | N/A | IRP-EMEP/C1703 | 250 | 0% | 0% | 100% | Component 2  | Ex-Ante | 5-Dec-17 | 24-Jul-18 |

D. Environmental and Social Management Plan (ESMP)







E. Risk Matrix and mitigation measures

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| --- | --- |
| **Project Name & Number:** | Energy Management and Efficiency Program, JA-G1003 |
| **Project Team Leader:** | Malaika Masson |
| **Date:** | 2 June, 2017 |

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| **Type of Risk \*** | **Risk** | **Probability Classification** | **Impact Classification** | **Risk Classification** **(High, Medium or Low)** | **Means of Mitigation**[[29]](#footnote-29) | **Compliance Indicator** |
| Public Management and Governance | Limited experience with IDB’s procurement procedures and financial management, including limited project management skills of the newly appointed Executing Unit could delay the implementation of the program. | Medium | High | Medium | This operation will benefit from the same PEU project management resources allocated under the EMEP loan (JA-L1056) operation and the experts and funds in critical functions this provides. In addition, the Bank will provide frequent training and capacity building for the PEU in fiduciary and program management. Furthermore, additional technical cooperation resources are being considered for the PEU. | The PEU is in place before first disbursement of this operation. The Bank provides training at least twice a year to the PEU.Any additional TC funds provided focus on providing procurement and financial management expertise support to the PEU.  |
| Public Management and Governance | Lack of coordination among government agencies. participating in the project could slow down the execution. | Medium | High | Medium | PEU will establish an Energy Management and Efficiency Project Coordination Committee (EMEPCC) with senior representatives from government agencies to help guide strategic decision making and keep updated on project progress. | Coordination Committee in place before first disbursement meets quarterly during the first two years of the Program Key government agencies represented on Committee  |
| Public Management and Governance | Lack of coordination among donors and government participating in the project could slow down the execution. | Medium | High | Medium | A closer coordination between the IDB operational team in country office and the donor relations team in head-quarters. Additionally, during implementation the project team will undertake quarterly progress updates with the JICA and EU offices in Kingston, Jamaica | Meetings schedule among donors is implemented. |
| Environmental and Social Sustainability | Contamination to environmental receptors due to inadequate handling and disposal of materials and equipment during the upgrade of facilities to incorporate energy efficiency and conservation measures. | Medium | Medium | Medium | JA-L1056 has allocated resources for implementing government’s waste disposal guidelines related to waste produced by the Program  | Annual Reports from PEU show Waste Management Report is approved by appropriate government agencies. |
| Environmental and Social Sustainability | Natural disasters could affect the Government’s facilities to be retrofitted under Component 1 due to its location along Jamaica’s coast line.[[30]](#footnote-30) | High | Medium | Medium | Contractors are required via contract to install EE and RE equipment according to international standards to minimize safety risk during natural disaster event. JA-L1056 funds will support independent inspection of equipment installed  | Annual Reports from PEU show independent inspection of all major equipment |
| Macroeconomic and Fiscal Sustainability | Vulnerability of country to external economic and natural shocks with negative consequences on fiscal space and project implementation priority | Medium | High | Medium | Program should still be considered as priority given that the net savings from investment will reduce fiscal expenses of the public sector. Additionally, the sensitivity analysis for this operation indicate that the Program is economically robust.  | Annual Monitoring and Evaluation Reports from PEU show that that this operation and the Programme is producing net savings |
| Macroeconomic and Fiscal Sustainability | A substantial decrease in the price of oil could make EE interventions unattractive  | Low | Medium | Low | The attractiveness of the program is based on the net saving in electricity consumption. A sensitivity analysis performed to test the impact of significant changes (20% decrease) to the electricity price and the program was shown to still be economically robust. | From the biannual reports from the PEU savings in annual kWh, CO2 emissions and fuel consumed will be reported. |
| Macroeconomic and Fiscal Sustainability | Exchange rate fluctuation between the Euro and the US dollar can influence final funds available for retrofitting buildings.  | Medium | Medium | Medium | This will be mitigated by reducing the number of retrofitted facilities in accordance with the available budget. In addition, IDB will request that the first disbursement from the EU represents a high percentage of their overall contribution  | The first EU disbursement to the Bank represents over 70% of overall contribution.  |
| Fiduciary | Lack of awareness of a multi-donor procurement, disbursements and financial reporting procedures.[[31]](#footnote-31) | Low | Medium | Medium | IDB provides early and regular training in its and JICA's and EU-CIF’s procurement processes and policies and financial management procedures and requirements IDB. PEU receives additional support in procurement and financial management from experts hired by the Bank. | Bank provides training to PEU before first disbursement request and twice a year thereafter. TC funds provide additional support to PEU in procurement and financial management |
| Fiduciary | Weak financial management capacity of the PEU. | Low | Medium | Low | The Procurement and Accounting personnel should be recruited and assigned to the programme in a timely manner. Personnel should be suitably skilled and qualified and preferably with experience in managing donor funded projects. | Before 1st disbursement key financial expertise should have been contracted as part of the PEU. |
| Development | Lack of coordination in the implementation plan of EE/RE retrofits  | Low | Medium | Low | Prime Contractor takes on project management and implementation responsibility for retrofit plan for each building. PEU undertakes quarterly supervision of contractors’ implementation schedule. | PEU Annual Report shows progress on retrofit implementation |
| Development | Capacity building results in trained staff leaving posts for better positions  | High | Low | High | Establish agreements with beneficiary Ministries to consider performance incentives (e.g., increase responsibilities, budgets) for high performing staff who complete training Operation and Management will be financed by the loan. | Ex-Post evaluation reveals 70% trained staff have been retained. |

\* Development; Public Management and Governance; Macroeconomic and Fiscal Sustainability; Environmental and Social Sustainability (According to Policies OP-703; OP-704; OP-710; OP-765; and GN-2531-10); Reputation; Monitoring and Accountability; Fiduciary.

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| **Comments[[32]](#footnote-32)** : |

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F. Fiduciary Arrangements (Annex III)

**Fiduciary Arrangements**

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| **Executing Agency:** | Petroleum Corporation of Jamaica (PCJ) |
| **Prepared by:** | Naveen Jainauth-Umrao, Financial Specialist; Rene Herrera, Senior Procurement Specialist; Leon Ferguson, Procurement Consultant; and Martin Nesbeth, Financial Consultant (FMP/CJA) |

**Executive Summary**

The fiduciary management evaluation of the programme was performed during May 2016 using the Institutional Capacity Assessment System (ICAS) methodology, as well as through a series of interviews with the management team of the PCJ. The evaluation indicates that the programme has a low fiduciary risk, and as such, it is believed that the PCJ; (i) based on the current structures and fiduciary systems in place; and (ii) once it has the Programme Executing Unit (PEU) established, will have the capacity to execute the programme. The Procurement ex-ante reviews and capacity building exercises conducted with the current PEU which will execute the pending programme, suggest that the requisite institutional capacity is present. However, considering the complex nature of the programme and anticipated increase in funding and funding sources, there is need for an experienced team compliment.

The Government of Jamaica (GOJ) continues, with assistance from major donors, to address key improvements to its fiduciary systems. The donor community is committed to working with the GOJ to determine the extent to which the country fiduciary systems can be used for the administration of donor-financed projects.

For this programme, in the area of financial management, the Bank is recommending the use of the Auditor General’s Department (AuGD) the Government accounting institution for external control. Currently, the portfolio of the Bank is managed through the establishment of special PEU for the majority of the projects. In addition, the Bank conducts a close operational supervision on these PEU, and provides training as needed on Bank’s policies and procedures. At the country’s fiduciary management level the employment of the *Fin Man* accounting system is implemented for treasury and financial administration. However, the PEU will employ the Microsoft Dynamics software and other assisted software which satisfies the financial administration requirement of the Bank.

The programme will be co-financed by Japan International Corporation Agency (JICA), and by non-reimbursable resources from the European Union Caribbean Investment Facility, and does not include local counterpart. No sub-executors are envisaged.

**Executing Agency’s Fiduciary Context**

The PCJ is guided by the Financial Administration and Audit Act (FAAA) and International Financial Reporting Standards (IFRS) for financial management. The Central Government uses the *Fin Man* software for accounting purposes. The PEU uses the Microsoft Dynamics for the project accounting purposes. This facilitates both a US$ and J$ transactions and general ledger; budgeting; reporting and other core accounting functions.

The Executing Agency (EA) has a history of implementation of projects placed under their responsibility, including one currently financed by United Nations Development Programme. There are also in-house projects implemented by the PCJ as this tie with their main mandate to drive energy conservation and energy saving for Jamaica. The GOJ public procurement system has been undergoing intensive improvement and modernization toward harmonization with international standards and best practices. These improvements have been recognized by the Bank which entered into an Agreement with the GOJ in January 2017, for the Partial Use of the National/ Country Procurement Systems in Bank financed operations. *[See 5.1 (d)]*

With the addition of this programme, it is anticipated that additional manpower would be required. Consequently, a Finance Specialist and Procurement Specialist will be contracted to provide the necessary institutional strengthening to the PEU.

**Fiduciary Risk Assessment and Mitigating Actions**

The overall fiduciary risk of the programme, which was evaluated using the ICAS methodology, is deemed to be low. The fiduciary evaluation was done mainly of the PCJ since the PEU for the programme has not yet been established. Notwithstanding this, there were a few risks as outlined below that were deemed medium risk and which could have an impact on the programme. These risks however do not affect the overall risk of the programme.

|  |  |  |
| --- | --- | --- |
| **Risk** | **Risk rating** | **Mitigation measures** |
| 1. **Weak financial management capacity of the PEU.**
 | Low | The Procurement and Accounting personnel should be recruited and assigned to the programme in a timely manner. Personnel should be suitably skilled and qualified and preferably with experience in managing donor funded projects.**Responsibility for implementation:** PEU/Borrower**Timeline for implementation:** Prior to 1st disbursement of the loan |
| 1. **Lack of awareness of a multi-donor procurement, disbursements and financial reporting procedures.**
 | Medium | Create capacity within the PEU through in house training on IDB’s procurement, financial management procedures and requirements.**Responsibility for implementation:** IDB**Timeline for implementation**: During programme design and throughout programme execution. |

**Table 1: Mitigation Risk and Rating**

**Aspects to be considered in the Special Conditions of the Loan Contract**

In order to facilitate the negotiation of the operation, outlined below are agreements and requirements which will be incorporated into the special conditions:

* + 1. **Special conditions: precedentto first disbursement.** To include the following requirements:

The three strategic positions of the PEU been appointed and/or selected, pursuant to terms of reference satisfactory to the Bank;

The Project Operating Manual (OM) has been approved with the terms previously agreed with the Bank, including fiduciary management and inter-institutional governance arrangements, the EU/CIF specific terms and conditions from the relevant signed agreements

The agreement between the Borrower and the EA for the transfer of loan resources together with project implementation obligations, in accordance with terms previously agreed with the Bank has entered into effect and;

The JICA loan agreement between the Borrower and JICA has entered into effect.

* + 1. **Special conditions:** **precedent to execution.** Prior to the execution of the programme, the Borrower shall provide evidence that collaboration agreements between the EA and each of the Ministry of Science, Energy and Technology (MSET), and the National Works Agency (NWA), to facilitate the execution of the respective activities related to those entities, have entered into effect.
		2. **Rate of exchange agreed with the EA.** If the programme’s expenditures have been incurred in local currency, the EA and the Bank will agree on the exchange rate to be used in the justification and reimbursement. For purposes of the justification of expenditures to the Bank (including reimbursement/recognition of expenditures, and local counterpart) the equivalent amount to be reported in the project or disbursement currency will be determined using the effect exchange rate used to convert the funds denominated in the programme’s currency to the local currency.
		3. **Financial Statements and Reports.** Annual Audited Financial Statements (AFS) of the programme are to be submitted to the Bank within 60 days after the close of each fiscal period, in addition to Final AFS, which are due for submission to the Bank within 60 days of the close (last disbursement date) of the programme. The AFS should report on the overall programme, in the expressed currency of the loan. The AFS of the programme should include, in addition to the basic financial statements, an internal control report.

**Requirements and Arrangements for Execution of Procurement**

**Procurement execution.** Procurements for the proposed project will be carried out in accordance with the Policies for the Procurement of Works and Goods Financed by the Inter-American Development Bank (GN-2349-9) of March 2011, and the Policies for the Selection and Contracting of Consultants Financed by the Inter-American Development Bank (GN-2350-9) of March 2011, with the provisions established in the Loan Contract and the procurement plan.

With the introduction of non-reimbursable resources from the European Union Caribbean Investment Facility to the Programme, the procurement of all works, goods, services and consultancy services for activities and contracts under the Programme (including resources from the JICA Loan) initiated after the signature of the respective non-reimbursable agreement (Delegation Agreement) between the Bank and the Borrower will be open, both to Bank Member Countries, and to the European Union list of eligible countries published in the European Commission website as an annex to its “Practical Guide to Contract Procedures for EU External Actions”.

* + 1. **Procurement of Goods, Works, and Non-Consulting Services.** The procurement plan for the Energy Management and Efficiency Programme (EMEP) covering the first 18 months of project execution will indicate the procedure to be used for the procurement of Goods, the contracting of Works and Non-Consulting Services. The review of technical specifications in all cases, during the process of selection is the responsibility of the sector specialist of the programme.
		2. **Procurement of Consulting Services.** The procurement plan for the EMEP covering the first 18 months of programme execution indicates the procedure to be used for the procurement of Consultancy Services, and the method of selecting Consultants. The EA is responsible for preparing and implementing the programme, and therefore for preparing the Terms of Reference, short lists, selecting the Consultants, and awarding and subsequently administering the contract, with Bank supervision.
		3. **Recurring Expenses.** Include payment of utilities and other office operating expenses of the PEU.
		4. **Use of Country Procurement Systems:** The Bank has approved the use of the Jamaican Procurement Sub-system of Limited Tender/Restricted Bidding, for all contracts for works below the Bank’s threshold for Price Comparison (up to US$150,000) and contracts for goods and non-consulting services that fall within the Bank’s threshold for the said method (US$25,000).

**Table 2. Country Threshold Table (US$Thousands)** [**www.iadb.org/procurement**](http://www.iadb.org/procurement)

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| **THRESHOLDS** |
| **International Competitive Bidding Threshold\*** | **National Competitive Bidding Range\*\*****(Complex Works and non-common goods)** | **Consulting Services** |
| **Works** | **Goods** | **Works** | **Goods** | **International Short List** |
| >1,500,000 | >150,000 | 150,000–1,500,000 | 25,000-150,000 | >200,000 |

\* When procuring simple works and common goods and their amount is under the International Competitive Bidding thresholds, Shopping may be used.

\*\* When procuring complex works and non-common goods with amounts under the NCB range, Shopping shall be used.

**Procurement Plan (PP).** The procurement plan indicates the procedure to be used for the procurement of Goods, the contracting of Works or Services, and the method of selecting Consultants, for each contract or group of contracts. It also indicates cases requiring prequalification, the estimated cost of each contract or group of contracts and the requirement for prior or post review by the Bank. The PP will be posted on the [Bank’s website](http://www.iadb.org/en/projects/procurement-plans%2C8180.html?keyword=&projectCountry=JA&ProjectNumber=&dateFrom_plan=&dateTo_plan) and will be updated annually or whenever necessary, or as required by the Bank.

**Procurement Supervision.** The review method for all procurement actions will be ex-ante as the PP is not available at the time of preparing Annex III. If a procurement activity is moved to ex-post, the ex-post procurement supervision should take place at least once every 12 months, in accordance with the supervision plan of the programme.

**Records and Files.** All records and files will be maintained by the PEU, according EU-CIF requirements, and be kept for up to five (5) years beyond the end of the operation’s execution period, this understood as the final disbursement date.

**Fiduciary Management**

**Programming and budget.** Each year, the Ministry of Finance and the Public Service (MOFPS) publishes a Budget Circular requesting the submission of estimates of income and expenditure from ministries and other agencies for inclusion in the National Budget for the following fiscal year, April 1 to March 31.

The PEU will prepare annual estimates in the required format for the review and approval by the Board of Directors (BoD) of the PCJ (or Group General Manager in the absence of a governing BoD). The estimates will consider the total cost of financing required for execution of the programme. The budget is presented to Parliament before the close of the fiscal year. Once the budget is approved, amendments are made through the submission of Supplementary Budget by the MOFPS.

The Borrower has committed to allocate, for each fiscal year of project execution, adequate fiscal space to guarantee the unfettered execution of the project; as determined by normal operative instruments such as the Annual Operating Plan (POA), the Financial Plan and the PP.

Even though no counterpart resources are contemplated in the original project budget, the Borrower will undertake to provide all required resources for the total and effective completion of the project activities.

**Accounting and information systems.** Project accounting will be performed using Microsoft Dynamics accounting software, in accordance with the FAAA and IFRS; IDB’s financial management requirements; the modified cash basis of accounting, which is a comprehensive basis of accounting other an IFRS. It is expected that the accounting system will facilitate the recording and classification of all financial transactions, provide information related to: planned vs. actual financial execution for the programme; the financial execution plan for the next 180 days that will be attached to each request for Advance of Funds. Additionally, the list of commitments will also accompany any request for Advance of Funds.

**Disbursements and cash flow.** Whenever resources from the financing are requested through an Advance of Funds, they will be deposited into a Special Consolidated Fund Account at the Central Bank or a designated account at a commercial bank, denominated in US$.

The PEU commits to maintain strict control over the utilization of the Advance so as to ensure the easy verification and reconciliation of balances between the Executing Agency’s records and IDB records (WLMS1).

According to EU-CIF policies, only those expenditures that have incurred after the signature of the delegation agreement will be eligible.

The project will provide adequate justification[[33]](#footnote-33) of the existing Advance of Funds balance, whenever 70% of said balance has been spent. Advance of Funds will be made in accordance with Article 19 (Payments) of EU-CIF PAGODA. The following disbursement methodologies will be used for the programme:

* + 1. Reimbursement of Payments Made
		2. Direct Payment to Supplier
		3. Advance of Funds (to provide for the liquidity needs and facilitate the day to day operations).

Supporting documentation for Justifications of Advances and Reimbursement of Payments made will be kept at the office of the PEU. Supporting documentation for direct payments will be sent to the Bank for processing. In light of the experience garnered from the current and former operations the modality for disbursement will be ex-ante.

**Internal control and internal audit.** The management of the project, at the level of both the EA and the PEU, will assume the responsibility for designing and implementing a sound system of internal control for the EMEP in its entirety.

**External control and reports.** For each fiscal year during project execution, the PCJ will be responsible to submit AFS for the programme. These Financial Statements will be audited by an independent public accounting firm approved by the Bank’s country office. These financial audits will have to be delivered by the PCJ to the Bank[[34]](#footnote-34) : (a) Annually: within 90 calendar days after the Jamaica’s fiscal closing date; (b) Final Audit: within 90 calendar days after the final disbursement date as defined in the Non Reimbursable financial agreement; (c) Inputs to the Bank’s Management Declaration[[35]](#footnote-35): within 30 calendar days after the Jamaica’s fiscal closing date.

**Financial supervision plan.** Financial Supervision Plan will be developed by the IDB based on the initial and subsequent risk assessments carried out for the programme. Financial, Accounting and Institutional Inspection visits will be performed at least once per year, covering, among other things, the following topics:

* + 1. Review of the bank reconciliation and supporting documentation for Advances and Justifications.
		2. Review of compliance with the Programme OM.
		3. Conducting ex-post Reviews.

**EU access to project documents.** The Bank will allow the EC, OLAF and the European Court of Auditors to conduct on-the-spot checks on the use made of EU contributions on the grounds of supporting accounting documents and any other documents related to the financing of the project. These desk-reviews and on-the-spot checks can occur at the Bank’s offices and the Executing Agency. The European Commission shall inform the Bank of the planned on-the-spot missions by agents appointed by the European Commission in due time in order to ensure that adequate procedural matters are agreed upon in advance, and the Bank will communicate to PCJ. These verification visits may be conducted at Bank offices or PCJ Offices.

**Execution mechanism.** The programme execution structure will be composed of the EA, a Programme Steering Committee (PSC) and a PEU which will be established within the PCJ and will execute the programme. The PSC, chaired by the PCJ, and comprising representatives from PCJ, MSET, NWA, Ministry of Agriculture, Ministry of Education, Ministry of Health, National Environment and Planning Agency as well as representatives from statutory organizations, will be formed to provide strategic direction, and technical oversight of the programme and the PEU.

The PEU will have three strategic positions: one Programme Manager, one Procurement Specialist and one Financial Specialist. The Programme Manager will enable smooth day-to-day operations of the programme. The Programme OM further describes the recommended PEU composition and their responsibilities. The Borrower will be responsible for the administration of loan financing and procurement processes. Specific PEU duties include: (i) preparation of semi-annual progress reports; (ii) preparation, and implementation of the POA; (iii) preparation of budgets, and disbursements; (iv) preparation of the PP; (v) financial administration of the programme according to accepted accounting principles and presenting audited financial statements; (vi) ensuring the quality and efficacy of procurement processes and their compliance with both the policies of the Bank and that of the GOJ; (vii) ensuring the consistent alignment of expected programme results with day-to-day programme implementation as well as continuous data collection to enable the measurement of the indicators included in the Results Matrix; and (viii) being programme liaison with the Bank.

**Fiduciary Arrangements**

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| **Executing Agency:** | Petroleum Corporation of Jamaica (PCJ) |
| **Prepared by:** | Naveen Jainauth-Umrao, Financial Specialist (FMP/CJA) |
|  | Rene Herrera, Senior Procurement Specialist (FMP/CJA) |
|  | Leon Ferguson, Procurement Consultant (FMP/CJA) |
|  | Martin Nesbeth, Financial Consultant (FMP/CJA) |

**Executive Summary**

The fiduciary management evaluation of the program was performed during May 2016 using the Institutional Capacity Assessment System (ICAS) methodology, as well as through a series of interviews with the management team of the PCJ. The evaluation indicates that the program has a low fiduciary risk, and as such, it is believed that the PCJ; (i) based on the current structures and fiduciary systems in place; and (ii) once it has the Program Executing Unit (PEU) established, will have the capacity to execute the program. The Procurement ex-post reviews and capacity building exercises conducted with the current PEU which will execute the pending program, suggest that the requisite institutional capacity is present. However, considering the complex nature of the program and anticipated increase in funding and funding sources, there is need for an experienced team compliment.

The Government of Jamaica (GOJ) continues, with assistance from major donors, to address key improvements to its fiduciary systems. The donor community is committed to working with the GOJ to determine the extent to which the country fiduciary systems can be used for the administration of donor-financed projects.

For this program, in the area of financial management, the Bank is recommending the use of a certified public accounting firm, approved by the Bank, for external control. Currently, the portfolio of the Bank is managed through the establishment of special PEU for the majority of the projects. In addition, the Bank conducts a close operational supervision on these PEU, and provides training as needed on Bank’s policies and procedures. At the country’s fiduciary management level the employment of the *Fin Man* accounting system is implemented for treasury and financial administration. However, the PEU will employ the Microsoft Dynamics software and other assisted software which satisfies the financial administration requirement of the Bank.

The program will be co-financed by Japan International Corporation Agency (JICA), and does not include local counterpart. No sub-executors are envisaged.

**Executing Agency’s Fiduciary Context**

The PCJ is guided by the Financial Administration and Audit Act (FAAA) and International Financial Reporting Standards (IFRS) for financial management. The Central Government uses the *Fin Man* software for accounting purposes; this is fairly new and still in its implementation stage. The PEU uses the Microsoft Dynamics for the project accounting purposes. This facilitates both a US$ and J$ transactions and general ledger; budgeting; reporting and other core accounting functions.

The Executing Agency (EA) has a history of implementation of projects placed under their responsibility, including one currently financed by United Nations Development Program. There are also in-house projects implemented by the PCJ as this tie with their main mandate to drive energy conservation and energy saving for Jamaica. The GOJ public procurement system has shown improvement over the past few years and is considered to be approaching international standards. This reform effort is still underway and the country’s public procurement system is not yet recommended for this program.

With the addition of this program, it is anticipated that additional manpower would be required. Consequently a Senior Accountant and Procurement Officer will be contracted to provide the necessary institutional strengthening to the PEU.

**Fiduciary Risk Assessment and Mitigating Actions**

The overall fiduciary risk of the program, which was evaluated using the ICAS methodology, is deemed to be low. The fiduciary evaluation was done mainly of the PCJ since the PEU for the program has not yet been established. Notwithstanding this, there were a few risks as outlined below that were deemed medium risk and which could have an impact on the program. These risks however do not affect the overall risk of the program.

|  |  |  |
| --- | --- | --- |
| **Risk** | **Risk rating** | **Mitigation measures** |
| 1. **Weak financial management capacity of the PEU.**
 | Low | The Procurement and Accounting personnel should be recruited and assigned to the program in a timely manner. Personnel should be suitably skilled and qualified and preferably with experience in managing donor funded projects.**Responsibility for implementation:** PEU/Borrower**Timeline for implementation:** Prior to 1st disbursement of the loan |
| 1. **Lack of awareness of IDB procurement, disbursements and financial reporting procedures.**
 | Medium | Create capacity within the PEU through in house training on IDB’s procurement, financial management procedures and requirements.**Responsibility for implementation:** IDB**Timeline for implementation**: During program design and throughout program execution. |

**Table 1.Mitigation Risk and Rating**

**Aspects to be considered in the Special Conditions of the Loan Contract**

In order to facilitate the negotiation of the operation, outlined below are agreements and requirements which will be incorporated into the special conditions:

* + 1. **Special conditions: precedentto first disbursement.** To include the following requirements:

The establishment of the PEU and the contracting of the PEU officers.

The agreement between Ministry of Finance and Public Service and the EA for transferring of the loan resources and establishing project implementation activities, pursuant to the terms previously agreed with the Bank has entered into effect.

The loan agreement to be executed between the Borrower and JICA has entered into effect.

* + 1. **Special conditions:** **precedent to execution.** Prior to the execution of Components I and II, the EA shall provide evidence that:

The Program Manager, Financial Specialist and Procurement Specialist have been selected pursuant to terms of reference satisfactory to the Bank.

The Project Operating Manual (OM) has been approved with the terms previously agreed with the Bank, including fiduciary management, inter-institutional governance arrangements and the composition of the Energy Management and Efficiency Program Coordination Committee[[36]](#footnote-36).

* + 1. **Rate of exchange agreed with the executing agency.** If the program’s expenditures have been incurred in local currency, the EA and the Bank will agree on the exchange rate to be used in the justification and reimbursement. For purposes of the justification of expenditures to the Bank (including reimbursement/recognition of expenditures, and local counterpart) the equivalent amount to be reported in the project or disbursement currency will be determined using the effect exchange rate used to convert the funds denominated in the program’s currency to the local currency.
		2. **Financial Statements and Reports.** Annual Audited Financial Statements (AFS) of the program are to be submitted to the Bank within 120 days after the close of each fiscal period, in addition to Final Audited Financial Statements, which are due for submission to the Bank within 120 days of the close (last disbursement date) of the program. The AFS should report on the overall program, in the expressed currency of the Loan. The Audited Financial Statements of the program should include, in addition to the basic financial statements, an internal control report.

**Requirements and Arrangements for Execution of Procurement**

**Procurement execution.** Procurements for the proposed project will be carried out in accordance with the Policies for the Procurement of Works and Goods Financed by the Inter-American Development Bank (GN-2349-9) of March 2011, and the Policies for the Selection and Contracting of Consultants Financed by the Inter-American Development Bank (GN-2350-9) of March 2011, with the provisions established in the Loan Contract and the procurement plan.

* + 1. **Procurement of Goods, Works, and Non-Consulting Services.** The procurement plan for the Energy Management and Efficiency Program (EMEP) covering the first 18 months of project execution will indicate the procedure to be used for the procurement of Goods, the contracting of Works and Non Consulting Services. The review of technical specifications in all cases, during the process of selection is the responsibility of the sector specialist of the program.
		2. **Procurement of Consulting Services.** The procurement plan for the EMEP covering the first 18 months of program execution indicates the procedure to be used for the procurement of Consultancy Services, and the method of selecting Consultants. The Borrower is responsible for preparing and implementing the program, and therefore for preparing the Terms of Reference (TORs), short lists, selecting the Consultants, and awarding and subsequently administering the contract, with Bank supervision.
		3. **Recurring Expenses.** Include payment of utilities and other office operating expenses of the PEU.

**Table 2. Country Threshold Table (US$Thousands)** [**www.iadb.org/procurement**](http://www.iadb.org/procurement)

|  |
| --- |
| **THRESHOLDS** |
| **International Competitive Bidding Threshold \*** | **National Competitive Bidding Range \*\*****(Complex Works and non-common goods)** | **Consulting Services** |
| **Works** | **Goods** | **Works** | **Goods** | **International Short List** |
| >1,500,000 | >150,000 | 150,000 – 1,500,000 | 25,000 -150,000 | >200,000 |

\* When procuring simple works and common goods and their amount is under the International Competitive Bidding thresholds, Shopping may be used.

\*\* When procuring complex works and non-common goods with amounts under the NCB range, Shopping shall be used.

**Procurement Plan (PP).** The procurement plan indicates the procedure to be used for the procurement of Goods, the contracting of Works or Services, and the method of selecting Consultants, for each contract or group of contracts. It also indicates cases requiring prequalification, the estimated cost of each contract or group of contracts and the requirement for prior or post review by the Bank. The procurement plan will be posted on the Bank’s website ([http://www.iadb.org/en/projects](http://www.iadb.org/en/projects/procurement-plans%2C8180.html?keyword=&projectCountry=JA&ProjectNumber=&dateFrom_plan=&dateTo_plan)) and will be updated annually or whenever necessary, or as required by the Bank.

**Procurement Supervision.** The review method for all procurement actions will be ex-ante as the procurement plan is not available at the time of preparing Annex III. If a procurement activity is moved to ex-post, the ex-post procurement supervision should take place at least once every 12 months, in accordance with the supervision plan of the program.

**Records and Files.** All records and files will be maintained by the PEU, according to accepted best practices, and be kept for up to 3 years beyond the end of the operation’s execution period.

**Fiduciary Management**

**Programming and budget.** Each year, the Ministry of Finance and Planning publishes a Budget Circular requesting the submission of estimates of income and expenditure from ministries and other agencies for inclusion in the National Budget for the following fiscal year, April to March.

The PEU will prepare annual estimates in the required format for the review and approval by the Board of Directors (BoD) of the PCJ (or Group Managing Director in the absence of a governing BoD). The estimates will consider the total cost of financing required for execution of the program. The budget is presented to Parliament before the close of the fiscal year. Once the budget is approved, amendments are made through the submission of Supplementary Budget by the Minister of Finance.

The Borrower has committed to allocate, for each fiscal year of project execution, adequate fiscal space to guarantee the unfettered execution of the project; as determined by normal operative instruments such as the Annual Operating Plan, the Financial Plan and the Procurement Plan.

Even though no counterpart resources are contemplated in the original project budget, the Borrower will undertake to provide all required resources for the total and effective completion of the project activities.

**Accounting and information systems.** Project accounting will be performed using Microsoft Dynamics accounting software, in accordance with the FAAA and IFRS; IDB’s financial management requirements; the modified cash basis of accounting, which is a comprehensive basis of accounting other an IFRS. It is expected that the accounting system will facilitate the recording and classification of all financial transactions, provide information related to: planned vs. actual financial execution for the program; the financial execution plan for the next 180 days that will be attached to each request for Advance of Funds. Additionally, the list of commitments will also accompany any request for Advance of Funds.

**Disbursements and cash flow.** Whenever resources from the financing are requested through an Advance of Funds, they will be deposited into a Special Consolidated Fund Account at the Central Bank or a designated account at a commercial bank, denominated in US Dollars.

The PEU commits to maintain strict control over the utilization of the Advance so as to ensure the easy verification and reconciliation of balances between the Executing Agency’s records and IDB records (WLMS1).

Eligible expenditures, authorized by the PTL and incurred prior to the approval of this project will be reimbursed to the Borrower, in accordance with current Bank policy.

The project will provide adequate justification of the existing Advance of Funds balance, whenever 80% of said balance has been spent. Advances will normally cover a period not exceeding 180 days and no less than 90 days. The following disbursement methodologies will be used for the program:

* + 1. Reimbursement of Payments Made (will be minimally used).
		2. Direct Payment to Supplier (for large foreign payments).
		3. Advance of Funds (to provide for the liquidity needs and facilitate the day to day operations).

Generally, supporting documentation for Justifications of Advances and Reimbursement of Payments Made will be kept at the office of the PEU. Supporting documentation for direct payments will be sent to the Bank for processing. In light of the experience garnered from the current and former operations the modality for disbursement will be ex-post.

**Internal control and internal audit.** The management of the project, at the level of both the Executing Agency and the PEU, will assume the responsibility for designing and implementing a sound system of internal control for the project.

**External control and reports.** For each fiscal year during project execution, the PCJ will be responsible to submit Audited Financial Statements for the program. These Financial Statements will be audited by an independent public accounting firm approved by the Bank’s country office. A final AFS is to be submitted to the Bank within 120 days from the date of last disbursement.

**Financial supervision plan.** Financial Supervision will be developed based on the initial and subsequent risk assessments carried out for the program. Financial, Accounting and Institutional Inspection visits will be performed at least once per year, covering, among others things, the following topics:

* + 1. Review of the bank reconciliation and supporting documentation for Advances and Justifications.
		2. Review of compliance with the Program Operations Manual.
		3. Conducting ex-post Reviews.

**Execution mechanism.** The program execution structure will be composed of the EA, a Program Steering Committee (PSC) and a PEU which will be established within the PCJ and will execute the program. The PSC, chaired by the PCJ, and comprising representatives from PCJ, Ministry of Science, Energy and Technology, National Works Agency, Ministry of Agriculture, Ministry of Education, Ministry of Health, National Environment and Planning Agency as well as representatives from statutory organizations, will be formed to provide strategic direction, and technical oversight of the program and the PEU.

The PEU will have three strategic positions: one Program Coordinator, one Procurement Specialist and one Financial Specialist. The Program Coordinator will enable smooth day-to-day operations of the program. The Program Operations Manual further describes the recommended PEU composition and their responsibilities. The PEU will be responsible for the administration of loan financing and procurement processes. Specific PEU duties include: (i) preparation of semi-annual progress reports; (ii) preparation, and implementation of the Annual Operating Plans; (iii) preparation of budgets, and disbursements; (iv) preparation of the Procurement Plan; (v) financial administration of the program according to accepted accounting principles and presenting audited financial statements; (vi) ensuring the quality and efficacy of procurement processes and their compliance with both the policies of the Bank and that of the GOJ; (vii) ensuring the consistent alignment of expected program results with day-to-day program implementation as well as continuous data collection to enable the measurement of the indicators included in the Results Matrix; and (viii) being program liaison with the Bank.

G. Monitoring and Evaluation Plans

Document of the Inter-American Development Bank

**JAMAICA**

**Energy Efficiency and Conservation Program**

**(JA-L1056)**

**Monitoring and Evaluation Plan**

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**Abbreviations**

|  |  |
| --- | --- |
| AC | Air Conditioning  |
| BOE | Barrels of Oil Equivalent  |
| CBA | Cost Benefit Analysis |
| CCB/CJA | Country Office in Jamaica |
| CO2 | Carbon Dioxide  |
| EA | Executing Agency  |
| EC | Energy Conservation |
| EE | Energy Efficiency |
| EECTA | Energy Efficiency and Conservation Technical Assistance  |
| ERR | Economic Rate of Return |
| GHG  | Greenhouse Gases |
| GoJ | Government of Jamaica |
| IDB | Inter-American Development Bank |
| INE/ENE | Energy Division  |
| kWh | Kilo-watt hour |
| MSET | Ministry of Science, Energy & Technology  |
| M&V | Measurement and Verification  |
| PEU | Project Execution Unit |

 UTSM Urban Traffic Management System

1. **Introduction**

This document presents the Monitoring and Evaluation Plan for the Energy Management and Efficiency Program (‘the Program’). The purpose of this document is to establish the framework, processes, and institutional arrangements that will be used to monitor and evaluate the Program.

The general objective of this program is to promote Energy Efficiency (EE) in government facilities and fuel conservation in road transportation to help reduce the debt of the Government of Jamaica by avoiding fuel imports.

The specific objectives and expected results of this program are: (i) reduced electricity consumption within health, education and public agency government facilities, which translates in lower CO2 emissions; (ii) reduced travel times and avoided fuel consumption through improved traffic control management, which translates in lower CO2 emissions; and (iii) increased capacity within the Ministry of Science, Energy and Technology (MSET) to enable it to update its Integrated Resource Plan (IRP) for Jamaica.

The Program consists of the following components:

**Component 1. Retrofitting HEPA Government Facilities (US$21.135 M**). This component will finance EE and conservation measures in 73 HEPA government facilities, with deep, comprehensive retrofits in 23 government facilities and LED lighting retrofits in 50 facilities. Activities in this component include: (i) IGAs for 17 facilities; (ii) the purchase, installation, operation and maintenance of EE technologies and measures in government facilities ; (iii) training workshops and manuals for facilities personnel and waste disposal activities; and (iv) a communications and raising awareness campaign focused on disseminating the results of the program and sensitizing the public and private sector to EE standards, particularly those highlighted within the Building Code.

**Component 2. Implementation of an Urban Traffic Management System (US$3.50 M).** This component will finance the purchase and installation of equipment to complete the UTMS in Kingston and consists of: (i) a central control ITS integration platform for traffic monitoring, operation, planning and modelling; (ii) upgraded traffic controllers, closed-circuit television cameras, detectors, and communication switches at intersections to provide real-time traffic counts and patterns; and (iii) training and coaching of NWA staff for planning, operation and maintenance.

**Component 3. Support to Electricity Planning (US$1.78 M).** This component provides MSET with additional expertise and systems capacity. In particular: (i) training and coaching; (ii) contracting of technical experts knowledgeable in EE and demand side management, electricity sales and rates, and transmission and distribution to supplement MSET expertise and provide on the-job training; (iii) technical studies to support the implementation of the IRP; (iv) a diagnostic study to understand the most appropriate software/IT platform required for implementing and updating the IRP; and (v) the purchase and installation of appropriate software/IT for IRP implementation.

**Project Management (US$3.58 M).** Complementing the Operational-Support Technical Cooperation (ATN/OC-15617-JA) this component will support the PEU through the contracting of consultant expertise for program, financial and procurement management, for five additional years. This component will also support the contracting of additional experts covering: environmental impact management, electricity safety and compliance, quantity surveying, communications, training and monitoring and evaluation.

The cost of the program is estimated to be US$30 million, including the three Components noted above, resources to provide monitoring and evaluation for the program, and project management.

In order to monitor and evaluate the expected results of the Project, a before and after assessment methodology will be used, as well as an ex-post cost-benefit analysis. The key monitoring tools for the M&E plan include maintaining records during the implementation process, measuring electricity consumption in retrofitted HEPA facilities, the reduction of transport fuel consumed in the Kingston Metropolitan Region, the reduction of hours in travel time, and the reduction of CO2 emissions resulting from reduced electricity consumption in HEPA retrofitted facilities and from the reduced transport fuel consumed in the KWR. The evaluation methodologies include before and after analysis of key outcome indicators and an ex-post cost-benefit analysis. The ex-post cost-benefit analysis of the investments funded by the Project will follow the same assumptions, methodology, and modeling parameters as the ex-ante cost-benefit analysis that was performed as part of the loan preparation process.

This Monitoring and Evaluation (M&E) Plan is organized in two main sections:

* **Monitoring Plan** (Section 2)—presents the indicators used to monitor the deliverable of Program’s outputs, assigns the responsibility for collecting data, defines the instruments used to monitor the Program, and establishes the work plan and budget for monitoring the Program.
* **Evaluation Plan** (Section 3)—presents the main questions the Evaluation Plan addresses, mentions the studies that the Evaluation Plan builds upon, identifies the outcome and impact indicators used to evaluate the Program, and describes the methodology and instruments used to evaluate the results of the Program.
1. **Monitoring**

The Program will be monitored by tracking a set of output indicators that measure performance in terms of project deliverables. The monitoring plan defines these indicators and establishes the process and institutional arrangements to monitor these indicators. Specially, the monitoring plan describes the instruments and processes used to track these output indicators, defines the tasks, assigns responsibilities, and defines the necessary budget for preparing these instruments.

**2.1 Output Indicators**

Table 1 presents the indicators that will be used to measure whether the Program’s outputs are fulfilled. The PCJ will be the Executing Agency (EA) of the Program, and therefore, the main party responsible for providing inputs to monitor the Program. The indicators, its description, and source of verification are detailed in the following table.

**Table 1: Project Output Indicators by Component**

|  |  |  |  |
| --- | --- | --- | --- |
| Indicator | Formula | Frequency of Measurement | Source of Verification |
| **Output Indicators** |
| Component 1: Retrofitting HEPA Government Facilities |
| HEPA government facilities with Energy Efficiency (EE) equipment replaced, installed and operating (17 Investment Grade Audits (IGAs) will be completed to achieve these outputs) | # of government facilities | Biannually | Biannual reports from PCJ  |
| EE light technology replaced, installed and operating in HEPA government facilities (EE light technology may include Light-Emitted Diode (LED) | # of government facilities | Biannually | Biannual reports from PCJ |
| Communication activities completed to raise awareness on EE management & maintenance in HEPA government facilities (List of participant and follow-up monitoring to participants per workshop) | # of activities | Biannually | Biannual reports from PCJ  |
| EE manuals developed for management and maintenance of HEPA government facilities | # of manuals | Biannually | Biannual reports from PCJ |
| Component 2: Implementation of an Urban Traffic Management System |
| Equipment necessary to upgrade the central control system purchased, installed and operating (To be used for traffic monitoring, operation, planning and modelling) | Binary(yes =1 no = 0)  | Biannually | Biannual report from NWA andIndependent M&E Report |
| Equipment necessary to modernize and coordinate traffic signals purchased, installed and operating (Includes upgraded traffic controllers, closed-circuit television cameras, detectors, and communication switches at intersections) | Binary (yes =1 no = 0) | Biannually | Biannual report from NWA and Independent M&E Report |
| Number of Packages of Support for Training and Capacity Building in Intelligent Transportation System delivered(Includes System training; Planning training; Sun-Guide training and Coaching) | # of packages | Biannually | Biannual report from NWA andIndependent M&E Report |
| Component 3: Support to Electricity Planning |
| Number of technical studies to support IRP revision or update completed (This includes studies on electrical losses, and integrated energy planning) | # of studies | Biannually | Biannual report from MSETIndependent M&E Report. |
| Number of training modules completed to support technical capacity in MSET to revise or update IRP (Training includes: distributed generation and reliability modelling in IRP; Dispatch, Production Costing Procedures and Systems and Policy Parameters and Trade-off Measures) | #of training modules | Biannually | Biannual report from MSETIndependent M&E Report  |
| Number of technical experts contracted to reinforce capacity and develop training plans within MSET to enable staff to revise or update IRP (Experts to be contracted in the following areas: Energy Efficiency and Demand-Side Management; Electricity Sales and Rates and Transmission & Distribution) | #of technical experts | Biannually | Biannual report from MSETIndependent M&E Report. |
| Diagnostic study completed on IT software required in MSET to support IRP coordination(Study to prioritize software and IT platforms that would add value to IRP coordination and planning) | Binary(yes =1 no = 0) | Biannually | Biannual report from MSET and Independent M&E Report |
| Appropriate IT software for coordinating IRP purchased, installed and operating | # of software | Biannually | Biannual report from MSET and Independent M&E Report |

A baseline value and year has been defined and the responsibilities for monitoring these indicators will lie within the PEU.

Table 2 shows the Physical Progress as planned during the project execution by Output and Component

Moreover, Table 3 presents annual costs by output indicator

**Table 2: Project Execution Timeline by Output and Milestone**

| Indicator | Unit | Baseline (2015) | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Final Target (EOP) | Source of Verification |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Component 1: Retrofitting HEPA Government Facilities |
| **Component 1 Outputs** |
| HEPA government facilities with Energy Efficiency (EE) equipment replaced, installed and operating | # of government facilities | 0 | 0 | 2 | 4 | 7 | 5 | 5 | 23 | 17 Investment Grade Audits (IGAs) will be completed to achieve these outputs.Biannual reports from PCJ  |
| EE light technology replaced, installed and operating in HEPA government facilities  | # of government facilities | 0 | 0 | 0 | 0 | 20 | 30 | 0 | 50 | Biannual reports from PCJ.EE light technology may include Light-Emitted Diode (LED). |
| Communication activities completed to raise awareness on EE management & maintenance in HEPA government facilities | # of activities completed | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 5 | Biannual reports from PCJ List of participant and follow-up monitoring to participants per workshop |
| EE manuals developed for management and maintenance of HEPA government facilities | # of manuals | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | Biannual reports from PCJ |
| Component 2: Implementation of an Urban Traffic Management System |
| **Component 2 Outputs** |
| Equipment necessary to upgrade the central control system purchased, installed and operating | Binary (yes =1 no = 0)  | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | To be used for traffic monitoring, operation, planning and modellingBiannual report from NWAIndependent M&E Report |
| Equipment necessary to modernize and coordinate traffic signals purchased, installed and operating. | Binary (yes =1 no = 0) | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | Includes upgraded traffic controllers, closed-circuit television cameras, detectors, and communication switches at intersections.Biannual report from NWAIndependent M&E Report |
| Number of Packages of Support for Training and Capacity Building in Intelligent Transportation System delivered | # | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 4 | Includes System training; Planning training; Sun-Guide training and CoachingBiannual report from NWAIndependent M&E Report |
| Component 3: Support to Electricity Planning |
| **Component 3 Outputs** |
| Number of technical studies to support IRP revision or update completed | # of studies | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | This includes studies on electrical losses, and integrated energy planning.Biannual report from MSETIndependent M&E Report. |
| Number of training modules completed to support technical capacity in MSET to revise or update IRP[1] | # training modules | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 3 | Training includes: distributed generation and reliability modelling in IRP; Dispatch, Production Costing Procedures and Systems and Policy Parameters and Trade-off Measures.Biannual report from MSETIndependent M&E Report  |
| Number of technical experts contracted to reinforce capacity and develop training plans within MSET to enable staff to revise or update IRP  | # technical experts | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 3 | Experts to be contracted in the following areas: Energy Efficiency and Demand-Side Management; Electricity Sales and Rates and Transmission & Distribution.Biannual report from MSETIndependent M&E Report. |
| Diagnostic study completed on IT software required in MSET to support IRP coordination  | Binary(yes =1 no = 0) | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | Study to prioritize software and IT platforms that would add value to IRP coordination and planning.Biannual report from MSETIndependent M&E Report |
| Appropriate IT software for coordinating IRP purchased, installed and operating  | # of software | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | Biannual report from MSETIndependent M&E Report |

**Table 3: Annual Costs by Output (US$ millions)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Outputs** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** | **Final Target** |
| HEPA government facilities with Energy Efficiency (EE) equipment replaced, installed and operating (17 Investment Grade Audits (IGAs) will be completed to achieve these outputs) | 1,277,705 | 2,680,500 | 4,220,295 | 3,783,833 | 2,558,833 | 2,603,833 | 17,125,000 |
| EE light technology replaced, installed and operating in HEPA government facilities | - | - | 570,000 | 1,140,000 | 1,140,000 | - | 2,850,000 |
| Communication activities completed to raise awareness on EE management & maintenance in HEPA government facilities | - | 32,000 | 32,000 | 32,000 | 32,000 | 32,000 | 160,000 |
| EE manuals developed for management and maintenance of HEPA government facilities | - | - | - | 333,333 | 333,333 | 333,333 | 1,000,000 |
| **Sub-total Component I** | 1,277,705 | 2,712,500 | 4,822,295 | 5,289,167 | 4,064,167 | 2,969,167 | **21,135,000** |
| Equipment necessary to upgrade the central control system purchased, installed and operating (To be used for traffic monitoring, operation, planning and modelling) | 61,3000 | 61,300 | - | - | - | - | 122,600 |
| Equipment necessary to modernize and coordinate traffic signals purchased, installed and operating (Includes upgraded traffic controllers, closed-circuit television cameras, detectors, and communication switches at intersections) | 1,438,290 | 1,438,290 | - | - | - | - | 2,876,580 |
| Number of Packages of Support for Training and Capacity Building in Intelligent Transportation System delivered (Includes System training; Planning training; Sun-Guide training and Coaching) | 125,205 | 250,410 | 125,205 | - | - | - | 500,820 |
|  **Sub-total Component II**  | 1,624,795 | 1,750,000 | 125,205 |  |  |  | **3,500,000** |
| Technical Studies to support IRP revision or update completed (this includes studies on electrical losses, and integrated energy planning) | - | - | 130,000 | 130,000 | - | - | 260,000 |
| Training Modules to support technical capacity in MSET to revise or update IRP (Training includes: distributed generation and reliability modelling in IRP; Dispatch, Production Costing Procedures and Systems and Policy Parameters and Trade-off Measures) | 116,667 | - | 166,667 | - | 166,667 | - | 350,000 |
| Technical Experts contracted to reinforce capacity and develop training plans within MSET to enable staff to revise or update IRP (Experts to be contracted in the following areas: Energy Efficiency and Demand-Side Management; Electricity Sales and Rates and Transmission & Distribution) | - | 206,667 | - | - | 413,333 | - | 620,000 |
| Diagnostic Study on IT software required in MSET to support IRP coordination (Study to prioritize software and IT platforms that would add value to IRP coordination and planning) | - | 100,000 | - | - | - | - |  |
| Appropriate IT software for coordinating IRP purchased, installed and operating  | - | - | 225,000 | - | 225,000 | - | 450,000 |
|  **Sub-total Component III**  | 116,667 | 306,667 | 471,667 | 130,000 | 755,000 | - | **1,780,000** |
|  **Total**  |  |  |  |  |  |  |  |

**2.2 Data Collection and Instruments to Monitor the Project Indicators**

The primary objective of the monitoring plan is to monitor the overall achievement of the program execution, and more specifically to monitor the progress of implementation related to energy efficiency and conservation measures, as well as the measurement of the associated energy or demand savings. Progress for component one will be measured against the IGAs that provide a detailed outline of the measures required; for component two against the detailed technical specifications for the ITS system, and for component 3 against the capacity building plan provided by the independent consultant. Measurement activities involve data collection, monitoring and analysis necessary to document the energy and demand savings and expected costs of the energy efficiency project.

The EA will hire a specialized and independent consulting firm to collect the data from:

* The facilities and government agencies including the NWA on all matters related to component 2,
* MSET on all matters related to component 3, and
* JPS electricity bills for all retrofitted facilities, and from equipment installed.

The data collection exercise is therefore key to the M&E process, and the PEU will be responsible (via the M&E specialist within the PEU) for receiving, reviewing and verifying the data collected by the independent consulting firm. The PEU will provide monthly reports on the results of the data collection, and will use the baseline year of 2015 to assist with the verification. These reports will be stored at the PCJ and made available to relevant Government Stakeholders and the teams at IDB, JICA and the EU. The MSET will also receive the reports as a basis of developing the national database on Energy Efficiency Measures/Programs and this will support broader Electricity Planning.

The PEU will develop the following activities to support the planning and execution of the Project:

* **Project Operations Manual (OM).** The Project Operations Manual will detail all roles, responsibilities, specific individual members, and operational arrangements that may be required for the PEU to execute the Project. The OM must include the principles and requirements from the Environmental and Social Management Plan (ESMP) draft annexed to the Environmental and Social Assessment (ESA), as well as the terms of reference for each of the PEU’s members. The OM will also be used to revise and update existing planning instruments that will form the baseline for project monitoring and evaluation and as the initial entry for the project monitoring report (PMR). These instruments include the Results Matrix, the Risk Matrix, the initial Pluriannual Execution Plan (PEP), the initial 12-month Annual Operating Plan (AOP), and the initial Procurement Plan (PP) for the first 12 months of the Project. The OM must be completed and approved by the EA prior to the first disbursement of the loan.
* **Pluriannual Execution Plan (PEP) and Annual Operations Plan (AOP).** The PEP and AOP consolidate all activities that will be developed as part of the Project execution, including detail by project and a timeline of both physical and financial progress. In each semi-annual report (noted below), the PEU will present the PEP and AOP for the following 12 months. The AOP will include details on the Project’s progress and execution of activities including goals, results, budget, and implementation schedule. The PEP will detail the project’s progress and implementation schedule for the outstanding years of the loan.
* **Procurement Plan (PP).** The PP includes details on all works, goods, and services that will be required to implement the Project during a determined period of time. The initial PP covers the expected procurement requirements for the first 12 months of the Project. It will be updated at least once every 12 months, and can be amended as often as necessary, by agreement between the EA and the IDB. The PP will include details on procurement of works, goods, and non-consulting services and their compliance with IDB policies (GN-2349-9), as well as the procurement of consulting services and their compliance with IDB policies for selecting and contracting consultants financed by the IDB (GN-2350-9) that exceed established thresholds.

**2.2.1 Future Considerations-Data Collection**

The Government of Jamaica (GOJ) through its Ministries, Agencies and Departments (MDAs), has invested significantly in ICT infrastructure to facilitate efficiency in operations and provision of services to its citizenry. The implementation of GovNet will provide the secure WAN backbone communication infrastructure to aid in achieving the aforementioned results. Once the ITS UTMS communication system is in place, it will create the possibility to communicate different points of the city on a high-speed and highly reliable government owned network. Every signal controlled intersection, communication cabinet and cable draw box allows access to the network either through: 1) electrical (Ethernet switching), or 2) optical access (Dark fiber), depending on bandwidth needed and availability in each sector. Among the additional and near future uses for this communication network are: i) supervision and operation of climate/energy technology in government buildings, ii) IP voice and video communications between government agencies, iii) centralized data management and recovery, just to name a few. Therefore, last- mile wiring can be done underground or above ground to connect the existing network with the government buildings.

The National Works Agency fiber optic network can be used along with GovNet, to promote virtual energy monitoring, data collection and assessments across the government facilities. In addition, the recently completed Investment Grade Audits have recommended installations of Building Management Systems (BMS) in most cases, which provides the possibility for web-based monitoring. There are also opportunities to expand the web based monitoring into BMS, which are autonomous control systems for the entire facility, including lighting, mechanical equipment, security, irrigation, and other systems. This can help to further reduce the energy consumption across the public sector. The development of GovNet will be followed closely to understand opportunities for future expansion of this Program.

**Component I. Retrofitting Government Buildings**

Besides the annual energy bill for each building, it will be necessary to measure the electrical load of the EE equipment installed. In order to do so, the PEU will use devices to measure electrical current. The most common way of sensing alternating electrical current (AC) for energy efficiency and savings applications is with a current transformer or current transducer (CT). CTs are placed on wires connected to specific loads such as motors, pumps or lights and then connected to an ammeter or power meter. CTs are available in split core and solid toroid configuration. This M&V equipment will assess the impact of each replacement per category (i.e lighting systems, HVAC systems, kitchen operations, RE, and building envelope measures) as well as in the transport sector according to the technology used and replaced. The PEU (PCJ) will be responsible for the installation of the measurement devices and the collection of data. The PEU will report semi-annually to the Bank about the results.

**Component II. Fuel Efficiency in the Transport Sector**

The NWA Sub-Project Manager, will assist in monitoring the outputs from the implementation of the UTSM. It will be necessary to measure Traffic Flow indicators in the targeted corridors, recoding data about average speed, number of vehicle and type of vehicle. To monitor the outputs, form the implementation of the UTMS, it will be necessary to measure and model traffic flow using automatic survey data on speed and volumes on the newly centralized intersections.

The project includes the deployment of proven technologies such as video detection for traffic volume count and vehicle classification, as well as wireless sensors detecting Bluetooth and Wifi devices in the urban road network and relating them to traffic flows. The obtained data will be transmitted automatically to the central control system through the communication network, where it will be analyzed using a state of the art multilevel dynamic modelling software. The modelling will be validated by manual traffic count data that NWA collects on a regular basis countrywide.

The overall data analysis will be published in annual reports and the M &E specialist in the PEU will coordinate with the NWA Sub-Project Manager to ensure that the reports meet IDB and co-financing agencies’ requirements.

**Component III. Support to Institutional Strengthening for Energy Planning**

Indicators concerning training participation will be straight-forward counting of attendants, however, taking into consideration gender breakdown.

The PEU’s Sub Project Manager-MSET will be responsible of collecting the data and reporting to relevant Government Stakeholders and the IDB. The Sub Project Manager will prepare progress reports on:

* The development operational manual for IRP
* Technical Study to support the IEP
* Technical Study to support the NEEP
* MSET Training in Electricity and Energy Planning
* Installation of Energy Planning software

**2.3 Reporting Monitoring Results**

The IDB will use four instruments to monitor the Program’s progress. The Executing Agency (EA) will submit to the Bank:

* Semi-Annual Reports (including the execution reports for the physical progress of the Program, financial audits for the costs in the program, savings reports for the retrofitted buildings, and savings reports in traffic)
* Audited Financial Statements (required information to process disbursement, such as proof of expending under previous disbursements)
* Field Visits/Inspections
* Due diligence, Annual Supervision Missions

and any other information required to ensure the successful implementation of the Program, including lessons learned. The Program’s monitoring system will also identify critical events and risks for the Program.

**2.4 Monitoring Coordination, Work Plan, and Budget**

The IDB will be responsible for overseeing the execution of the Monitoring Plan for the complete Program, including the funds provided by other donors. The IDB will also be responsible for reporting to the other donors on the execution and results of the Program.

The PEU is responsible for preparing the monitoring reports above mentioned with support of IDB Country Office (CCB/CJA), the Energy Division (INE/ENE), and the Transport Division (INE/TSP) which will be responsible for overseeing the execution of the M&E Plan for the complete Program, including funds provided by other donors. As such, the results should be reported semi-annually to the Japan International Cooperation Agency (JICA) on progress towards achieving the results of the Program. The EA should facilitate any independent monitoring information required by the donors in coordination with the Bank. Each report must be submitted no later than 60 days after the end of the reporting period.

The semi-annual report will present to the IDB the degree of fulfillment of the output indicators as recorded in the updated PEP, AOP, and PP. This will allow the Bank to monitor these indicators using the Bank’s PMR tool.

The semi-annual reports must include, at a minimum: (i) compliance with contractual obligations; (ii) description and general information on the completed activities; (iii) progress toward project execution indicators, the agreed disbursement calendar, and timelines for physical progress in implementing the program investments; iv) financial summary of the program; (v) description of any procurement tenders that have been carried out; (vi) evaluation of any contracting companies carrying out physical works; (vii) socio-environmental management of the project, including timelines, results, and measures implemented to ensure compliance with socio-environmental obligations; (viii) a detailed activities program and execution plan for the following 12 months; (ix) estimated cash for the following 12 months; (x) potential developments or events that could put the execution of the Project at risk; and, (xi) updates to the Project PEP, AOP, and PP.

The semi-annual reports must include all relevant information to understand the progress toward meeting the project output and outcome indicators and to identify any areas that require improvement in data collection, processing, analysis and reporting. In addition, the EA will present to the Bank a mid-project interim evaluation after the earliest of three years after the project initiation or once 50% of the Project resources have been disbursed. This mid-project evaluation will assess the level of completion of the project output indicators (see Table 1) in order to determine the project implementation status. This evaluation will be used to propose any changes in the project scope or process that may be required in order to reach the project’s targets. Finally, after completing 90% of the Project’s disbursements, the EA will present to the Bank the Final Project Evaluation Report which will include, among other requirements, the ex-post cost-benefit evaluation of the Components financed under the Project. This report will serve as the basis for the Bank to prepare a Project Completion Report (PCR) once the project execution is completed (OP-1242-3).

The PCR is a record of an operation’s performance at the end of its execution phase, undertaken as a self-evaluation by the IDB’s unit responsible for the project. The PCR is the Bank’s Management main instrument for documenting concrete results to its shareholders and disseminating the lessons of a project’s experience. The PCR is also a tool for accountability and learning. The accountability objective addresses the need for the Bank to ensure that the proceeds of the project are used for the purposes for which the project was granted, with due attention to effectiveness and efficiency. The learning objective aims to replicate successes and avoid mistakes in the future by providing lessons to guide the execution of ongoing projects and the design of future ones.

The project team, led by the specialist from the Jamaica country office with the support of the INE/ENE and INE/TSP teams, will be in charge of following up the execution, monitoring and evaluation of the program. The EA and the IDB will carry out field visits/inspections according to a regular schedule to be agreed upon between the two parts. Field visits/inspections are designed to monitor the progress in implementing the EE and EC measures. As such, they would provide an opportunity for the IDB to validate the field progress reported in the semi-annual reports. The IDB is responsible for coordinating the field visits with support from the EA. Other donors may want to participate in the field visits/inspections (at their own cost) will coordinate it with the IDB. These field visits/inspections shall be planned in advance and in a collaborative manner and the procedural matters shall be agreed upon in advance between the IDB and the donors. Field visits are to be carried out semi-annually, within a 30 day period after the report is submitted.

It is expected that at least 10 percent of the monthly time of the PEU is dedicated to M&E activities. A monitoring and evaluation specialist will be hired by the EA in order to lead the gathering and reporting of all information from the Program. The budget for completing the Monitoring and Evaluation Plan is US$350,000 (US$150,000 for evaluation and US$200,000 for monitoring) and for auditing (IGA’s) is US$300,000[[37]](#footnote-37).

**Table 4: Monitoring and Reporting Work Plan**

| **JA-l1056 Monitoring and Reporting Work Plan** |
| --- |
| **Monitoring and Evaluation Plan** | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Lead | Cost (US$'000) | Financing |
| I | II | III | IV | I | II | III | IV | I | II | III | IV | I | II | III | IV | I | II | III | IV | I | II | III | IV |
| Monitoring and Reporting Activities |
| Operation Kickoff meeting |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | IDB | 0 | IDB |
| Project Monitoring Report Workshop (Initial Plan) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | IDB |
| Fiduciary Workshop |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | IDB |
| Procurement training |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | IDB |
| Ongoing fiduciary monitoring |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | IDB |
| Semi-annual meetings and technical supervision visits |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | IDB |
| Environmental and social supervision visits |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | IDB |
| Operations Manual (OM) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | IDB |
| Completion of monitoring and evaluation tools (PEP, AOP, PP)  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | PEU | 60 | Included in Project "Monitoring, Evaluation and Audits" cost |
| Prepare semi-annual progress reports |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | PEU |
| Analyze and approve semi-annual progress reports |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | IDB | 0 | IDB |
| Analyze and approve disbursement requests |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | IDB |
| Data Collection Activities |
| Component 1: Retrofitting HEPA Government Facilities |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | PEU | 140 | Included in Project "Monitoring, Evaluation and Audits" cost |
| Component 2: Implementation of an Urban Traffic Management System |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | PEU |
| Component 3: Support to Electricity Planning |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | PEU |

\*\*\* To be submitted to the Bank no later than 120 days after the final disbursement justification

**3. EVALUATION**

Evaluation refers to a review of the entire program including the implementation process, program cost effectiveness, and the attainment of its stated impact and outcomes indicators. The Evaluation Plan first defines what questions the indicators address, and then it describes the indicators that will be used to evaluate the results of the Program. It also explains the before and after evaluation methodology and the instruments that will be used to evaluate the Program. Lastly, it describes the institutional arrangements and work plan to carry out the Evaluation Plan.

* 1. **Main Evaluation Questions**

The purpose of the evaluation is to assess the outcomes of the Project. The main evaluation questions are as follows:

* Has electricity consumption from government facilities decreased in the 80 selected government facilities where energy efficiency measures were implemented by the Program?
* What was the impact of the Program towards reducing the amount of greenhouse gas emissions resulting from reduced electricity consumption in the 80 selected government facilities?
* Has transport fuel consumption been reduced in the Kingston Metropolitan Region?
* Have hours of annual travel time been reduced in the Kingston Metropolitan Region?
* What was the impact of the program towards reducing the amount of greenhouse gas emissions resulting from the reduction of transport fuel consumed in the Kingston Metropolitan Region?
* Has the government/MSET been able to enhance its institutional capacity for electricity planning by updating on a regular basis the IRP?

**3.2 Existing Knowledge (previous evaluations, ex-ante economic analysis)**

This project took into consideration all information gathered from 33 energy audits[[38]](#footnote-38) of facilities of the Government of Jamaica (GoJ), which form the basis for a wider techno-commercial analysis to establish the viability of the project. In this context of the JA-L1025, an ex-ante cost-benefit analysis was conducted to evaluate the costs and benefits over a 20-year project life cycle. Primarily, the benefits accrued from the cost of energy saved resulting from the reduced consumption of electricity from energy efficient technologies and the cost were those related to the initial investment and the Maintenance and Replacement Cost. The project calculated the benefits of replacement four types of measures:

* + Lighting systems
	+ HVAC systems
	+ Building envelope
	+ Street lighting

With the interaction of energy efficient and conservation measures such as retrofitting of HVAC systems, building envelop measures, lighting systems, and inclusion of RE potential, an estimated 30% of the total energy consumption in kWh of the Jamaican public sector facilities that have received interventions has been achieved.

**3.2.1 Ex-Ante Cost Benefit Analysis**

In addition to the previous studies noted above, an ex-ante economic analysis was performed in preparation for the project JA-L1056. The ex-ante cost-benefit analysis (CBA) included two components: a CBA for component 1 on EE Retrofits in HEPA Government Facilities and secondly, a CBA for component 2 on the UTMS- Fuel Efficiency.

With respect to the CBA for Component 1, two economic evaluations were undertaken using 12% as the discount rate. The first one comprises the CBA for first set of six public facilities. The benefits consist of electricity savings (direct effect) and the reduction of CO2 emissions (externality). Considering a 20-year reference period to capture the overall economic life of the project assets, the Economic Net Present Value (ENPV) is US$3,014,513 and the results for the base case show an Economic Internal Rate of Return (EIRR) of 19%. A sensitivity analysis was done for two changes: (i) increase/decrease 20% of the investment costs and (ii) increase/decrease 20% of the electricity price, and the program still proved to be economically robust. Note that the base case scenario does not include a monetary valuation of the CO2 emissions reduction (4,407 tons/year). If it were included assuming US$37/ton as benefit—the assumption used in the fuel efficiency component, the EIRR would increase to 20.8% and the ENPV would increase to US$3,899,855.

The second economic evaluation is for the investment for lighting retrofit in 38 buildings. The results for the base case show an EIRR of 67% and the ENPV is US$7,031,889. A sensitivity analysis was also performed to test the impact of significant changes to investment costs and the electricity price, and the program still proved to be economically robust.

Taking into account the existing infrastructure installed by NWA (US$9.97 million), the additional costs of hard and software investments (US$3.5 million) to complete and maintain the UTMS is approximately US$13.47 million. Benefits are estimated within a 10-year period, which peak at 100% in year 5 and 6, decreasing thereafter due to increased population and vehicle ownership. With this estimation, the EIRR of the intervention stands at 28%. Benefits are based on the sustainability triangle that includes savings in fuel consumption (economic impact), savings in pollutant emissions (environmental impact) and savings in travel time (social impact). Compared with a BAU scenario, fuel consumption and CO2 emissions are reduced by 35% when the system is fully operational, whilst travel hours in peak time are reduced by 36%.

**3.3 Key Outcomes (Expected Results) Indicators**

The key outcome/expected results indicators as well as its formula, frequency of measurement and source are described in the table below. These key indicators will be assessed and presented to the IDB through annual monitoring reports.

**Table 5. Key Outcomes and Expected Results Indicators[[39]](#footnote-39)**

|  |  |  |  |
| --- | --- | --- | --- |
| Indicator | Formula | Frequency of Measurement | Source of Verification |
| **Results Indicators** |
| Component 1: Retrofitting HEPA Government Facilities |
| **Expected Result 1: Reduced electricity consumed in 73 Health, Education and Public Agency (HEPA) government facilities** |
| Annual electricity consumed in 73 HEPA government facilities  | kWh | End of the project | Biannual Report from Petroleum Corporation of Jamaica (PCJ) M&E consulting firm report |
| **Expected Results 2: Reduced CO2 emissions resulting from reduced electricity consumption in 23 HEPA government facilities** |
| Annual CO2 equivalent emissions resulting from kWh consumed in 73 HEPA government facilities | Tons of CO2 equivalent | End of the project | Biannual Report from PCJ M&E consulting firm report |
| Component 2: Implementation of an Urban Traffic Management System |
| **Expected Result 3: Reduced annual transport fuel consumed in the Kingston Metropolitan Region (KMR)** |
| Annual Fuel consumption in the KMR | Millions litres | End of the project | Biannual report from National Works Agency (NWA)Independent M&E Report |
| **Expected Result 4: Reduced annual CO2 emissions resulting from avoided reduced transport fuel consumed in the KMR** |
| Annual CO2 equivalent emissions resulting from transport fuel consumed in KMR corridors | Tons of CO2 equivalent | End of the project | Biannual Report from PCJ M&E consulting firm report |
| **Expected Result 5: Reduced hours of annual travel time in the KMR** |
| Total annual hours of travel time in the KMR corridors | Million hours | End of the project | Biannual Report from PCJ M&E consulting firm report |
| Component 3: Support to Electricity Planning |
| **Expected Result 6: Number of formal updates or revisions of the Integrated Resource Plan (IRP) performed by Ministry of Science, Energy and Technology (MSET) on a timely basis** |
| Number of formal updates or revisions of the IRP performed by MSET | #of updates/revisions | End of the project | Biannual Report from PCJ M&E consulting firm report |

* 1. **Evaluation Methodology**

The IDB will follow a before-completion and after-completion methodology to evaluate the results of the Program. Specifically, for a group of indicators, the IDB will compare baseline values against the values after the Program is completed. This is the same methodology that is used for monitoring of outputs of the Program. The only difference is the point in time when the methodology is applied. For monitoring the Program, the methodology is applied from the point of Program implementation and is done on a yearly basis. For evaluating the Program, the methodology is used after the Program is completed comparing baseline values and targets.

The evaluation will be based on the information gathered through Program monitoring. By measuring baseline values in year 0 (2015), the IDB will simulate a counterfactual of what the performance for these indicators would be if the Program would not be implemented. This methodology assumes that if the Program were not implemented, indicator values would remain at their baseline values.

As previously mentioned, the main instrument the IDB will use to evaluate the Program will be the Project Completion Report (‘PCR’), which compares the Program results against baseline values. The PCR is a record of an operation’s performance at the end of its execution phase, undertaken as a self-evaluation by the IDB’s unit responsible for the project. The PCR is the Bank’s Management main instrument for documenting concrete results to its stakeholders and disseminating the lessons of a project’s experience. The IDB will base the PCR on mid-term and final evaluations and an ex-post CBA. These instruments are described in more detail in the following section. Performing an ex-post cost benefit analysis is also appropriate in order to determine the accuracy of the ex-ante cost benefit analysis and the root cause of any differences between the two. This comparison will identify specific factors in the project implementation that resulted in higher or lower costs and benefits than were anticipated, helping to improve the design and implementation of similar projects in the future.

Also, in addition to the evaluation described in this section, the IDB Oversight Evaluation Office (OVE) may also separately evaluate the impact of the Program.

The intermediate evaluation will be done through a before and after methodology based on the indicators defined in the results framework matrix. The final evaluation, to be carried out when 100% of the resources have been disbursed, will also include an (ex-post) cost benefit analysis (CBSA) of the Program. Both evaluations, intermediate and final will be carried out by an independent third-party consultant firm.

* 1. **Reporting Evaluation Results and technical aspects of the methodology**

The EA will be responsible for reporting on the results of the Program, based on information collected from installed equipment and systems and electricity bills. The EA will be responsible for reporting progress and results to the IDB. The EA will collect, store, and retain all information to assist the IDB in evaluating performance of the Program.

The Measurement and Verification (M&V) of energy savings will follow the IPMVP and information for monitoring the Program includes EA semi-annual reports, IDB’s field inspections, and EA administrative records and financial statements. The EA will be responsible for providing administrative records, financial statements, and reports, and will participate in the IDB’s field inspections.

The system upgrades at some of the facilities receiving deep retrofits will include monitoring equipment such as Automated Building Management Systems (ABMS) that will help gather the data required to measure the indicators. At smaller facilities, monitoring equipment will be installed on a temporary basis to measure the indicators. This will assist in the acquisition of all data as well as the establishment and maintenance of databases to facilitate the monitoring and evaluation of the impact of energy efficiency measures. Data will include electricity bills, monitoring measures implemented at each location, and the correlation of interventions with consumption reduction.

The Energy Division of the IDB will be responsible for overseeing the execution of the Monitoring and Evaluation Plan for the complete Program, including the funds provided by other donors. As such, they must report annually to the Japan International Cooperation Agency (‘JICA’) and to the European Commision (EC) on progress towards achieving the results of the Program.

The project team composed by the IDB Country Office (CCB/CJA), the Energy Division (INE/ENE), and the Transport Division (INE/TSP) will be responsible for overseeing the execution, monitoring and evaluation of the program.

There are four instruments that the IDB will use to evaluate the Program’s results. The instruments are as follows:

* Baseline Value Study (IGA’s)
* Mid and Final Term Evaluation
* Ex-post Cost Benefit Analysis (‘CBA’)
* Project Completion Report (PCR)

For each instrument, the remainder of this section describes its purpose, the entities responsible for preparing it, and, when applicable, the methodology used in its preparation.

**Mid-term Evaluation**: The mid-project evaluation will be initiated after the earliest of three years after the project initiation or once 50% of the Project resources have been disbursed. This mid-project evaluation will assess the level of completion of the project output indicators (see Table 1) in order to determine the project implementation status. This evaluation will be used to propose any changes in the project scope or process that may be required in order to reach the project’s targets.

The mid-project evaluation will use a before and after methodology to evaluate the annual results of the six outcome indicators noted above. The before and after methodology is the most appropriate methodology to assess the change in the identified key outcome indicators after the investments that are funded by the Project are implemented.

This evaluation will also examine aspects of coordination and execution, and recommend any needed adjustments that may be required to improve progress toward the proposed targets and increase coordination and execution efficiency.

This analysis will be based on the reports and data gathered through the project monitoring as noted above, in particular the semi-annual progress reports, the AOPs for each prior year, and the PP.

**Final Evaluation**: The final evaluation will be completed by the PEU no later than 120 days after the final disbursement justification. The final evaluation include: (a) the degree of fulfillment of the targets specified in the Results Matrix; (b) an ex-post CBA; (c) an assessment of the performance of the EA; (d) factors affecting implementation; and (e) lessons learned and recommendations for the design of future operations. The Final Evaluation will allow the Bank to finalize the Project Completion report (PCR).

The final evaluation will evaluate the six outcome indicators noted in Table 5, and the twelve output indicators noted in Table 1. It will be based upon the reports and data gathered through the project monitoring as noted above, in particular the semi-annual progress reports, the AOPs for each prior year, and the PP.

**Ex-post Cost Benefit Analysis (‘ex-post CBA’)**: The ex-post CBA will measure whether the actual economic benefits of the Program exceeded its actual economic costs and how these compared to estimations made when the Program was designed. The ex-post CBA will follow the same methodology used for preparing the ex-ante CBA presented in the Cost Benefit Analysis Report which is an Optional Electronic Link of the POD.

Performing an ex-post CBA will determine the accuracy of the ex-ante CBA and the root cause of any differences between the two. This comparison will identify specific factors in the project implementation that resulted in higher or lower costs and benefits than were anticipated, helping to improve the design and implementation of similar projects in the future.

The ex-post cost-benefit analysis (CBA) will mirror the methodology used in the ex-ante CBA in order to produce results that can be directly compared with the outcomes that were predicted in the ex-ante CBA. The ex-poste CBA will include three sub-projects that the loan operation will finance: retrofitting of 23 government facilities with EE and RE equipment; retrofitting of 50 public buildings with light efficient technology; and the implementation of an Urban Traffic Management System.

The ex-post CBA will calculate the economic NPV of each sub-project based on the present value of the sub-projects’ actual benefits and costs to date and the projected costs and benefits at the time of the ex-post analysis. Historical data for the ex-post CBA will come from the project reporting documents, including the semi-annual progress reports, the AOPs for each prior year, and the Procurement Plan.

For example, the benefit of the retrofitting of 23 government facilities with EE and RE equipment will be calculated from the saving in electricity expenditures and the monetary value of the reduction in greenhouse gas emissions that results from reducing fuel oil consumption in power plants. The cost of these retrofitting will be based on the actual economic costs of implementing the project, including the cost not financed by the IDB, and the actual historical and projected future cost of operating the retrofitted buildings. The difference between these two values for each year of the project period (both historical and projected) will then be calculated, and the present value of that difference will be calculated using a 12 percent discount rate

The ex-post CBA will compare the aggregate economic Net Present Value and economic internal rate of return of the three sub-projects and compare them with the ex-ante results as well as a business-as-usual (BAU) scenario without the actual investments. The benefits of the sub-projects, including estimated avoided economic losses from electricity shortages, savings on liquid fuel expenditures, and the monetary value of avoided greenhouse gas emissions related to the displaced consumption of liquid fuels for electricity generation, will be compared with both the anticipated benefits as calculated in the ex-ante CBA and the actual benefits against the BAU scenario without the investments.

The ex-post CBA will highlight differences in the actual investment program, including scale, timing, and cost; differences in external factors, such as electricity and oil prices and Jamaica’ energy demand growth; and, any challenges or lessons learned from the project implementation. This assessment will help to identify root causes of any variation in the results of the ex-poste CBA and the ex-ante CBA analysis.

The EA is responsible for hiring the independent consultant that will prepare the ex-post CBA, and reviewing and approving the final draft of the ex-post CBA. The EA is responsible for providing the independent consultant with the information needed to complete the ex-post CBA. In addition, the EA will coordinate with local authorities to obtain any information that the external consultant may require to complete the ex-post CBA. The ex-post CBA will be developed as part of the Project Completion Report completed for the Program.

The Project Completion Report (PCR) is designed to assess and document the performance of the Program. The PCR evaluates three main areas: whether the Program met their targets for results indicators, whether the results are sustainable, and the issues that affected how successful the Program and sub-projects were in achieving their intended results.

In evaluating whether the Program met the targets for results indicators, the PCR uses a before and after methodology that compares the baseline values of the results indicators against the indicator values after the Program and/or Project is completed. As part of the PCR completed for the Program, an ex-post Cost Benefit Analysis (CBA) will be developed.

The evaluation of the sustainability of the results and the issues that affected the Program are sustainable, the PCR identifies the risks that could affect the sustainability of the Program’s results, and their likelihood and severity. The four main kinds of risks that should be considered include: financial risks, sociopolitical risks, institutional framework and governance risks, and environmental risks. In evaluating issues, the PCR considers the risks that were not properly mitigated against and turned into issues that affected the implementation of the Program and sub-projects. Examples can include poor local implementation capacities and delays and effects thereof on the Program’s results.

* 1. **Evaluation Coordination, Work Plan and Budget**

The PEU will be responsible for coordinating and carrying out the mid-project and final project evaluations, including: (i) gathering the necessary data and prior reports; (ii) hiring an independent consultant to process and analyze the data and prepare the evaluations reports; and, (iii) overseeing the consultant’s work. The consultant will rely upon information from the monitoring program and related reports, and will also require active cooperation and input from the EA, MWA, MSET, and the IDB project team.

The IDB, through the Project Team Leaders, is responsible for coordinating and assuring that the mid-project and final evaluations comply with all technical and quality requirements and are completed on schedule. The IDB team will achieve this through periodic meetings with the EA and the consulting firm responsible for conducting the evaluations in order to review progress of works and, if required, request progress reports or additional presentations of the results

The budget for completing the Monitoring and Evaluation Plan is US$350,000 (US$150,000 for evaluation and US$200,000 for monitoring) and for auditing (IGA’s) is US$300,000[[40]](#footnote-40). The tasks of the Evaluation Plan will be carried out at the start, at the halfway point, and at the completion of the Program. All reports will be financed through the proceeds of the loan .For each evaluation instrument, the remainder of this section describes when it should be prepared, who prepares it, and how it will be funded.

* **Baseline Values (IGA’s)—**will be the responsibility of PEU, via procured contract of an external consulting firm. The Baseline Values Study will be prepared within the last quarter before the Program starts. The additional 17 IGA’s will cost an estimated US$300,000.
* **Midterm and Final Evaluation**—will be procured by the PEU and prepared by an independent external consulting firm.
* **Ex-post Cost Benefit Analysis**—will be procured by the PEU and prepared by an independent external consultant/consulting firm.

**Table 6: Evaluation Work Plan**

| **JA-L1056 Evaluation Work Plan** |
| --- |
| **Monitoring and Evaluation Plan** | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Lead | Cost (US$'000) | Financing |
| I | II | III | IV | I | II | III | IV | I | II | III | IV | I | II | III | IV | I | II | III | IV | I | II | III | IV |
| Evaluation Activities |
| Mid-term evaluation |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | PEU | 100 | Included in Project "Monitoring, Evaluation and Audits" cost |
| Final Evaluation (\*\*\* to be submitted to the Bank no later than 120 days after the final disbursement justification) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | \*\*\* | PEU |
| Data Collection Activities |
| Expected Result 1: Reduced electricity consumed in 73 Health, Education and Public Agency (HEPA) government facilities |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | PEU | 50 | Included in Project "Monitoring, Evaluation and Audits" cost |
| Expected Results 2: Reduced CO2 emissions resulting from reduced electricity consumption in 73 HEPA government facilities |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | PEU |
| Expected Result 3: Avoided transport fuel consumed in the Kingston Metropolitan Region (KMR) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | PEU |
| Expected Result 4: Avoided CO2 emissions resulting from avoided reduced transport fuel consumed in the KMR |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | PEU |
| Expected Result 5: Reduced hours of annual travel time in the KMR |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | PEU |
| Expected Result 6: Number of formal updates or revisions of the Integrated Resource Plan (IRP) performed by Ministry of Science, Energy and Technology (MSET) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | PEU |

1. H. Pluriannual Execution Plan (PEP)

|  |  |  |
| --- | --- | --- |
| **JA-L1056 PLURIANNUAL EXECUTION PLAN (PEP) IDB/JICA Financed** |  |  |
| **Task Name** | **Cost** | **Procurement Method** |
| **TOTAL ENERGY MANAGEMENT AND EFFICIENCY PROGRAMME** | **$30,000,000.00**  |   |
|  **START** | - |  |
|  **COMPONENT 1. RETROFITTING HEPA GOVERNMENT FACILITIES** |  **$ 21,135,000.00**  |   |
|  **$ 8,390,000.00**  |  |
|  1.1.1 KPH-VJ |  $ 4,110,000  | ICB |
|  1.1.2 Cornwall |  $ 2,500,000  | ICB |
|  1.1.3 Mandeville |  $ 550,000  | ICB |
|  1.1.4 Falmouth |  $ 500,000  | ICB |
|  1.1.5 Ebony Heart |  $ 525,000  | ICB |
|  1.1.6 Marcus Garvey |  $ 205,000  | ICB |
|  **1.2 - PROCUREMENT OF RE TECHNOLOGY AND EE MEASURES (PUBLIC AGENCIES)** |  **$ 7,055,000.00**  |  |
|  1.2.1 Electoral Office/Duke Street |  $ 290,000.00  | ICB |
|  1.2.2 Ministry of Agriculture |  $ 115,000.00  | ICB |
|  1.2.3 Ministry of Finance |  $ 3,260,000.00  | ICB |
|  1.2.4 KSAC Church St. |  $ 250,000.00  | ICB |
|  1.2.5 Halfway Tree Transport Center |  $ 820,000.00  | ICB |
|  1.2.6 BSJ |  $ 705,000.00  | ICB |
|  1.2.7 MLSS |  $ 670,000.00  | ICB |
|  1.2.8 UDC |  $ 355,000.00  | ICB |
|  1.2.9 PCJ |  $ 220,000.00  | ICB |
|  1.2.10 Jamaica Library Service Headquarters |  $ 370,000.00  | ICB |
|  **1.3 - PROCUREMENT OF RE TECHNOLOGY AND EE MEASURES (EDUCATION)** |  **$ 1,380,000.00**  |  |
|  1.3.1 Russeas |  $ 230,000.00  | ICB |
|  1.3.2 St James High |  $ 220,000.00  | ICB |
|  1.3.3 Holmwood |  $ 200,000.00  | ICB |
|  1.3.4 Port Antonio |  $ 135,000.00  | ICB |
|  1.3.5 Camperdown |  $ 265,000.00  | ICB |
|  1.3.6 Knox College |  $ 190,000.00  | ICB |
|  1.3.7 Morant Bay High |  $ 140,000.00  | ICB |
|  **1.4 - LIGHT RETROFITTING**  |  **$ 2,850,000.00**  |  |
|  1.4.1 Energy efficiency lights in 20 buildings (Phase 1) |  $ 1,150,000.00  | ICB |
|  1.4.1 Energy efficiency lights in 30 buildings (Phase 2) |  $ 1,700,000.00  | ICB |
|  **1.5 - CONSULTANCIES AND TRAINING** |  **$ 1,460,000.00**  |  |
|  1.5.1 Combined Selection of firm to undertake 17 investment grade audits |  $ 300,000.00  | QBS |
|  1.5.2 Environmental Plan & Waste Disposal Measure |  $ 750,000.00  | SBCQ |
| 1.5.3 Training Manual/Protocols Developed | $ 160,000 | SSS |
|  1.5.4 Communications & Raising awareness |  $ 250,000.00  | SSS |
|  **COMPONENT 2. Implementation of an Urban Traffic Management System** |  **$ 3,500,000.00**  |  |
|  **2.1 CENTRAL CONTROL SYSTEM** |  **$ 122,600.00**  |  |
|  2.1.1 Server |  $ 10,000.00  |  |
|  2.1.2 Workstation |  $ 16,000.00  |  |
|  2.1.3 Firewall |  $ 5,000.00  |  |
|  2.1.4 Printer |  $ 600.00  |  |
|  2.1.5 Forniture |  $ 5,000.00  |  |
|  2.1.6 Local network wiring |  $ 2,000.00  |  |
|  2.1.7 SunGide software |  $ 80,000.00  |  |
|  2.1.8 VMA Software |  $ 1,000.00  |  |
|  2.1.9 Virtual Loop Software |  $ 1,000.00  |  |
|  2.1.10 ALPR Software |  $ 1,000.00  |  |
|  2.1.11 CCTV Software |  $ 1,000.00  |  |
|  **2.2 COMMUNICATIONS** |  **$ 1,153,380.00**  |  |
|  2.2.1 Switch FX |  $ 316,200.00  |  |
|  2.2.2 Switch ITS SFP |  $ 41,800.00  |  |
|  2.2.3 Switch GE rack |  $ 60,000.00  |  |
|  2.2.4 Power Supply |  $ 24,480.00  |  |
|  2.2.5 SFP GX |  $ 6,300.00  |  |
|  2.2.6 SFP FX |  $ 10,080.00  |  |
|  2.2.7 FO patch cord |  $ 3,040.00  |  |
|  2.2.8 CAT5 patch cord |  $ 25,280.00  |  |
|  2.2.9 FO service cable |  $ 61,200.00  |  |
|  2.2.10 FO splice closure |  $ 64,800.00  |  |
|  2.2.11 Communications cabinet |  $ 13,200.00  |  |
|  2.2.12 FO cable |  $ 450,000.00  |  |
|  2.2.13 HDPD Duct |  $ 25,000.00  |  |
|  2.2.14 Radio |  $ 52,000.00  |  |
|  **2.3 PERIPHERIAL DEVICES** |  **$ 1,543,200.00**  |  |
|  2.3.1 Variable message sign |  $ 125,000.00  |  |
|  2.3.2 Virtual loop detector |  $ 306,000.00  |  |
|  2.3.3 Bluetooth WiFi sensor |  $ 175,500.00  |  |
|  2.3.4 ALPR |  $ 560,000.00  |  |
|  2.3.5 CCTV Camera |  $ 217,000.00  |  |
|  2.3.6 Conflict monitor |  $ 47,000.00  |  |
|  2.3.7 ATM Modem |  $ 40,250.00  |  |
|  2.3.8 Memory module |  $ 72,450.00  |  |
|  **2.4 OPERATIONAL CAPACITY AND TRAINING** |  **$ 200,000.00**  |  |
|  2.4.1 Baseline and impact documentation |  $ 15,000.00  |  |
|  2.4.2 Traffic model software |  $ 40,000.00  |  |
|  2.4.3 Traffic planning software |  $ 10,000.00  |  |
|  2.4.4 SOP development |  $ 40,000.00  |  |
|  2.4.5 System training |  $ 25,000.00  |  |
|  2.4.6 Planning training |  $ 15,000.00  |  |
|  2.4.7 SunGuide training |  $ 25,000.00  |  |
|  2.4.8 Coaching |  $ 30,000.00  |  |
|  **2.5 OTHERS** |  **$ 180,000.00**  |  |
|  2.5.1 Lift truck |  $ 70,000.00  |  |
|  2.5.2 Fiber splicer |  $ 25,000.00  |  |
|  2.5.3 Fiber blower |  $ 50,000.00  |  |
|  2.5.4 Portable ground penetrating radar |  $ 35,000.00  |  |
|  **2.6 ADMINISTRATION, UTILITY, UNFORSEEN EXPENSES** |  **$ 300,820.00**  |  |
|  **COMPONENT 3. SUPPORT TO ELECTRICITY PLANNING** |  **$ 1,780,000.00**  |   |
|  **3.1 ELECTRICITY AND ENERGY PLANNING SYSTEM** |  **$ 550,000.00**  |  |
|  3.1.1 Diagnostic study on IT |  $ 100,000.00  | ICB |
|  3.1.2 IT software for coordination IRP (purchase, installation, operation and training) |  $ 450,000.00  | ICB |
|  **3.2 CONSULTANCIES** |  **$ 1,230,000.00**  |  |
| 3.2.1 Institutional Capacity Support MSET | $ 350,000 | SBCQ |
|  3.2.2 Technical Study to support the IRP |  $ 260,000.00  | SBCQ |
|  3.2.3 Technical Experts to support Electricity and Energy Planning in MSET |  $ 620,000.00  | SSS |
|  **4. OTHER COSTS** |  **$ 3,585,000.00**  |   |
|  **4.1 MONITORING, EVALUATION AND AUDITS** |  **$ 530,000.00**  | ICB |
|  4.1.1 Mid-term Evaluation Report |  $ 50,000.00  | SBCQ |
|  4.1.2 Final Evaluation Report |  $ 50,000.00  | SBCQ |
|  4.1.3 Financial Audits |  $ 180,000.00  | SBCQ |
|  4.1.4 Programme Monitoring and Evaluation  |  $ 250,000.00  | SBCQ |
|  **4.2 PEU PROJECT MANAGEMENT** |  **$ 3,055,000.00**  |  |
|  4.2.1 Programme Manager |  $ 480,000.00  | SBCQ |
|  4.2.2 MSET - Sub Project Officer |  $ 240,000.00  | SBCQ |
|  4.2.3 NWA - Sub Project Officer |  $ 240,000.00  | SBCQ |
|  4.2.4 Finance Specialist |  $ 360,000.00  | SBCQ |
|  4.2.5 Procurement Specialist |  $ 360,000.00  | SBCQ |
|  4.2.6 Administrative Officer |  $ 180,000.00  | SBCQ |
|  4.2.7 Monitoring and Evaluation Specialist |  $ 210,000.00  | SBCQ |
|  4.2.8 Quantity Surveyor |  $ 300,000.00  | SBCQ |
|  4.2.9 ESG Coordinator |  $ 240,000.00  | SBCQ |
|  4.2.10 Electrical Consultant |  $ 180,000.00  | SBCQ |
|  4.2.11 Internal control and technical studies |  $ 80,000.00  | SBCQ |
|  4.2.12 Motor vehicle A and Upkeep |  $ 85,000.00  | SBCQ |
|  4.2.13 Office supplies and financial software tool  |  $ 100,000.00  | SBCQ |

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| **JA-G1003 PLURIANNUAL EXECUTION PLAN (PEP)** |  |  |
| **Task Name** | **Cost** | **Procurement Method** |
| **ENERGY MANAGEMENT AND EFFICIENCY PROGRAMME-IGR** |  **$ 9,781,897.49**  |   |
|  **START** | - |  |
|  **COMPONENT 1. RETROFITTING HEALTH GOVERNMENT FACILITIES** |  **$ 9,531,897.49**  |   |
|  **1.1 - PROCUREMENT OF RE TECHNOLOGY AND EE MEASURES (HOSPITALS)** |  **$ 9,331,897.49**  |  |
|  1.1.1 UH West Indies |  $ 6,412,893  | ICB |
|  1.1.2 Ministry of Health: Bustamante Children Hospital  |  $ 783,759  | ICB |
|  1.1.3 Ministry of Health: St Ann’s Bay Hospital  |  $ 924,143  | ICB |
|  1.1.4 Ministry of Health: Burke RD Spanish Town  |  $ 578,897  | ICB |
|  1.1.5 Annotto Bay Public Hospital Annotto Bay St. Mary  |  $ 227,418  | ICB |
|  1.1.6 Port Antonio, Portland |  $ 138,981  | ICB |
|  1.1.7 Port Maria, St Mary |  $ 265,807  |  |
|  **1.2 - CONSULTANCIES AND TRAINING** |  **$ 200,000.00**  |  |
|  1.2.1 Combined Selection of firm to undertake 7 Investment  Grade Audits |  $ -  | QCBS |
|  1.2.2 Environmental Plan & Waste Disposal Measure |  $ -  | SBCQ |
|  1.2.3 Training and manuals in EE Maintenance to be extended  to facilities teams in each building |  $ -  | SBCQ |
|  1.2.4 Communications & Raising awareness (Workshops and  Multimedia Campaign) |  $ 200,000.00  | SBCQ |
|  **3. COMPONENT 2. SUPPORT TO INSTITUTIONAL STRENGTHENING FOR ENERGY PLANNING** |  **$ 250,000.00**  |   |
|  **3.1 Electricity and Energy Planning in MSET** |  **$ 250,000.00**  |  |
|  3.1.1 Technical Studies to support electricity and energy  planning |  $ 250,000.00  | NICQ |

1. The Loan Contract, PSG Agreement, the Results Matrix, the Monitoring and Evaluation Plan, the Pluriannual Execution Plan (PEP), the Annual Operation Plan (AOP), the risk analysis, and the Bank's policies and procedures for executing operations [↑](#footnote-ref-1)
2. The financing from JICA is parallel, since funds are not managed by the IDB and deposited directly by JICA in the borrowers account. Nevertheless, in the terminology used in the Framework Agreements between JICA and the Bank, the execution structure for the loan is classified as “Joint financing”. [↑](#footnote-ref-2)
3. Includes EU-CIF fees not shown in table [↑](#footnote-ref-3)
4. Combined figures are those anticipated from both the JA-L1056 and JA-G1003 funded components [↑](#footnote-ref-4)
5. Combined figures are those anticipated from both the JA-L1056 and JA-G1003 funded components [↑](#footnote-ref-5)
6. Combined results are those anticipated from both the JA-L1056 and JA-G1003 funded components [↑](#footnote-ref-6)
7. <https://ec.europa.eu/europeaid/funding/about-funding-and-procedures/procedures-and-practical-guide-prag_en>. The eligible countries are referenced in Annex A2a (<http://ec.europa.eu/europeaid/prag/annexes.do?group=A>). [↑](#footnote-ref-7)
8. The financial plan in the approved document says: 1 year: 3%,2 year: 31%,3 year: 31%,4 year: 35% [↑](#footnote-ref-8)
9. Includes EUCIF fees not shown in table [↑](#footnote-ref-9)
10. Topic to be negotiated with EU. Bank may submit EMEP’s final report and final audit statement to EU for information purposes. [↑](#footnote-ref-10)
11. The development of the OM and the compliance with internal control and fiduciary arrangements will include the purchase and installation of with Microsoft Dynamics Platform with its corresponding financial module. [↑](#footnote-ref-11)
12. Disbursement procedures are detailed in the “Disbursement Handbook for CORE”. [↑](#footnote-ref-12)
13. Disbursement procedures are detailed in the “Disbursement Handbook for CORE [↑](#footnote-ref-13)
14. JICA’s CORE and EU’s Eligible and Ineligible lists can be consulted. Use IDB funding for items not clear. [↑](#footnote-ref-14)
15. However, if the IDB finds that the PEU has enough capacity to administer the IDB portion and the JICA portion in the same account and separating into sub-accounts with independent booking records, the PEU is required to open only one account for the use of both the IDB Loan and JICA Loan disbursed under the Advances method [↑](#footnote-ref-15)
16. This condition will not be required by the PEU until the supplier is ready for installation (construction) [↑](#footnote-ref-16)
17. This condition will not be required by the PEU until the supplier is ready for installation (construction) [↑](#footnote-ref-17)
18. See Annex III [↑](#footnote-ref-18)
19. The Framework Agreement amends, supplements and interprets the EU standard contractual conditions, known as the Pillar Assessed Grant or Delegation Agreement (PAGODA), to adapt them to the specificities of the IDB. Approved by document GN-2610-2, it determines the applicability of certain procurement rules as well as additional rules on eligibility of expenses, budget modification, reporting and the integration of a communications and visibility plan, among others. In accordance with the Framework Agreement, the IDB will act as project administrator and the funds will be channeled from the EU to the Beneficiary through the IDB. [↑](#footnote-ref-19)
20. Reference: 18.1 and 18.2 of PAGODA [↑](#footnote-ref-20)
21. [↑](#footnote-ref-21)
22. With the anticipated introduction of GoJ’s Country Procurement Systems during the lifetime of the operation, the project procurement will then be governed by the government procurement policies and systems, pursuant to the Agreements between the Bank and the government, will not therefore be supervised by the Bank at that time. [↑](#footnote-ref-22)
23. In accordance with the article 3.3 of PAGODA: “In case of Multi-Donor Actions under Delegation Agreements, and where the project or programme of the Organisation lasts longer than the Implementation Period of this Agreement, the Contracting Authority may request – in addition to the final reports to be submitted under Article 3.8 - the final reports of the project or programme once available. This is without prejudice to the close of the Execution Period of this Agreement following Article 13.5.” [↑](#footnote-ref-23)
24. HEPA refers to Health, Education, and Public Agency Government facilities. [↑](#footnote-ref-24)
25. A minimum of 25% of personnel trained must be women. [↑](#footnote-ref-25)
26. Includes a combination of workshops and online training [↑](#footnote-ref-26)
27. A minimum of 25% of personnel trained must be women. [↑](#footnote-ref-27)
28. A minimum of 25% of personnel trained must be women. [↑](#footnote-ref-28)
29. The principal means of mitigation defined with the Client will be included. [↑](#footnote-ref-29)
30. The risk of natural hazards to the project was assessed in the EA and deemed to be low risk. [↑](#footnote-ref-30)
31. The PEU will have an assistant financial and procurement officers specifically to support the Financial and Procurement Officers with JICA and EU-CIF requirements. [↑](#footnote-ref-31)
32. Used to highlight the principal aspects that influenced the evaluation and/or the decisions taken by the Project Team Leader. [↑](#footnote-ref-32)
33. According to PAGODA Article 19.1: “(…) provided that at least 70% of the immediately preceding instalment (and 100% of previous instalments if any) has been subject to a legal commitment between the Organization [IDB] or the Sub-delegates and a third party as proven by the relevant report” [↑](#footnote-ref-33)
34. As agreed in the IDB-Eu Framework Agreement Section E. [↑](#footnote-ref-34)
35. The objective of the Management Declaration is to inform the EC that the projects financed with EU resources are being implemented in accordance with the Bank’s and EU policies and procedures, as stated in the FA. This Management Declaration doesn’t need to be audited. [↑](#footnote-ref-35)
36. The development of the OM and the compliance with internal control and fiduciary arrangements will include the purchase and installation of with Microsoft Dynamics Platform with its corresponding financial module. [↑](#footnote-ref-36)
37. Investment Grade Audits will be prepared for an additional 17 facilities. [↑](#footnote-ref-37)
38. These audits were prepared for the JA-L1025. [↑](#footnote-ref-38)
39. Baseline year 2015. [↑](#footnote-ref-39)
40. Investment Grade Audits will be prepared for an additional 17 facilities. [↑](#footnote-ref-40)