

Energy Snapshot Saint Lucia

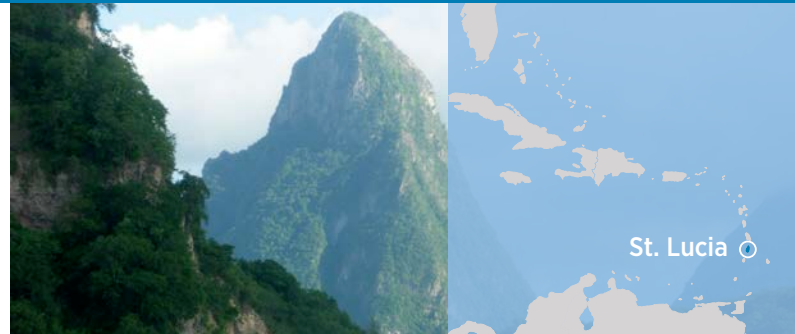
This profile provides a snapshot of the energy landscape of Saint Lucia, one of six Caribbean countries that make up the Windward Islands—the southern arc of the Lesser Antilles chain—at the eastern end of the Caribbean Sea. The 2015 electricity rates in Saint Lucia are \$0.34 per kilowatt-hour (kWh), in line with the Caribbean regional average of \$0.33/kWh. Like many island nations, Saint Lucia is almost 100% reliant on imported fossil fuels for electricity generation, leaving it vulnerable to global oil price fluctuations that directly impact the cost of electricity.

Population	163,362
Total Area	606 square kilometers
Gross Domestic Product (GDP)	\$1.38 billion U.S. dollars (USD)
Share of GDP Spent on Fuel and Imports	Electricity – 6.75% Total – 16.45%
GDP Per Capita	\$13,100 USD
Urban Population Share	17.5%

Electricity Sector Data

Privately owned St. Lucia Electricity Services Limited (LUCELEC) is the sole electrical utility for Saint Lucia and has a customer base of more than 61,000. LUCELEC has an installed electricity generating capacity of 78.4 megawatts (MW), with peak demand of 60 MW. Most of the island’s energy is produced from imported diesel fuel that powers electrical generators. Saint Lucia’s electricity rates are more than triple the U.S. average.

Saint Lucia is a volcanic windward island, with large technical potential for geothermal, wind, and solar renewable energy generation, as well as use of solid waste generated by



Saint Lucia’s Renewable Energy Goal:
Generate 35% of the country’s energy from renewables by 2020

Government and Utility Overview

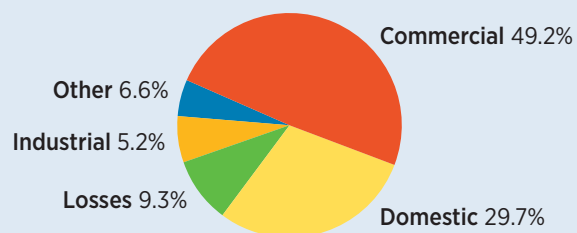
Government Authority	Ministry of Sustainable Development, Energy, and Science and Technology	
	Key Figure: Sen. Hon. Dr. James Fletcher	
Designated Institution for Renewable Energy	Energy Policy Advisory Committee	
Regulator	Ministry of Communications, Works, Transport, and Public Utilities	
Utility	Name: St. Lucia Electricity Services Limited	Public-private corporation including foreign ownership
	Serves the entire country with 61,039 users. The government owns 45% of the shares, and the Commonwealth Development Corporation owns another 49%.	

residents. Little technical potential for biomass or hydroelectric generation exists on the island. A biomass plant requires large tracts of agricultural land and is not economically feasible. Rivers and waterfalls on Saint Lucia do not have a base flow rate sufficient to power water turbines. The most promising hydroelectric spot is the Roseau Reservoir, which can supply 150 kilowatts (kW).

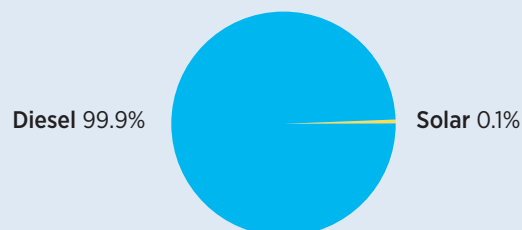
Electricity Sector Overview

Total Installed Capacity	78.4 MW	
Peak Demand	60.3 MW	
Total Generation	385,208 megawatt-hours	
Renewable Share	<1%	
Transmission & Distribution Losses	9.3%	
Electrification Rate	98%	
Average Electricity Tariffs (USD/kWh)	Residential	\$0.341
	Commercial	\$0.470
	Industrial	\$0.470

Energy Consumption by Sector



Energy Generation Mix



Clean Energy Policy Environment

Since 1994, Saint Lucia's energy policy has evolved.

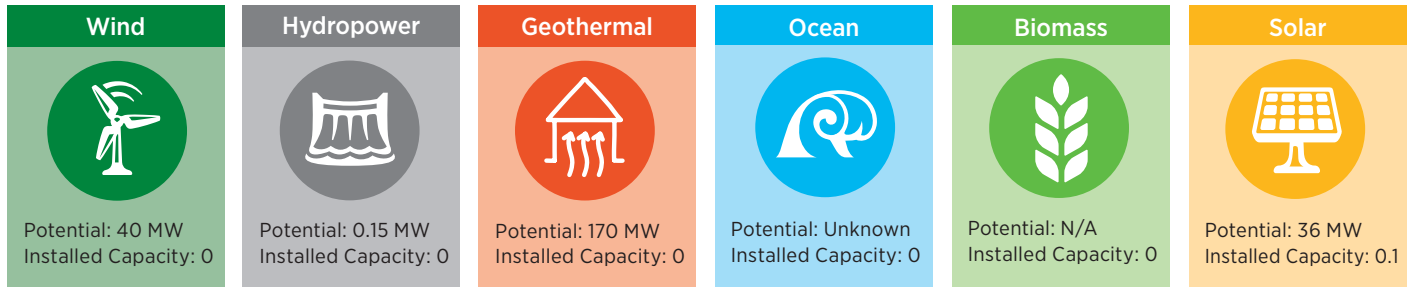
- 1994—The Electricity Supply Act enabled the island's utility, LUCELEC, to advance development of renewable resources through voluntary financial incentives.
- 1999—The government waived import duties and consumption taxes on renewable energy equipment.
- 2001—Solar water heaters became tax deductible and the government initiated a National Sustainability Energy Plan (NSEP), which aimed for a 35% reduction in greenhouse gas emissions by 2010.
- 2004—A lighting program reduced the island lighting load.
- 2005—A Sustainable Energy Plan was implemented and a green paper on the National Energy Policy (NEP) was written.
- 2010—The government established the Saint Lucia NEP outlining provisions to increase the use of renewable energy technologies to offset the amount of fuel the country imports to meet its energy needs.

Existing Policy and Regulatory Framework

Renewable Energy	
Feed-in Tariff	
Net Metering/Billing	●
Interconnection Standards	
Renewables Portfolio Standard/Quota	
Tax Credits	●
Tax Reduction/Exemption	●
Public Loans/Grants	
Green Public Procurement	
Energy Efficiency	
Energy Efficiency Standards	
Tax Credits	
Tax Reduction/Exemption	■
Public Demonstration	
Restrictions on Incandescent Bulbs	
Appliance Labeling Standards	
Targets	
Renewable Energy	●
Energy Efficiency	

● In Place ■ In Development

Renewable Energy Status and Potential



Energy Efficiency and Renewable Energy Projects

LUCELEC generates an impressive 19.75 kWh of electricity per gallon (7,600 British thermal units/kWh) resulting in a lower fuel surcharge for LUCELEC customers. Advanced metering infrastructure installed across 20% of LUCELEC's customer base in 2010 reduced technical and nontechnical electrical losses. Despite these efforts, Saint Lucia's transmission losses remain moderately high at more than 9%.

Saint Lucia adopted building codes in 2001 and seven electrical and lighting codes between 2002 and 2008 designed to improve end-use efficiency on the island. Not all of these standards are mandatory, and the degree to which they are enforced or updated is unknown.

The island's abundant solar resource (global horizontal irradiation of 5.7 kWh per square meter each day, which increases closer to the coast) makes solar power economically attractive. Currently, distributed photovoltaic power systems only produce modest amounts of electricity and there are no plans by the government or LUCELEC to install additional solar technologies on the island.

The volcano that sits in the middle of Saint Lucia provides vast geothermal potential. Conservative estimates indicate more than 30 MW of technical geothermal potential; others estimate 170 MW. Estimates also show that development of this geothermal resource would likely be economically feasible.

Saint Lucia Utility Energy Efficiency Efforts

The following measures have been implemented to help decrease overall losses for the electrical system and reduce the amount of power that must be generated to meet the island's electrical load:

- Provide energy auditing training for utility employees
- Install Advanced Metering Infrastructure systems for 20% of its customers
- Upgrade low- and high-voltage conductors
- Optimize transformer loads
- Increase the proficiency of the utility's live line work
- Expand the Distribution Automation Program.



Energy Transition Initiative

This energy snapshot was prepared to support the Energy Transition Initiative, which leverages the experiences of islands, states, and cities that have established a long-term vision for energy transformation and are successfully implementing energy efficiency and renewable energy projects to achieve established clean energy goals.

Through the initiative, the U.S. Department of Energy and its partners provide government entities and other stakeholders with a proven framework, objective guidance, and technical tools and resources for transitioning to a clean energy system/economy that relies on local resources to substantially reduce reliance on fossil fuels.



Opportunities for Clean Energy Transformation

Even though LUCELEC's efforts to improve operational efficiency and electrical system reliability demonstrate a commitment to more energy-efficient practices on Saint Lucia, there is little evidence that the country's regulatory and policy environment has adapted to new technologies. A 2006 review of the NSEP indicated that energy efficiency and renewable energy projects existed, but that none were grid-tied. Most projects since then have stalled in the proposal phase.

Transitioning to clean energy sources can help protect Saint Lucia's natural resources and preserve water and air quality. With abundant geothermal, wind, and solar resources to more than meet Saint Lucia's peak demand, even partial development of these resources could result in high penetration of renewables onto the grid. Continued policy and program support could drive more extensive development of renewable energy on Saint Lucia. An investment in the existing grid, however, may be required to support safe and reliable high penetrations of renewable energy.

Sources

The information provided in this fact sheet was developed using the following sources.

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