

Energy Snapshot Dominican Republic

This profile provides a snapshot of the energy landscape of the Dominican Republic, a Caribbean nation that shares the island of Hispaniola with Haiti to the west. In 2014, the Dominican Republic's utility rates were approximately \$0.19 per kilowatt-hour (kWh),¹ below the regional average of \$0.33/kWh. Like many island nations, the Dominican Republic is highly dependent on imported fossil fuels, leaving it vulnerable to global oil price fluctuations that directly impact the cost of electricity.



Dominican Republic's Renewable Energy Goal⁴:
25% by 2025

Population²	10,349,741
Total Area²	48,670 sq. km
Gross Domestic Product (GDP)²	\$135.7 billion U.S. Dollars (USD)
Share of GDP Spent on Fuel and Imports	Electricity - Unknown Total - 3.0% ³
GDP Per Capita²	\$12,800 USD
Urban Population Share²	78.1%

Electricity Sector Data

Before 1997, the electricity market in the Dominican Republic was regulated and state-owned. In 1997, the markets were reformed to allow private companies to participate in the generation and distribution of electricity. The National Energy Commission (CNE) was established in 2001 under the General Electricity Law, and is in charge of defining state policy in the energy sector and overseeing renewable energy development in the country. The Superintendency of Electricity oversees compliance with the laws, regulations, and technical standards of electricity generation, distribution, and transmission.

Government and Utility Overview

Government Authority	Ministry⁵: National Energy Commission	
	Key Figure⁶: Juan Rodriguez Nina, Executive Director	
Designated Institution for Renewable Energy⁵	National Energy Commission	
Regulator⁷	Superintendency of Electricity	
Utilities⁸	Name: Corporación Dominicana de Empresas Eléctricas Estatales, Empresa Generadora de Electricidad Haina, AES Andre, and others	Government- and privately owned

The electricity sector has seen significant entry of private companies, particularly in the generation sector; as of 2012, there were 13 private companies generating power in the Dominican Republic. The largest generator in the country is the private AES Andre with 15.64% of total energy generated, followed by the state-owned Empresa de Generación Hidroeléctrica at 13.62% and Empresa Generadora de Electricidad at 12.08%.⁸ The Dominican Corporation of State Electricity Companies (Corporación Dominicana

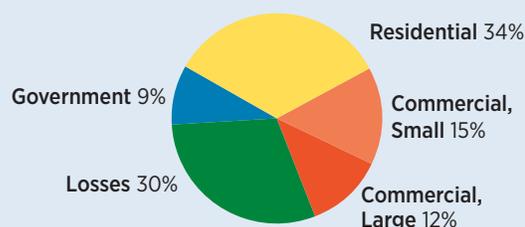
Electricity Sector Overview

Total Installed Capacity (2012)¹¹	3,635 megawatts (MW)	
Peak Demand (2012)¹¹	1,800 MW	
Total Generation (2012)⁸	13,355.75 gigawatt-hours	
Renewable Share (2012)⁸	14%	
Transmission & Distribution Losses (2011)⁹	30%	
Electrification Rate (2010)⁹	98.2%	
Average Electricity Tariffs (USD/kWh) (2014)¹	Residential	\$0.1851
	Commercial	\$0.1851
	Industrial	\$0.1851

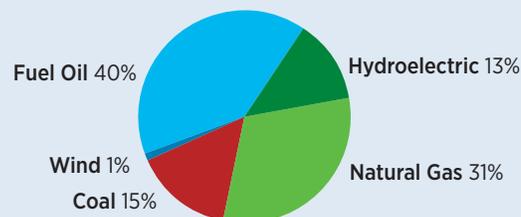
de Empresas Eléctricas Estatales) is a holding company of all government-owned generation, transmission, and distribution companies in the country. The Dominican Transmission Electricity Company operates interconnected transmission and runs high-voltage electric transmission projects, while state-owned distribution companies serve three regions of the country.

The Dominican Republic has a total installed capacity of 3,635 MW with peak demand of 1,800 MW.⁸ Renewable energy generation in the Dominican Republic makes up 14% of total electricity (nearly all of which is provided by hydroelectric facilities), while the remaining 85% of electricity is generated from imported fossil fuels.⁸ Despite recent growth in the country's generating capacity, 18.4% of its demand went unmet in 2010. Due to grid unreliability, many industries and private individuals generate their own electricity using inefficient small-scale fossil fuel-based units. The Dominican Republic also had high transmission and distribution losses of more than 30% in 2010,⁹ which have been attributed mostly to electricity theft, blackouts, inadequate investment in capacity upgrades, and limited regulatory capacity.⁴

Energy Consumption by Sector (2012)¹⁰



Energy Generation Mix (2012)⁸



Existing Policy and Regulatory Framework

Renewable Energy⁴

Feed-in Tariff	●
Net Metering/Billing	●
Interconnection Standards	●
Renewables Portfolio Standard/Quota	
Tax Credits	●
Tax Reduction/Exemption	●
Public Loans/Grants	●
Green Public Procurement	

Energy Efficiency¹³

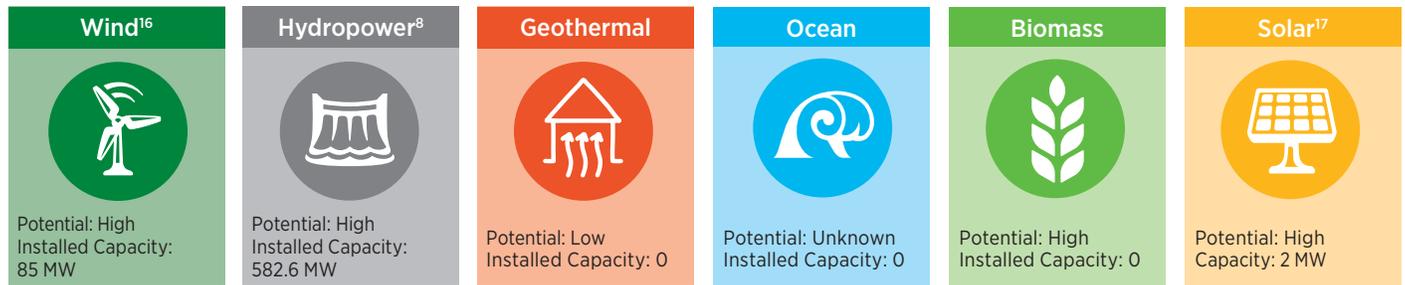
Energy Efficiency Standards	
Tax Credits	
Tax Reduction/Exemption	●
Public Demonstration	●
Restrictions on Incandescent Bulbs	●
Appliance Labeling Standards	

Targets

Renewable Energy	●
Energy Efficiency	

● In Place ■ In Development

Renewable Energy Status and Potential



Clean Energy Policy Environment

The General Electricity Act of 2007 promotes rational energy use and gives the CNE responsibility for regulating and creating energy efficiency policies, programs, and standards. In addition, the Law on Renewable Sources of Energy Incentives and Its Special Regimes (Law 57-07) includes a number of measures to spur renewable energy development in the Dominican Republic.

Law 57-07 provides a broad range of tax incentives, including a 100% exemption for renewable energy technologies from import taxes and taxes on the Transfer of Industrialized Goods and Services.⁴ It also gives a 10-year tax exemption on income generated from the sale of renewable energy power and equipment, a reduction of taxes on external financing, and a 75% tax credit for self-producers (defined as systems smaller than 1.5 MW).⁴ Furthermore, it enables low interest loans for community projects, which cover up to 75% of the cost of equipment for small-scale installations (< 500 kilowatts [kW]).⁴ Finally, Law 57-07 establishes a 10-year feed-in tariff (FiT) to 2018 for grid-connected renewable energy installations, which adds a premium payment to the wholesale electricity price for both utilities and self-generators.⁴ The FiT for solar power generation lies between \$0.53 and \$0.60/kWh—higher than other international benchmarks.⁴ The FiT regulation led to increased investment in solar; however, as of 2014, the tariff has not been implemented.¹² Many of Law 57-07's incentives are intended to be funded by a clean energy fund created by taxes on fossil fuel-based electricity generation revenue under Law 112-00. However, as of 2011, that fund has not been established, despite the existence of such authority since 2001.⁴

In 2011, net metering legislation was developed for residential wind or solar installations smaller than 25 kW and commercial facilities under 1 MW, making them eligible to receive credits for excess power exported to the grid.⁴ Under this program, 59 customers have connected renewable sources to the grid.¹² Finally, to promote energy efficiency, custom duties are exempt on compact fluorescent lightbulbs.¹³

Energy Efficiency and Renewable Energy Projects

A utility-scale solar plant of 54 MW at Monte Plata is currently under construction.¹⁴ Additional contracts were awarded in August 2012 for a 50-MW plant in Santo Domingo province, a 58-MW plant in Monte Cristi province, and an additional 130 MW of projects to be developed by Grupo Empresas Dominicanas de Energia Renovable that are currently in various stages of development.¹⁴ Other notable projects include a 1.5-MW array at Cibao International Airport,¹⁵ a 365-kW rooftop installation at the Dominican Maritime SAS company,¹⁴ and 72 kW at the Santo Domingo headquarters of Trace Solar (a solar developer⁴). In addition to these grid-tied projects, the Dominican Republic has several distributed solar projects to provide power in off-grid locations.

The Dominican Republic has high wind potential and already boasts several utility-scale wind projects. It has an installed capacity of 85 MW of wind plants, which include Los Cosos I and II (25.2 and 52 MW, respectively), and Quilvio Cabrera (8.25 MW).¹⁶ Another 80 MW of wind capacity is in various stages of planning or construction, with 50 MW at El Guanillo and 30 MW at Bani.¹⁶ In addition, the Dominican Republic had 582.6 MW of large hydropower installed across 26 facilities as of 2012.⁸ The country is developing biodiesel from vegetable oil, and has at least 11 pilot projects growing the necessary feedstock crops¹¹ and two bioethanol projects using sugar cane and sweet sorghum as feedstock.¹¹

During 2008 and 2009, a program to replace incandescent bulbs upgraded more than 12 million units to compact fluorescent lamps.¹¹ Under a pilot project of the CNE, 23 electrical services and eight state institutions underwent retrofits and modifications to improve building energy efficiency.¹³ Training programs for young energy professionals and suppliers of energy efficiency services have also been initiated by the CNE.¹³

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

Eliminating the Dominican Republic's reliance on imported oil requires diversification of energy sources used for electricity generation, in particular increasing the use of solar and wind energy and employing cost-effective energy efficiency technologies. High solar potential, along with integrating efficiencies and economies of scale, can make solar energy a viable resource for the Dominican Republic. Similarly, wind energy has strong potential, particularly in the southwest. The short-term variability and geographic diversity of the wind resource will need to be studied before implementation of projects. The Dominican Republic has created a framework for integrating solar and wind resources in its grid that can drive renewable energy adoption for years to come.

- ¹ <http://cdeee.gob.do/transparencia/estadisticas-institucionales/>.
- ² <https://www.cia.gov/library/publications/the-world-factbook/geos/dr.html>.
- ³ <http://comtrade.un.org/data/>.
- ⁴ <http://blogs.worldwatch.org/revolt/wp-content/uploads/2012/07/WORLDDWATCH-DR-ENGLISH.pdf>.
- ⁵ <http://www.cne.gov.do/app/do/somos.aspx>.
- ⁶ http://www.cne.gov.do/serve/listfile_download.aspx?id=3616&num=1.
- ⁷ <http://www.phlaw.com/imagen?file=articulos/279/general-law-electricity>.
- ⁸ http://www.oc.org.do/INFORMES/Administrativos/InformeAnual.aspx?Command=Core_Download&EntryId=13797.
- ⁹ <http://data.worldbank.org/indicator/EG.ELC.LOSS.ZS>.
- ¹⁰ http://sie.gob.do/index.php?option=com_phocadownload&view=file&id=3221:energia-y-potencia-facturadas&Itemid=121.
- ¹¹ [http://www.ianas.org/PDF/Presentation-Irvine-California/Dominican-Republic-IANAS%20-%20DR%20Energy%20Sector%20\(CNE%20-%20ACRD\)_opt.pdf](http://www.ianas.org/PDF/Presentation-Irvine-California/Dominican-Republic-IANAS%20-%20DR%20Energy%20Sector%20(CNE%20-%20ACRD)_opt.pdf).
- ¹² <http://global-climatescope.org/en/download/reports/countries/climatescope-2014-do-en.pdf>.
- ¹³ <http://www.cepal.org/publicaciones/xml/2/39412/lw280i.pdf>.
- ¹⁴ <http://www.greentechmedia.com/research/report/solar-in-latin-america-the-caribbean-2013>.
- ¹⁵ <http://www.renewableenergymagazine.com/article/solarworld-supplies-dominican-republic-s-largest-solar-20130828>.
- ¹⁶ <http://www.navigantresearch.com/research/latin-america-wind-market-assessment>.
- ¹⁷ Addition of MW capacities mentioned in this report.

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