

## Country Assessment Report

### Country/Region Name: Dominican Republic

The Dominican Republic is situated in the Caribbean; bordered by Haiti. It has a population over 10.5 million and GDP over \$85.5 billion. Its growth rate is 6.9 % and is one of the fastest growing economies in Latin America and the Caribbean.

(World Bank 2018)

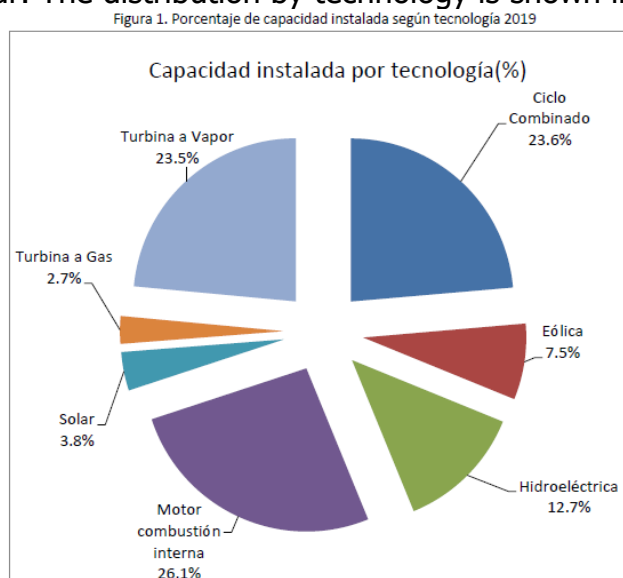
### Economic structure and activity:

The service sector accounts for 58.63% of overall GDP having undergone major diversification in the past three decades, with particular growth in telecommunications, tourism, finance and commerce. Industry contributes 28.81%, specializing in garments, medical devices protection equipment. Multiples free-trade zones in the Dominican Republic act as engines of economic growth, with the USA representing their largest trade partner. The nation also has significant reserves in natural resources including, nickel and silver and hosts one of the largest gold mine sites in Latin America (Pueblo Viejo). Agriculture accounts for 5.15% of GDP and its main exports are bananas, cocoa beans, sauces and seasonings.

(Statista 2018)

### Generation and demand: (type, MW,GWh)

During 2019 the electricity production was 15.702 GWh, an increase of 2,74% compared with the previous year. The distribution by technology is shown in Fig. 1.



Source: Informe Anual 2019, Organismo Coordinador del Sistema Eléctrico Nacional Interconectado de la República Dominicana, INC.

Fuel oil and gas are the main sources of generation, reaching up to 68.5% during 2019 Coal represents the 19.7% and the balance is covered by renewables (11.8%)<sup>1</sup>.

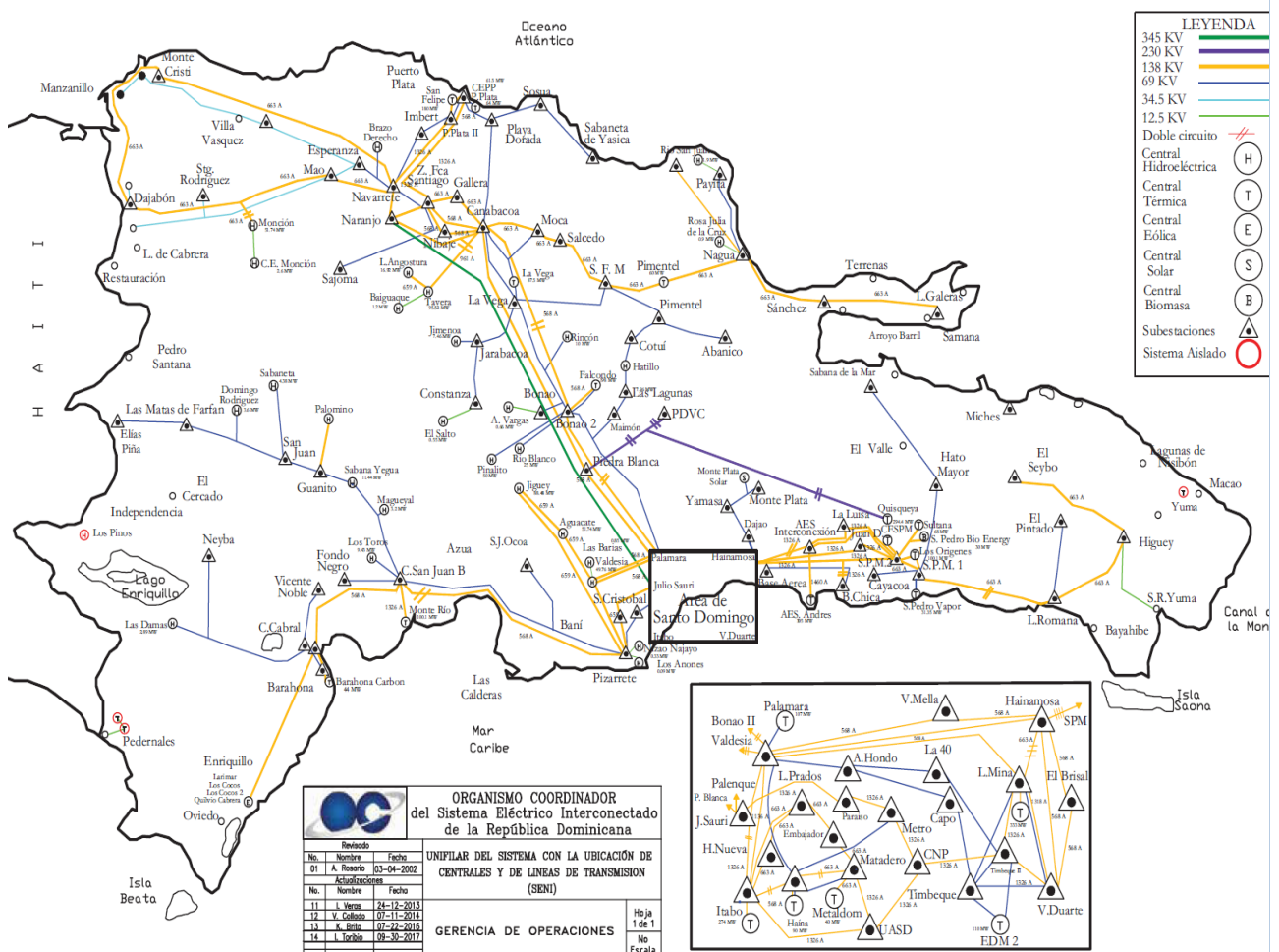
<sup>1</sup> Memoria 2019, Organismo Coordinador del Sistema Eléctrico Nacional Interconectado de la República Dominicana, INC.

The system's installed capacity is 4,921 MW<sup>2</sup> of which: 622 MW is water, 1,093 MW coal, 187 MW solar, 370 MW wind, 30 MW biomass, and 2,619 MW gas and fuel oil. The maximum demand reaches up to 2,436 MW in August 2019, which represents 9.8% higher than 2018.

**Electrical Interconnection and import/export:**

The National Interconnected Electrical System (SENI) supplies 88% of all the electricity consumed in the country<sup>3</sup>. The Dominican Power Transmission Company (ETED) is the owner and the responsible for operating and maintaining the high-voltage transmission grid in the SENI. The main consumption centers are Santo Domingo and Santiago (Fig. 1).

Figure 1. Map of the SENI



There is not interconnection between Dominican Republic and Haiti.

**Market Structure:**

The Dominican electricity market was highly regulated, state owned and heavily subsidized. In late 1990s, the sector was reformed shaping its current structure. The activities of generation, transmission and distribution have been unbundled and private sector has increased participation. Three majors' generators owned almost 60% of the total capacity (AES Dominicana, Empresa Generadora de Electricidad Haina-EGE Haina and Empresa de Generación Hidroeléctrica Dominicana-EGEHID)<sup>4</sup>.

<sup>2</sup> Informe Anual 2019, Organismo Coordinador del Sistema Eléctrico Nacional Interconectado de la República Dominicana, INC.  
<sup>3</sup> Renewable Energy Prospects: Dominican Republic, IRENA & Comisión Nacional de Energía, 2016  
<sup>4</sup> Informe Anual 2018, Organismo Coordinador del Sistema Eléctrico Nacional Interconectado de la República Dominicana, INC.

Generating companies receive payments for energy and capacity services. Energy refers to effective consumption and is paid either at marginal cost at the relevant node or as per agreed on the PPAs. The Capacity payments reward the generation company for making capacity available to the system. Firm capacity is determined by the Coordinator Organism of the National Interconnected System of Electricity (OCSENI as in Spanish) for each power plant and is paid at marginal system capacity expansion cost.

The Wholesale market is comprised by generation, transmission and distribution companies and non-regulated users (UNR as in Spanish). The UNR is authorized by the Superintendency to carry out direct economic transactions, PPAs, in the Wholesale Electricity Market according to the General Law of Electricity (LGE as in Spanish) and its rules, the provisions of the OCSENI, and the Resolution SIE-040-2013-MEM.

The Retail is comprised by distribution and commercialization companies that supply electricity to regulated costumers. The conditions of their contracts are the results of public tenders regulated by the Art.110 of the LGE No.125-01.

Three public companies distribute 88% of the electricity consumed in the country through concessions in three different zones<sup>5</sup>. Isolated zones are supplied by seven smaller (mostly private) companies that generate and distribute the electricity. High electricity losses have been identified in such areas.

#### **Responsible Government Department:**

The Ministry of Energy and Mining (MEM) was created by Law 100-13 in 2013. It is the executive branch of the government responsible for the formulation and management of the policies related to energy, and metallic and no metallic mining. It is comprised by the vice ministries of: Public Energy Savings, Nuclear, Hydrocarbons, Mining, Energy Safety and Infrastructure, Energy, among other departments. The vice ministry of Energy oversees renewable energy and agrienergy. <https://mem.gob.do/>

The National Energy Commission (CNE) was created by the LGE No.125-01 in 2001, responsible for the formulation of the National Energy Plan and contributes to national energy policy development. CNE promotes investments according to the strategies defined by the energy plan and the LGE 57-07, to promote investments (of up to 100MW for Wind & Solar) in renewable energy technologies. <https://www.cne.gob.do/>

Electricity Superintendency (SIE) was created by the LGE No.125-01. It is the regulatory institution responsible for the economic and technical norms related to the generation, transmission, distribution and retail of electricity. <https://sie.gov.do/index.php>

Coordinator Organism of the National Interconnected System of Electricity (OCSENI) created by the LGE No. 125-01. The SENI is responsible for the grid operation as well as the coordination and supervising the transactions between agents in the wholesale market. <https://www.oc.org.do/>

Dominican Corporation of Public Electrical Companies (CDEEE) is the umbrella institution that coordinates the electricity companies owned or controlled by the government. It is also in charge of the government's rural electrification programmes and the administration

<sup>5</sup> Renewable Energy Prospects: Dominican Republic, IRENA & Comisión Nacional de Energía, 2016.

of Power Purchase Agreements (PPAs) with independent power producers (IPPs).  
<https://cdeee.gob.do/cdeeesite/>

Dominican Electric Transmission Company (Empresa de Transmisión Eléctrica Dominicana)  
– ETED: ETED is the state-owned company responsible for operating, maintaining and administering the high-voltage transmission network (345-69 kilovolts – kV)

#### **Existing/Planned Energy Legislation:**

The General Electricity Law No. 125-01<sup>6</sup>, its bylaw, the resolutions dictated by the SIE and other rules and codes for the market provide the legal framework in which the sector operates.

The purpose of the LGE No. 125 is to promote and secure the supply of electricity, the competition in the sector and to incentivize private investments. It is the most important law in the electricity market and allowed the creation of the CNE, SIE, OCSANI and CDEEE. It also sets a monopoly for the state-owned company EGEHID for hydroelectric generation by allowing IPP be awarded only with concessions of 5MW maximum.

The Law No.01-12 secures a reliable supply of electricity at competitive prices and financially and environmentally sustainable. This law promotes the diversification of energy sources, the planning of electricity infrastructure and the efficient use of energy.

#### **Environmental Legislation for RE<sup>7</sup>:**

The country has committed to reducing 25% of its greenhouse gas emissions by 2030 compared with existing levels in 2010<sup>8</sup>. A renewable energy law was passed onto legislation in 2007 to increase the contribution of renewable energy sources in electricity generation to 25% by 2025. The Renewable Energy Incentives Law (57-07)<sup>9</sup> provides a 100% tariff exemption on imported equipment and materials, and a 10-year exemption from all taxation on profits up to 2020. The law promotes renewable energy sources with maximum of 50MW capacity for wind generation, 5MW for hydroelectric, and biomass/Urban Solid Residues (USR) that feed at least 50% of the primary energy with max. capacity of 150MW.

In 2012, the tax incentive was reduced for small-scale, self-producers of renewable energy and the 10-year tax exemption on profits derived from the sale of electricity generated from renewable sources was eliminated.

The Art.122 of the LGE No. 125-01 establishes that distribution and commercialization companies on equal prices and conditions will prioritize the electricity purchasing and dispatch from generators using non-conventional renewable energy sources such as: hydroelectric, wind, solar, biomass, marine and other renewable energy sources.

A net metering law came into force in July 2011. The law establishes the possibility to sell the excess of power generated from residential wind or solar installations smaller than 25 kW and commercial facilities under 1 MW.

In 2019, the CNE board of directors, 2 definitive concessions were approved for the construction and exploitation of electrical works, with a total generation capacity of 777 MW, and 23 provisional concession contracts have been signed, in accordance with the

<sup>6</sup> <https://sie.gov.do/images/sie-documentos-pdf/leyes/LeyGeneraldeElecctricidadNo.125-01.pdf>

<sup>7</sup> Dominican Republic Country Commercial Guide, [www.export.gov](http://www.export.gov), Nov 2019

<sup>8</sup> <https://cambioclimatico.gob.do/index.php>

<sup>9</sup> <https://www.cne.gob.do/wp-content/uploads/2015/05/REGLAMENTO-LEY-57-07.pdf>

authorization granted by the executive branch with a projection of generation capacity of 1,621.56 MW. The projects are supported by private investments through a concession mechanism granted by the Minister of Energy and Mines, the Executive Director of the National Energy Commission and the Executive Vice President of the Dominican Corporation of States Electric Companies.

**Existing/Planned Certificate Systems:** There is none an Energy Attribute Certificate (EAC) system already operating or planned in the country. In addition, current regulation does not interfere with the implementation of a voluntary standard such as the I-REC Standard. Therefore, this can be implemented without restrictions.

The issuer of the rest of the world, the Green Certificate Company (GCC) could operate as local issuer until finding a local/regional company to play the role of local issuer.

The information to verify the generated volumes of the devices will be the one publicly provided by the OCSENI through the following links:

For devices generation,  
Daily Dispatch:

<https://www.oc.org.do/Informes/Administraci%C3%B3n-del-MEM/Transacciones-Econ%C3%B3micas-y-C%C3%A1lculos-Comerciales>

real time generation:

<https://www.oc.org.do/Informes/Operaci%C3%B3n-del-SENI/Coordinaci%C3%B3n-y-Supervisi%C3%B3n-Tiempo-Real>

The information to verify the registration of the devices can be asked by the owner, or agent acting on his behalf, to the OCSENI. In addition, information about the RE concession can be found in <https://www.cne.gob.do/concesiones-cne/>

### **RE market potential:**

Average solar irradiation levels are 5-7 kWh/m<sup>2</sup>/d and are consistent throughout most of the year and most parts of the country (Worldwatch Institute, 2015). Wind potential is also vast, with 500 grid points demonstrating a capacity factor of at least 20% (Worldwatch Institute 2011). In total, this could be converted into an installed capacity of 1.5 GW. Most (90%) of the nation's large hydro has already been developed but their efficiency could be optimized and in northern parts of the country, there is potential to develop small hydro.

The nation also has access to geothermal resources but more studies must be conducted to determine the technical capacity and viability. Table 1 includes more detail over the potential to expand RE deployment in the Dominican Republic.



*Table 8: Summary of results by technology for the base year, Reference Case and REmap – power sector*

	Unit	2010	2014	Reference Case 2030	REmap 2030
<b>Total installed power generation capacity</b>	MW	<b>3 538</b>	<b>4 995</b>	<b>8 156</b>	<b>9 913</b>
Renewable capacity	MW	608	795	2 473	5 817
Hydropower	MW	530	613	1 202	1 293
Small hydropower (< 5MW)	MW	15	15	28	119
Large hydropower (> 5 MW)	MW	515	598	1 174	1 174
Onshore wind	MW	8	85	850	2 304
Bioenergy (solid, liquid, gaseous)	MW	70	70	181	449
Autoproducers, CHP (bagasse)	MW	70	70	100	148
Biomass co-firing	MW	0	0	0	70
Autoproducers, anaerobic digester	MW	0	0.0	0.8	9
Landfill gas	MW	0	0	80	220
Solar PV	MW	0	27	240	1 772
PV utility scale	MW	0	0	205	989
PV decentralised (on-grid)	MW	0	27	35	681
PV decentralised with storage	MW	0	0	2	112
PV rural electrification (off-grid)	MW	0	0	0	102
Non-renewable capacity	MW	2 930	4 200	5 683	4 096
<b>Renewable energy share in total capacity</b>	%	<b>17%</b>	<b>16%</b>	<b>30%</b>	<b>59%</b>
<b>Total electricity generation</b>	TWh	<b>16.2</b>	<b>18.0</b>	<b>34.9</b>	<b>36.2</b>
Renewable generation	TWh	1.6	2.1	7.4	15.8
Hydropower	TWh	1.4	1.6	3.7	4.0
Wind onshore	TWh	0.0	0.3	2.3	6.1
Bioenergy (solid, liquid, gaseous)	TWh	0.2	0.2	1.0	2.7
Solar PV	TWh	0.0	0.0	0.4	3.0
Non-renewable generation	TWh	14.6	15.9	27.5	20.4
<b>Renewable energy share in electricity generation</b>	%	<b>9.8%</b>	<b>11.6%</b>	<b>21.3%</b>	<b>43.6%</b>

**Table 1. Existing and future installed and generation capacity by technology based on the results from the 2030 REmap (IRENA 2016).**

### Market risks and challenges:

Market players involved in Dominican Republic's need guarantees over a stable regulatory framework and improved coordination between government entities. In 2016, Law 57-07 was under amendment to change the fiscal incentives, whereby the share of investment eligible for tax credits were reduced from 75% to 40%. The attractiveness for investing in RE was subsequently weakened and highlighted concerns over the regulatory framework and government decisions. More certainty and stability to incentivise private sector involvement in future RE deployment.

Grid expansion is necessary to support anticipated growth in RE deployment and avoid the risk of uneconomic power curtailment. For example, Santiago and Santo Domingo are the two largest load centres but are at a considerable distance from the vast wind reserves in the North, West and Southwest parts of the country. Coordination between government entities and RE developers to ensure the transmission capacity will be available to accommodate new projects.

(IRENA 2016)

**Extent of Engagement with Government:** This report has been prepared with the purpose of getting the country approval to implement the I-REC system under a collaboration framework with the United Nations Framework Convention on Climate Changes (UNFCCC). The IREC certificates are considered as a collaborative instrument with high potential in the country to support the climate action. The UNFCCC project is called Collaborative Instruments for Ambitious Climate Action (CI-ACA) and through a research carried out in the country they have made authorities aware about the existence of the I-REC Standard. they have

**Current Environmental Reporting in Energy:**

The following are websites and reports related to the Electricity Market:

- Generation Reports: <https://www.oc.org.do/Servicios/Reportes/postdespacho>
- Market Reports: SUPERINTENDENCY of ELECTRICITY: <https://sie.gov.do/index.php>
- National Energy Commission: <https://www.cne.gob.do/>
- PPAs and contracts: <https://cdeee.gob.do/cdeeesite/>

**Any other Relevant Information:** Not applicable

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