



SAINT-LUCIA

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

1

NATIONAL ANNUAL SAVINGS ACHIEVABLE WITH AN IMPROVED POLICY FRAMEWORK



Save electric energy worth **4.8 million US\$**



Reduce CO₂ emissions by **14 thousand tonnes**



Reduce electricity use

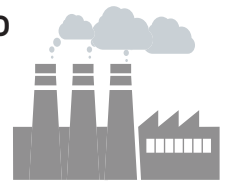
→ by over **18 GWh**

→ more than **5%** of current national electricity use

... equivalent to
7,800
passenger cars



... equivalent to
1 power
plant
[5 MW]



2

SHARES IN SAVINGS FROM EACH PRODUCT



Domestic
Refrigerators

22%



Room air
Conditioners

59%



Ceiling
Fans

19%

3

POTENTIAL ANNUAL SAVINGS PER HOUSEHOLD (assuming the use of one of each products)



Reduce electricity use

→ by over **1,380 kWh**



Save on electricity bills by **360 US\$**

THE PATHWAY TO ENERGY EFFICIENCY

Country Specific Data and Input Assumptions for Saint-Lucia



efficient appliances
& equipment

Global Partnership Programme




GENERAL INFORMATION

| | |
|-----------------------|------------|
| Population | 180,870 |
| GDP per capita | 7,288 US\$ |
| Electrification level | 98 % |

ELECTRICITY MARKET

| | |
|---|------------------|
| Electricity tariff | 0.262 US\$ / kWh |
| CO ₂ Emission Factor | 0.65 kg / kWh |
| Transmission and distribution loss factor | 16 % |

BASELINE OF CURRENT PRODUCTS

| Product | Price (USD) | Unit Energy Consumption (kWh / year) | Appliance Lifetime (years) | Type of Product |
|--|-------------|--------------------------------------|----------------------------|---|
|  Air conditioners | 650 | 2,551 | 12 | Window / wall air conditioner with 3.5 kW (12,000 Btu / hour or 1 ton) cooling capacity |
|  Fans | 100 | 88 | 10 | Ceiling fan |
|  Refrigerators | 600 | 485 | 15 | 2-door top-mount 300-liter 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.

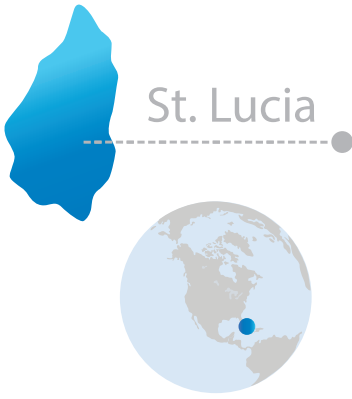
ASSUMPTIONS AND DATA SOURCES

- **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.



in support of

SUSTAINABLE
ENERGY FOR ALL



St. Lucia

SAINT-LUCIA



ENERGY EFFICIENCY POLICY ASSESSMENT For cooling appliances



DOMESTIC REFRIGERATORS

| | 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.



ROOM AIR CONDITIONERS

| | Policy in place | Policy type | Mandatory or voluntary | In force |
|--|-------------------|-------------------|------------------------|----------|
| Energy efficiency standards | No | | | |
| Supporting policies | Under development | Comparative label | Mandatory | N / A |
| Monitoring, verification and enforcement | Yes | Verification | Voluntary | N / A |
| Environmentally sound management | No | | | |

Comment: No information available.



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.