ENERGY TRANSITION INITIATIVE
Islands

Energy Snapshot

The Federation of Saint Christopher and Nevis

This profile provides a snapshot of the energy landscape of the Federation of St. Christopher (St. Kitts) and Nevis—two islands located in the Leeward Islands in the West Indies. The 2015 electricity rates for St. Kitts and Nevis are $0.26 per kilowatt-hour (kWh), lower than the Caribbean regional average of $0.33/kWh. Like many island nations, St. Kitts and Nevis is heavily reliant on fossil fuels for electricity generation, leaving it vulnerable to global oil price fluctuations that directly impact the cost of electricity. The government subsidizes the fuel charge for residential customers, partially shielding that sector from price volatility.

St. Kitts and Nevis' Renewable Energy Goal:

20% by 2015

Population	51,538
Total Area	St. Kitts – 261 square kilometers Nevis – 93 square kilometers
Gross Domestic Product (GDP)	$0.952 billion U.S. dollars (USD)
Share of GDP Spent on Fuel and Imports	Electricity – 2.92% Total – 3.99%
GDP Per Capita	$26,400 USD
Urban Population Share	32%

Government and Utility Overview

Government Authority	**Ministry:** Ministry of Public Works, Housing, Energy, & Utilities	
	Key Figure: Deputy Prime Minister Dr. Earl Asim Martin	
Designated Institution for Renewable Energy	None	
Regulator	No dedicated regulatory body	
Utilities	**Name:** St. Kitts Electricity Company Ltd.	Publicly owned
	Name: Nevis Electricity Company Ltd.	

Electricity Sector Data

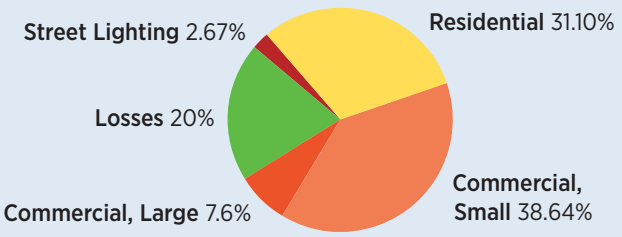
St. Kitts Electricity Company Ltd. (SKELEC) was formed in 2011 (formerly the St. Kitts Electricity Department) and serves all of St. Kitts. Nevis Electricity Company Ltd. (NEVLEC) was formed in 2000 as a subsidiary of the Nevis Island Administration and serves all of Nevis Island.

St. Kitts system losses are about 17% while Nevis has system losses of 20.3%, both higher than the average. By comparison, the U.S. Energy Information Administration reports an average transmission and distribution loss of 6%. On St. Kitts and Nevis, reports indicate that higher losses are largely attributable to nontechnical losses such as unmetered consumption.

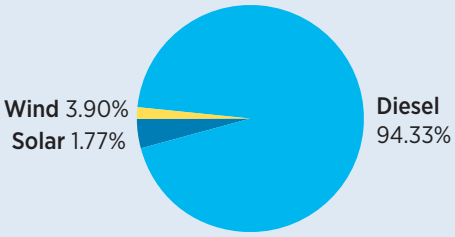
Electricity Sector Overview

Total Installed Capacity	43.0 megawatts (MW) (SKELEC) 13.4 MW (NEVLEC)	
Peak Demand	24.0 MW (SKELEC) 10.4 MW (NEVLEC)	
Total Generation	150.0 gigawatt-hours (GWh) (SKELEC) 56.1 GWh (NEVLEC)	
Renewable Share	5.7%	
Transmission & Distribution Losses	17% (St. Kitts Island) 20.3% (Nevis)	
Electrification Rate	95%	
Average Electricity Tariffs (USD/kWh)	**Residential**	$0.234 –$0.262
	Commercial	$0.279
	Industrial	$0.279

Energy Consumption by Sector



Energy Generation Mix



Not all generation is made publically available; this chart provides known and referenceable data.

Clean Energy Policy Environment

The key provisions of St. Kitts and Nevis' National Energy Policy (NEP) include connecting large-scale independent power providers and many distributed renewable energy systems to the electrical grid. However, the NEP requires that all suppliers procure a license before generating electricity. The license cannot exceed 25 years, which should accommodate nearly all renewable energy technologies even though some can have a longer usable lifetime.

Energy Efficiency and Renewable Energy Projects

With a large geothermal resource and moderate-to-high wind and solar resources, St. Kitts and Nevis has sufficient renewable energy resource potential to meet some or all of its current and future electricity needs. It has average wind speeds of 6.6 meters per second (m/s) to 7.9 m/s. The solar resource averages 5 kWh per square meter.

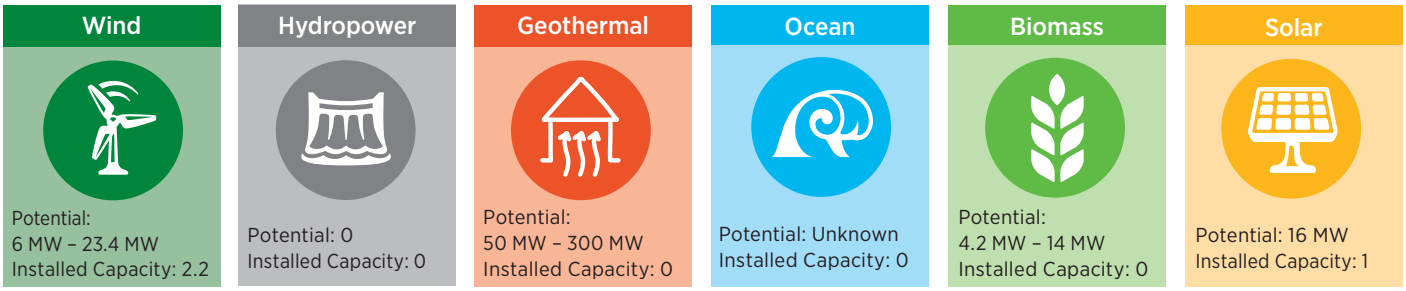
Both grid-powered induction lighting and solar-powered street lights are now in place along roadways, and a 7 MW waste-to-energy power plant is slated to come online on St. Kitts in 2015. The main airport offsets 100% of its electricity with a 1 MW solar photovoltaic farm.

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



Short-term development plans include 5.4 MW of wind on St. Kitts and 10 MW of geothermal on Nevis. An additional 20 MW of wind, 5 MW of solar, and 35 MW of geothermal is planned. The government has also developed a low-interest solar loan program for residential consumers and has called for residents and businesses to increase solar water heating use.

Over the past several years, St. Kits and Nevis has implemented several energy efficiency and renewable energy projects. In 2014, a light bulb exchange program was launched to replace existing residential lighting with 323,000 LED bulbs at a cost of roughly $2.5 million; the manufacturing sector underwent a comprehensive energy audit; and SKELEC began a smart meter pilot program during a smart grid update. In 2010, a 2.2 MW wind power plant, consisting of eight GEV MP 275/32 turbines rated at 275 kW each, was completed on Nevis.

Opportunities for Clean Energy Transformation

St. Kitts and Nevis have considerable renewable energy resources. The country is adding 15.4 MW of renewable energy to the grid, enough to power Nevis. Another 70 MW is planned, which would be sufficient to power the entire country. If St. Kitts and Nevis becomes energy self-sufficient, its renewable resources could benefit nearby island nations through the construction of a submarine cable.

There has been significant interest in developing large-scale geothermal generation on Nevis (200 MW–600 MW) that could export surplus energy to Puerto Rico, 400 kilometers away. This interconnection is technically feasible, and the economics make sense to displace fuel costs when oil prices are greater than $100/barrel. However, the project economics need additional support at lower oil prices, and jurisdictional issues between the two islands could lead to significant obstacles.

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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.

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