



**CREEE**

CARIBBEAN CENTRE FOR RENEWABLE  
ENERGY & ENERGY EFFICIENCY



## 2018 ENERGY REPORT CARD GRENADA

This document presents Grenada Energy Report Card (ERC) for 2018. The ERC provides an overview of energy sector performance in Grenada. The ERC also includes energy efficiency, projects, technical assistance, workforce, training and capacity building information, subject to the availability of data.

This ERC includes data and information that was provided by government ministries, agencies or departments with responsibility for energy and was supplemented by internet research, author calculations and inferences.

## Disclaimer

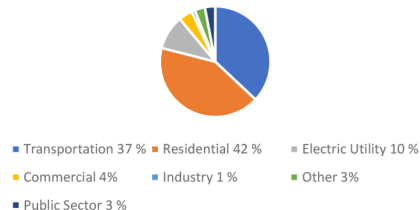
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# "AT-A-GLANCE"

## Summary of the Energy Sector

<b>Population</b>	111, 724 (2017) <sup>1</sup>
<b>GDP (USD) Per Capita</b>	\$12,864 <sup>2</sup>
<b>Human Development Index</b>	0.772 <sup>2</sup>
<b>National Energy Policy</b>	Yes <sup>3</sup>
<b>Renewable Energy (RE) Policy</b>	
<b>RE Target</b>	100% by 2030 <sup>4</sup>
<b>Energy Performance Standards/Appliance Labelling</b>	No
<b>Total Oil Imports (BOE) per day</b>	931.98 <sup>5</sup>
<b>Total Oil Export (BOE) per day</b>	0 <sup>4</sup>
<b>Total Installed Capacity (MW)</b>	55.57 <sup>6</sup>
<b>Total Installed RE (MW)</b>	2.9 <sup>5</sup>
<b>Fuel &amp; Oil Imports as % of GDP</b>	
<b>Electric vehicle stock</b>	N/A
<b>National Repository for Energy Data</b>	In development <sup>7</sup>

Fuel Use By Sector <sup>7</sup>



# ENERGY SECTOR PERFORMANCE AGAINST TARGETS

Indicator	Base /Current Performance (Year)	National Target	National Target (Proposed by CARICOM – CSERMS Report) <sup>9</sup>	<p><b><u>Indicative RE Oil Displacement<sup>10,11</sup> Potential Annually**</u></b></p> <ul style="list-style-type: none"> <li>1 MW wind displaces 1,760 barrels of oil equivalent (BOE)</li> <li>1 MW hydro displaces 3,300 BOE</li> <li>1 MW solar displaces 1,210 BOE</li> </ul> <p><b><u>Energy Intensity (EI)<sup>12</sup>:</u></b></p> <ul style="list-style-type: none"> <li>EI measures how energy benefits the economy and is calculated by taking the ratio of total primary energy use (all of the fuels and flows that a country uses to get energy) to GDP (the total money made in a country). EI indicates how effectively an economy uses their fuels and flows.</li> </ul>
RE as % of Installed Capacity	5.38 % <sup>13</sup>	100% by 2030 <sup>4</sup>	70 % by 2027	
*Energy Intensity (BTU/US\$1 Unit of output)	0.00003753 <sup>14</sup>			

\*The energy efficiency target for CARICOM is 33% reduction in energy intensity by 2027, compared to a reference of Average Annual Energy Intensity of ~13,000 BTU per USD of GDP in 2015.

\*\*Based on capacity factors of 0.32 for wind. 0.6 for hydro and 0.22 for solar.<sup>10</sup>

# KEY ENERGY SECTOR STAKEHOLDERS<sup>7</sup>

## GOVERNMENTS, MINISTRIES, DEPARTMENTS AND AGENCIES<sup>16</sup>

Ministry of Infrastructure Development, Public Utilities,  
Energy, Transport & Implementation

Ministry of Finance, Planning, Economic Development  
& Physical Development

**Ministry of Economic Development**, Trade, Planning  
and Cooperatives

Grenada Bureau of Standards

Ministry of Carriacou and Petite Martinique Affairs,  
Local Government & Legal Affairs

## ELECTRIC UTILITIES

Grenada Electricity Services Limited

## REGULATOR

Public Utilities Regulatory Commission

## OTHER

Grenada Hotel and Tourism Association




Grenada Solar Power Company Ltd.

SOL Ltd.

Rubis Grenada

# POLICY, LEGAL AND REGULATORY FRAMEWORK

## Electricity Sector : Policy, Legal and Regulatory (PLR) Framework <sup>6</sup>

✓ Energy Policy and Energy Action Plan	●	
✓ RE Target	●	
✓ EE Target		
✓ Electricity Regulator	●	
✓ Net billing/Net metering		
✓ Interconnection Policy/Standards	●	
* Feed-in-tariff		
* RE/EE Act		
 Completed/ In place	 In progress/ Draft	 Not yet started/ Not established

## Key Achievements: PLR Framework Timeline for the Electricity Sector <sup>6</sup>



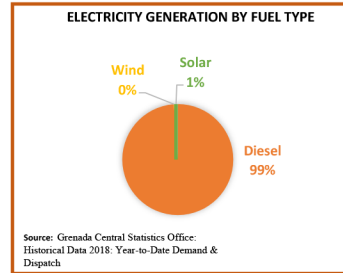
# POLICY, LEGAL AND REGULATORY FRAMEWORK

<b>Policies and Legislation Relevant to the Transportation Sector</b>	
<b>Policies</b>	<ul style="list-style-type: none"><li>• National energy Policy, 2011</li></ul>
<b>Legislation &amp; Regulation</b>	<ul style="list-style-type: none"><li>• The Civil Aviation Act, 2004</li><li>• Petroleum Act</li><li>• Petroleum and Natural Gas Deposits Act</li><li>• Petrol Tax Act</li></ul>

# ELECTRICITY AND ENERGY EFFICIENCY

KEY DATA & INFORMATION	
1. Total Fuel Use – Electricity	130602.45 <sup>15</sup>
2. Installed Conventional Capacity – Electric Utility (MW)	55.57 <sup>6</sup>
3. Installed Conventional Capacity – IPPs (MW)	N/A
4. Base Load (MW)	15.79 <sup>14</sup>
5. System Peak Demand (MW)	32.01 MW <sup>14</sup>
6. Total Generation (MWh)	257,190.9 <sup>14</sup>
7. Total Sales (MWh)	199,329.4 <sup>14</sup>
8. Total Number of Customers	56,709 <sup>14</sup>
TARIFFS	
9. Residential Tariff (US\$/kWh)	0.33 <sup>14</sup>
10. Commercial (US\$/kWh)	0.33 <sup>14</sup>
11. Industrial/Large Power (US\$/kWh)	0.29 <sup>14</sup>

12. Street Lights (US\$/kWh)	0.31 <sup>14</sup>
EFFICIENCY	
13. EE Target	
14. Electricity System Losses (%)	7 % <sup>14</sup>
15. Energy Use (kWh) Per Capita	1854.91 <sup>14</sup>
16. EE Initiative and Impact	N/A





## PROJECTS IN THE PIPELINE

RENEWABLE ENERGY SOURCE	Resource and Project Capacity	Development Partner	Funding Source	Transaction Advice
Solar Photo-Voltaic	400 kW PV + 250 kW/1.2 MWh Battery Project in Carriacou	GRENLEC		
Geothermal	15MW Geothermal	Government of Grenada	CDB, IDB,	New Zealand, Jacobs
Hydro	NAWASA in Conduit Turbines	N/A	N/A	GIZ

Donor Organisation & Banks	Technical Assistance providers	Funding awards	Year
CDB	Geothermal Project Manager, Community Liason Officer	552,949.00 USD	2017-2021
GIZ	Energy Advisor on Policy	up to 1.3M euros	2015-2019
World Bank	TAMCC	2M USD	2017-
Korea	Korean RE for rural development	68,000 USD	2017-
OLADE	Energy Statistic Enhancement Project	unavailable	2017-

**Source:** Caribbean Energy Statistics Capacity Building Project (2019)

## REFERENCES

<sup>1</sup>Central Intelligence Agency. (2018). The World Factbook: Central America – Grenada. Retrieved from <https://www.cia.gov/library/publications/the-world-factbook/geos/gj.html>

<sup>2</sup>United Nations Development Programme (2018) Human Development Indices and Indicators 2018 Statistical Update. Retrieved from <http://hdr.undp.org/en/2018-update>

<sup>3</sup>Government of the Commonwealth of Grenada. (2011). National Energy Policy of Grenada. Retrieved from [https://www.gov.gd/egov/docs/other/GNEP\\_Final\\_Nov\\_23\\_2011.pdf](https://www.gov.gd/egov/docs/other/GNEP_Final_Nov_23_2011.pdf)

<sup>4</sup>NREL (National Renewable Energy Laboratory) (2015). Energy Transition Initiative: Island Energy Snapshot - Grenada (Fact Sheet). Retrieved from <https://www.nrel.gov/docs/fy15osti/62699.pdf>

<sup>5</sup>Grenada Central Statistics Office: Total imports 2017 - 2018

<sup>6</sup>Grenada Electricity Services Ltd.: Plant Capability Report (2019)

<sup>7</sup>Grenada Ministry of Finance, Planning, Economic Development & Physical Development: Energy Division (2019)

<sup>8</sup>Grenada Consumption of Petroleum Products: Sector Report (2019)

<sup>9</sup>Worldwatch Institute. (2015). Caribbean Sustainable Energy Roadmap and Strategy (C-SERMS) Baseline Report and Assessment. Retrieved from [http://www.worldwatch.org/system/files/C-SERMS\\_Full\\_PDF.pdf](http://www.worldwatch.org/system/files/C-SERMS_Full_PDF.pdf)

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<sup>10</sup>Ministry of Science, Energy, Technology and Mining. (2013). Grid Impact Analysis and Assessment for Increased Penetration of Renewable Energy into the Jamaican Electricity Grid. Retrieved from [https://www.mset.gov.jm/sites/default/files/pdf/Grid%20Impact%20Analysis%20for%20Renewable%20Energy%20Penetration\\_2.pdf](https://www.mset.gov.jm/sites/default/files/pdf/Grid%20Impact%20Analysis%20for%20Renewable%20Energy%20Penetration_2.pdf)

<sup>11</sup>Sustainable Energy Ireland – Renewable Energy Information Office. (2011). Energy Unit Conversion Tool. Retrieved from [https://ec.europa.eu/energy/intelligent/projects/sites/iee-projects/files/projects/documents/make-it-be\\_energy\\_unit\\_conversion\\_tool.xlsx](https://ec.europa.eu/energy/intelligent/projects/sites/iee-projects/files/projects/documents/make-it-be_energy_unit_conversion_tool.xlsx)

<sup>12</sup>J.M.K.C. Donev et al. (2018). Energy Education - Energy intensity. Retrieved from [https://energyeducation.ca/encyclopedia/Energy\\_intensity](https://energyeducation.ca/encyclopedia/Energy_intensity).

<sup>13</sup>Calculated

<sup>14</sup>Grenada Electricity Services Ltd. Statistics (2019)

<sup>15</sup>Grenada Central Statistics Office: Historical Data 2018: Year-to-Date Demand & Dispatch