

Energy Snapshot Belize

This profile provides a snapshot of the energy landscape of Belize, a Central American country bordering Mexico to the north, Guatemala to the west and south, and the Caribbean Sea to the east. Although not an island nation, Belize is included in this energy snapshot series because of the small diesel systems used to power its islands and the fact that it is a member of the Caribbean Community (CARICOM), an alliance of 15 Caribbean nations in the region.

Belize’s utility rates are approximately \$0.22 per kilowatt-hour (kWh), lower than the Caribbean regional average of \$0.33/kWh because of existing renewable energy projects, but still high compared with U.S. mainland rates. Belize is only partially reliant on imported fossil fuels, leaving it less vulnerable to global oil price fluctuations that directly impact the cost of electricity compared with other islands and territories in the Caribbean.

Population	340,844
Total Area	22,966 square kilometers
Gross Domestic Product (GDP)	\$1.6 billion U.S. dollars (USD)
Share of GDP Spent on Fuel and Imports	Electricity – <0.1% Total – 1.95%
GDP Per Capita	\$4,764 USD
Urban Population Share	44.7%



Belize’s Renewable Energy Goals:

- 80% by 2020
- 95% by 2030

Government and Utility Overview

Government Authority	Ministry: Ministry of Energy, Science & Technology, and Public Utilities	
	Key Figure: Senator, Honorable Audrey Joy Grant	
Designated Institution for Renewable Energy	None	
Regulator	Public Utilities Commission	
Utilities	Name: Belize Electricity Limited	Government-owned utility

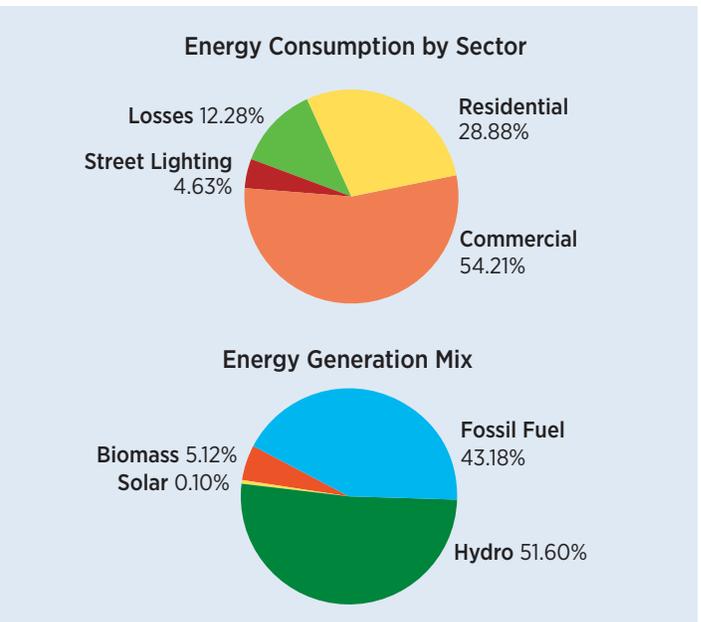
Electricity Sector Data

Belize Electricity Limited (BEL) distributes electricity throughout the country. It is owned by the government of Belize (70.2%), the Social Security Board (26.9%), and approximately 1,500 shareholders (2.9%) and is regulated by the Public Utilities Commission (PUC).

Created by the Electricity Act of 2000, BEL functions as a legal monopoly—it was granted a 15-year license to generate, transmit, distribute, and supply electricity in Belize with an automatic 10-year recurring license beginning in 2015. Private entities are allowed to generate up to 75 kilowatts of power, after which licensing requirements apply.

Electricity Sector Overview

Total Installed Capacity	24 megawatts (MW) (BEL) 80 MW (IPPs) 50 MW (Mexico)	
Peak Demand	84.3 MW	
Total Generation	483.9 gigawatt-hours	
Renewable Share	65%	
Transmission & Distribution Losses	12.3%	
Electrification Rate	85%	
Average Electricity Tariffs (USD/kWh)	Residential/Commercial	\$0.22 (mean electricity rate)



Almost half the energy in Belize comes from hydroelectric power and biomass. BEL purchases 71.5% of its electricity from five domestic independent power producers (IPPs) which produce much of the remaining energy—about 55.6%—of all the electrical needs of the country, and about 40% from a Mexican government-owned electric utility. The company also generates electricity from gas-turbine and diesel-fired generators that it owns to meet peak demand.

Clean Energy Policy Environment

In 2012, the Government of Belize endorsed the National Energy Plan, which provided policy recommendations to policymakers and decision makers for achieving the country’s clean energy goals.

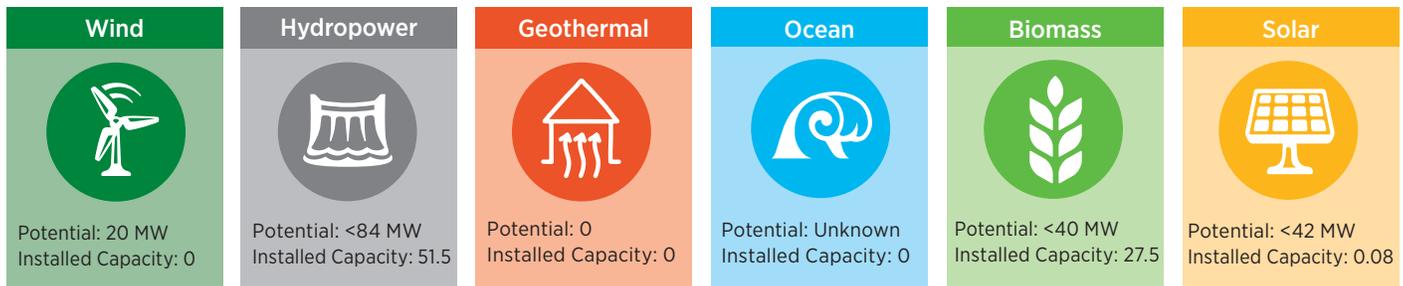
The Ministry of Energy, Science & Technology, and Public Utilities created a Sustainable Energy Strategy to guide its planned renewable energy expansion. This strategy establishes a framework for transitioning Belize’s energy sector and recommends programs and action plans for achieving a low-carbon community by 2033 through improved energy efficiency and conservation measures as well as increased development of the country’s renewable energy resources.

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

Belize has an abundance of hydropower, which currently provides nearly half of the country's electricity. Belize also has good to moderate land-based wind resources (Class 3–4). Full solar and biomass resource assessments are unavailable.

Current hydroelectric capacity is produced by 25.5 MW at the Mollejon Hydro Plant, 7.0 MW at the Chalillo Hydroelectric Dam Plant, 19 MW at the Vaca Hydroelectric Facilities, and 3.5 MW at the HydroMaya Dam. The University of Belize has a solar photovoltaic (PV) system that supplies 0.1% of the country's electricity supply. Biomass supplies 8.9% of the country's needs, but demand currently exceeds supply of biomass.

In 2014, the PUC issued a request for proposals for 60 MW of baseload generating capacity and 15 MW of solar or wind generating capacity. The PUC received 22 proposals for renewable energy projects. Twenty projects, most of which incorporate solar PV, have passed the first stage of evaluation and further project selection is underway as of publication.

Opportunities for Clean Energy Transformation

Implementing additional renewable energy and energy efficiency measures may help lower electricity costs and improve environmental quality for Belize. More comprehensive assessments of wind, solar, and biomass resources could inform further development of these technologies.

Through public education and incentive programs, small, distributed solar systems with storage could be deployed at the residential level. Such systems would include establishing a mechanism for generators to sell excess production to the utility.

Few policy mechanisms are in place to facilitate renewable energy market development in Belize. Because energy expenditures comprise a large portion of the average household's budget, more public awareness of renewable energy and energy efficiency could support a transition to a more diverse and cost-effective energy system that relies on local resources.

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.



Sources

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

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**ENERGY
TRANSITION
INITIATIVE**

Islands

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