

# JAMAICA

COOL DOWN THE PLANET – HEAT UP YOUR ECONOMY Energy efficiency improvement for cooling appliances

| NATIONAL ANNUAL SAVINGS ACHIEVABLE WITH AN IMPROVED POLICY FRAMEWORK |   |  |  |  |
|--|---|--|--|--|
| ààà  | Save electric energy worth 137 million US\$   |  |  |  |
| C0 <sub>2</sub>  | Reduce CO <sub>2</sub> emissions by 228 thousand tonnes   |  |  |  |
|  | Reduce electricity use<br>→ by over 390 GWh<br>→ more than 9 % of current national electricity use<br>equivalent to<br>130,000<br>passenger cars ↔ ↔ ↔ equivalent to<br>1 power plant<br>[100 MW] |  |  |  |
|  | ES IN SAVINGS FROM EACH PRODUCT   |  |  |  |
| Domestic<br>Refrigerators  | 19% Room air Conditioners 71% Ceiling Fans  |  |  |  |
|  |   |  |  |  |
| POTEN  | TIAL ANNUAL SAVINGS PER HOUSEHOLD (assuming the use of one of each products)  |  |  |  |
| ↓ ♠  | Reduce electricity use  |  |  |  |

→ by over 1,380 kWh

100 100

Save on electricity bills by 480 US\$

## THE PATHWAY TO ENERGY EFFICIENCY

# Country Specific Data and Input Assumptions for Jamaica



### efficient appliances & equipment

Global Partnership Programme

#### **GENERAL INFORMATION**

| Population            | 2.707 million |
|-----------------------|---------------|
| GDP per capita        | 5,464 US\$    |
| Electrification level | 92 %          |

#### **ELECTRICITY MARKET**

| Electricity tariff              | 0.35 US\$ / kWh |
|---------------------------------|-----------------|
| CO <sub>2</sub> Emission Factor | 0.49 kg / kWh   |
| Transmission and                | 16 %            |
| distribution loss factor        |                 |

#### **BASELINE OF CURRENT PRODUCTS**

| Product             | Price<br>(USD) | Unit Energy<br>Consumption<br>(kWh / year) | Appliance<br>Lifetime<br>(years) | Type of Product   |
|---------------------|----------------|--|----------------------------------|---|
| Air<br>conditioners | 650            | 2,556                                      | 12                               | Window / wall air conditioner with<br>3.5 kW (12,000 Btu / hour or 1 ton)<br>cooling capacity |
| 😾 Fans              | 100            | 88   | 10                               | Ceiling fan   |
| 📔 Refrigerators     | 600            | 485  | 15                               | 2-door top-mount 300-liter<br>refrigerator-freezer  |

#### METHODOLOGY

The analysis uses CLASP's Policy Analysis Modeling System (PAMS) to forecast the impacts from implementing policies that improve the energy efficiency of new household air conditioners, refrigerators, and ceiling fans. It is assumed policies are implemented in 2020 and saving potentials are from 2030. The potential savings are based on a best-available technology scenario, including all expenditures associated with purchase and use of the product.

#### ASSUMPTIONS AND DATA SOURCES

- **Population and GDP per capita data** (2012) comes from the World Bank.
- Electrification level was provided by country representatives (when available) and the International Energy Agency (IEA).
- Market size was determined by data provided by country representatives (when available); industry partners; International Copper Association (ICA); UN Comtrade database; Inter-American Development Bank; household penetration forecasts generated by PAMS from population, climate, and macroeconomic indicators.
- Baseline price, unit energy consumption (UEC), appliance lifetime were provided by country representatives (when available); industry partners; ICA; and Lawrence Berkeley National Laboratory. The business-as-usual scenario assumes a 1 per cent annual improvement in UEC.
- **Electricity tariff** was provided by country representatives (when available); IEA; and internet research.
- Transmission and distribution loss factor is a regional average calculated from electricity production and consumption data published by the International Energy Agency (IEA).
- **CO2 Emission Factor** was provided by UNEP and extrapolations were made by CLASP for seven small island nations.
- **Consumer discount rate** was derived from the Human Development Index, United Nations Development Programme (2012). The rate varies by country from 7% to 13%, with less developed countries having higher rates.



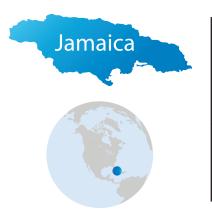












# JAMAICA



## ENERGY EFFICIENCY POLICY ASSESSMENT For cooling appliances

## DOMESTIC REFRIGERATORS

|  | Policy<br>in place | Policy type | Mandatory<br>or voluntary | In force |
|--|--------------------|-------------|---------------------------|----------|
| Energy efficiency standards              |                    |             |                           |          |
| Supporting policies                      |                    |             |                           |          |
| Monitoring, verification and enforcement |                    |             |                           |          |
| Environmentally sound management         |                    |             |                           |          |

Comment:

No information available.

## **ROOM AIR CONDITIONERS**

|   | Policy<br>in place   | Policy type | Mandatory<br>or voluntary | In force |
|---|--|-------------|---------------------------|----------|
| Energy efficiency standards                 |  |             |                           |          |
| Supporting policies                         |  |             |                           |          |
| Monitoring, verification<br>and enforcement |  |             |                           |          |
| Environmentally sound management            |  |             |                           |          |
| Comment:                                    | An energy security and efficiency enhancement project for air conditioning units and |             |                           |          |

Comment:

An energy security and efficiency enhancement project for air conditioning units and small appliances is under development and scheduled to be completed by June 2015.

## CEILING FANS Policy in place Policy type Mandatory or voluntary In force Energy efficiency standards Supporting policies Monitoring, verification and enforcement Environmentally sound management

Comment:

No information available.