

Energy Snapshot

Puerto Rico

This profile provides a snapshot of the energy landscape of the Commonwealth of Puerto Rico—a U.S. territory located about 60 miles east of the Dominican Republic and directly west of the U.S. Virgin Islands. Puerto Rico’s utility rates are approximately \$0.24/kilowatt-hour (kWh), below the Caribbean regional average of \$0.33/kWh. Like many island nations, Puerto Rico is highly dependent on imported fossil fuels, leaving it vulnerable to global price fluctuations that directly impact the cost of electricity.



Puerto Rico’s Renewable Energy Goals:

- 12% by 2015
- 15% by 2020
- 20% by 2035

Population	3,620,897
Total Area	13,790 square kilometers
Gross Domestic Product (GDP)	\$64.8 billion U.S. dollars (USD)
Share of GDP Spent on Fuel and Imports	Electricity – 7.66% Total – 8.61%
GDP Per Capita	\$17,900 USD
Urban Population Share	98.9%

Electricity Sector Data

Puerto Rico Electric Power Authority (PREPA) is the sole distributor of electricity in Puerto Rico and generates 66% of the island’s electricity needs using diesel fuel. The remaining 34% of the island’s electricity needs are met through independent power producers using coal and natural gas.

Government and Utility Overview

Government Authority	Ministry: Energy Public Policy Office	
	Key Figure: Chief Ing. José G. Maeso González	
Designated Institution for Renewable Energy	Puerto Rico Energy Commission	
Regulator	Puerto Rico Energy Commission	
Utilities	Name: Puerto Rico Electric Power Authority	Government-owned utility
	Serves approximately 1.5 million customers in the territory.	

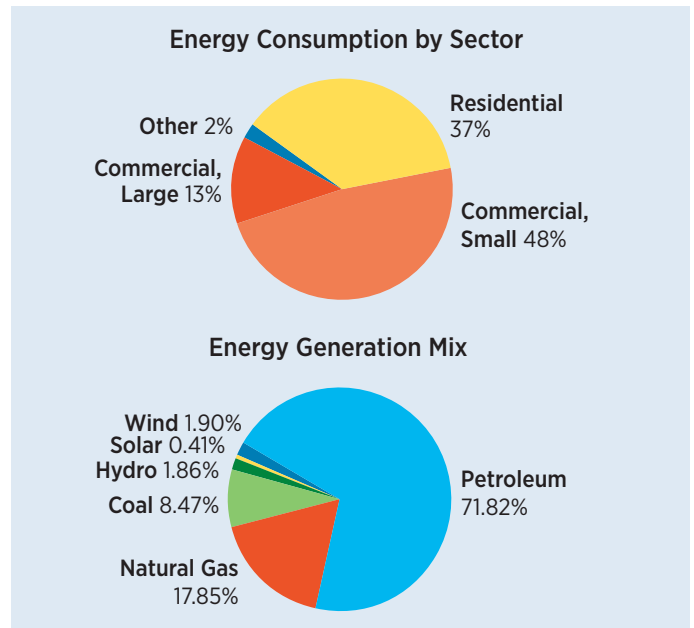
Electricity Sector Overview

Total Installed Capacity	4,878 megawatts (MW) (PREPA) 961 MW (Power Purchase Agreements)	
Peak Demand	3,685 MW	
Total Generation	19,430 gigawatt-hours	
Renewable Share	4.2%	
Transmission & Distribution Losses	13.8%	
Electrification Rate	100%	
Average Electricity Tariffs (USD/kWh)	Residential	\$0.25
	Commercial	\$0.28
	Industrial	\$0.24
	Public Authorities	\$0.26
	Agriculture	\$0.28
	Public Lighting	\$0.42

Clean Energy Policy Environment

The Energy Public Policy Office implements energy policy in Puerto Rico. In 2010, Act 82 was passed, requiring the energy supply in the territory to be diversified and establishing a renewable portfolio standard (RPS) requiring 20% of electricity sales from renewables by 2035. In 2014, Act 57 codified significant and widespread reforms to the electricity sector, laying the foundation for a more sustainable and cost-effective energy system in Puerto Rico.

Net metering is available in Puerto Rico for residential customers for up to 25 kilowatts (kW) and other systems up to 1 MW. Net metering allows Puerto Rico's citizens to sell power generated beyond on-site use from distributed renewable energy systems back to the utility, which compensates them at \$0.10/kWh or avoided fuel costs, whichever is greater. For larger projects, Puerto Rico has requirements for energy storage with renewable energy to increase grid stability. Act 57 established new lead-by-example policies for energy efficiency in the public sector.

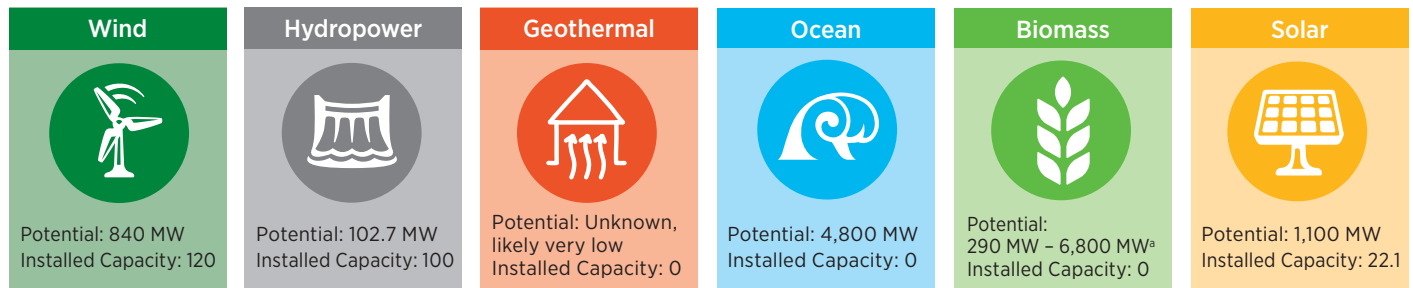


Existing Policy and Regulatory Framework

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



^a The lower limit is traditional agricultural biomass, and the upper limit assumes that microalgae is commercially viable and in widespread use at maximum capacity.

Energy Efficiency and Renewable Energy Projects

Puerto Rico's energy efficiency efforts focus on adopting the latest building codes and incentive programs for energy retrofits, weatherization, and appliance rebates. An energy efficiency and conservation public education campaign is also in place. More than 11,000 solar water heaters have also been deployed, largely through weatherization programs and a building code that requires mandatory solar water heating. The Green Energy Fund provides incentives for wind and solar systems.

Utility-scale renewable energy projects operating in Puerto Rico to date include 120 MW of wind, 22.1 MW of solar photovoltaics, and 21 hydroelectric generating units mainly sited on reservoirs and irrigation lakes that total 100 MW. There are an additional 1,660.8 MW of renewable energy projects planned or under construction as of fiscal year 2013: 10 wind projects totaling 382.9 MW, 47 solar photovoltaic projects totaling 1,157 MW, and seven biomass projects totaling 120.5 MW. Solar resource potential in Puerto Rico is moderate, ranging from 4.5 kWh/square meter (m²)/day to 5.0 kWh/m²/day.

Wind speeds average lower than 5.9 meters per second (m/s), although some locations have more economical wind resources. The existing wind projects are realizing wind speeds of 6.0 m/s to 6.5 m/s, making them commercially viable. The offshore wind resource is fair with speeds of 6.8 m/s to 7.5 m/s. Ocean energy and biomass have high resource potential and could serve as baseload generation, and one 70 MW waste-to-energy project is currently being developed.

Opportunities for Clean Energy Transformation

While Puerto Rico has implemented energy efficiency and renewable energy, there are more opportunities. For example, interconnection standards could be refined to support increasing amounts of renewable energy while addressing storage separately.

Puerto Rico is exploring biofuels as a source of electricity, but the potential for electrical generation from ocean thermal energy, waves, and tidal power requires further feasibility studies. The Green Energy Fund could be expanded to offer incentives for renewable energy technologies beyond wind and solar.

Puerto Rico needs to comply with the proposed U.S. Environmental Protection Agency emissions guidelines for new and existing fossil fuel units. The island has one liquefied natural gas terminal, and PREPA is looking to natural gas to displace petroleum for electricity generation and to meet environmental mandates. Pairing renewables with natural gas could reveal additional clean energy solutions, and energy efficiency can further mitigate the impact of fuel price volatility.

Sources

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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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**ENERGY
TRANSITION
INITIATIVE**

Islands

Prepared by the National Renewable Energy Laboratory (NREL), a national laboratory of the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy; NREL is operated by the Alliance for Sustainable Energy, LLC.

DOE/GO-102015-4583 • March 2015