GOVERNMENT OF JAMAICA

MINISTRY OF SCIENCE TECHNOLOGY ENERGY & MINING ENERGY

EFFICIENCY AND CONSERVATION PROGRAMME 2629/0C-JA

The Genesis of the Programme

The Energy Efficiency and Conservation Technical Assistance (EECTA) agreement was signed and dated August 21, 2009 between the Inter-American Development Bank (IDB) and the Government of Jamaica (GOJ). The overall objective was the identification and assessment of energy efficiency opportunities in the Public Sector. Given the data available, the assessment focused on electricity use and conservation. Energy efficiency opportunities with an estimated potential savings of J$2.6 billion per year were identified, while the capital expenditure required to realize these savings is approximately J$9.6 billion; yielding a simple payback of 3.7 years and a 24.7% reduction in public sector electrical energy consumption.

The work of the EECTA provided the foundation for the Government of Jamaica (GOJ) and the Inter-American Development Bank (IDB) to design, finance and implement a programme that will reduce the energy consumption of the Jamaican public sector. It focused on the collection and analysis of Government facilities' electricity consumption, energy conservation measures (ECMs), and the analysis of ECMs from a number of information sources. ECMs were derived from twenty-two (22) hospital audits carried out in 2006, an audit of ten (10) pumping stations of the National Water Commission completed in early 2010, and from data from the fourteen (14) detailed energy audits and twenty-two (22) walkthrough assessments in various government facilities that have been carried out under EECTA. Detailed monthly consumption, demand and billing information was obtained from the electric utility, Jamaican Public Service Company (JPS) for approximately four thousand three hundred (4300) accounts (the exact number varies monthly) of Government of Jamaica entities between October 2009 and October 2010.

This database represents the basis for all calculations and estimates in the report, and shows the GOJ annual energy consumption to total 411.3 GWh, representing approximately 12% of total electricity consumption in Jamaica.

The analysis of the monthly/annual electricity consumption data across different government agencies, enabled an estimation of a programmatic investment portfolio required to implement a suite of ECMs aimed at reducing the electricity use in public sector facilities in Jamaica which are now to be implemented in the **Energy Efficiency and Conservation Programme**.

THE ENERGY EFFICIENCY AND CONSERVATION PROGRAMME

The Inter-American Development Bank (IDB) and the Government of Jamaica (GOJ), entered into Loan Contract 2629/OC-JA on November 22, 2011 to cooperate in the execution of the "Energy Efficiency and Energy Conservation Programme" (JA-L1025 – 2629/0C-JA).

The GOJ designated the Ministry of Science, Technology, Energy and Mining (MSTEM) as the Executing Agency of the Programme.

A. Objectives of the Programme

The general objective of the Programme is to enhance Jamaica's energy efficiency and conservation potential through the design and implementation of concrete Energy Efficiency (EE) and Energy Conservation (EC) cost saving measures in the public sector of Jamaica. Towards this end, the Programme seeks to:

(a) Strengthen the institutional capacities of the Ministry of Science, Technology, Energy and Mining (MSTEM) for the implementation of EE and EC measures.

(b) Support investments in EE and EC measures in the public sector.

(c) Increase awareness and knowledge on EE and EC among key public and private stakeholders, together with the provision of demand-side management support.

The Programme also seeks to materialize additional benefits from energy conservation and, thereby, reduce energy consumption and costs. It is also envisioned that the Programme can correspondingly contribute to the reduction in Greenhouse Gas Emissions (GHG).

B. Components of the Programme

The Programme comprises three components described below.

1. Component I: Institutional Strengthening

Component I will provide key technical support to MSTEM for the execution, management, coordination and supervision of the Programme. It includes four sub-components:

(a) Sub-Component I. Comprises the establishment and operation of the Project Execution Unit (PEU) within MSTEM, including its staffing to cover the following areas: (i) project management and coordination; (ii) financial management and accounting; (iii) procurement administration for EE and EC investments; and (iv) technical support for the implementation and supervision of EE measures. It also includes the procurement of office equipment and tools to support the work of the PEU and for the institutionalization of EE and EC in MSTEM.

(b) Sub-Component II. Comprises the assessment and definition of an appropriate

institutional framework within the organizational structure of MSTEM, which will lead in the implementation of EE and EC measures nationwide to achieve national EE and EC goals.

(c) Sub-component III. Comprises the monitoring of energy savings and verification activities to validate the effectiveness of the EE and EC measures implemented as part of the Programme. In particular, this includes the monitoring of electricity consumption and electricity bills of retrofitted public sector facilities, and the assessment of their correlation against the EE and EC measures implemented.

(d) Sub-component IV. Comprises the design and implementation of EE and EC initiatives, including the development of "Maintenance and Environmental Disposal Manuals" for future EE and EC activities.

2. Component II: Investments in Energy Efficiency and Energy Conservation

Component II will consist in the implementation of EE and EC investment measures in the public sector. The investments contemplated will be directed to improve public sector buildings including municipalities when applicable. It includes three sub-components:

(a) Sub-Component I - Lighting. Comprises the replacement of inefficient and obsolete lighting such as incandescent bulbs and inefficient fluorescent lighting with efficient lighting, including Light Emitting Diodes (LED). It also includes the replacement of inefficient street lighting in targeted parishes, with efficient high-pressure sodium lights and/or new technologies, including but not limited to LEDs.

(b) Sub-Component II – Air Conditioning. Comprises the replacement of window units and inefficient mini-split Air Conditioning (AC) with inverter-based mini split units and/or efficient AC central units.

(c) Sub-Component III – Building Envelope. Comprises the introduction of building envelope measures such as window tinting, window seals and door sealants that reduce the heat gain of the buildings, roof insulation, and/or measures that reduce energy losses or improve efficiency, such as automatic door closers, occupancy sensors and programmable thermostats.

3. Component III: Demand Side Management Program and Energy Efficiency/Energy Conservation Education Awareness

Component III consists of educational and awareness raising campaigns aimed at promoting the "National Energy Policy 2009-2030" and its implementation, and particularly, EE and EC initiatives within the public sector and other end users participating in the overall National EE and EC Program. It includes two sub-components:

(a) Sub-Component I. Comprises activities to increase awareness among the public and private sector regarding EE and EC cost and benefits, focusing on the support to: (i) the design of EE and EC incentive mechanisms within the public sector, as well as the

analysis on the introduction of other demand side management technologies such as Smart Grid or Metering; (ii) definition of minimum EE and EC standards, in coordination with the Bureau of Standards of Jamaica (BSJ), for specific technologies such as lighting and/or AC; and (iii) the funding of additional technical and regulatory studies needed to implement subsequent EE and EC measures within the public sector of Jamaica.

(b) Sub-Component II. Comprises: (i) workshops and seminars for private and public sector stakeholders on EE and EC procurement and EE and EC management; and (ii) dissemination activities aimed at increasing awareness among private and public sector stakeholders, and dissemination of the main lessons learned nationally and regionally.

C. Costs and Funding Sources

The Programme has a total cost of US$20.0 million, which is being funded by the IDB.

The Project Executing Unit may be contacted as below:

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