



# 2017 ENERGY REPORT CARD

## GRENADA

*This document presents Grenada's Energy Report Card (ERC) for 2017 and was prepared using multiple online resources (see list of References), as the Member State did not submit any data/information in support of the ERC. The ERC provides an overview of energy sector performance in Grenada by focusing on two priority sub-sectors: Electricity and Transportation. The ERC also includes energy efficiency, climate change, energy sector workforce, training and capacity building information, subject to the availability of data.*

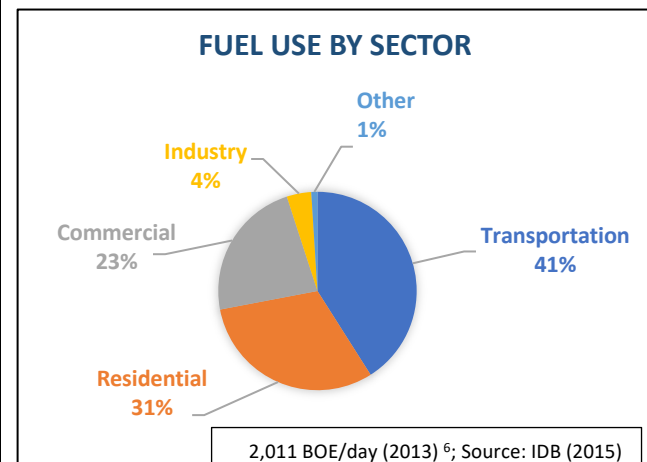
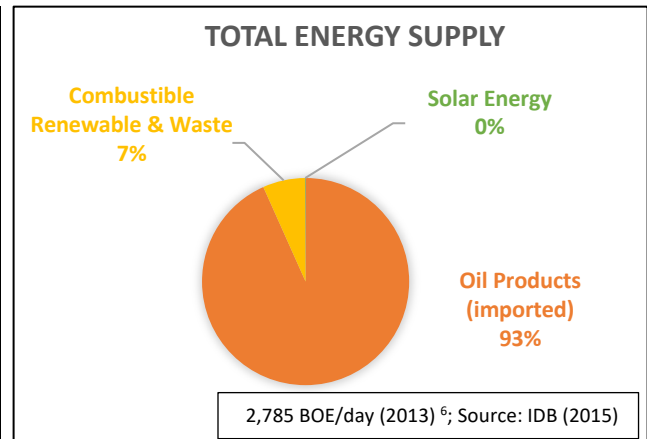
*December 2018*

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## “AT-A-GLANCE” SUMMARY OF GRENADA’S ENERGY SECTOR

KEY DATA & INFORMATION – ENERGY SECTOR IN DOMINICA	
Population	111,724 (July 2017 est.) <sup>1</sup>
GDP (USD) Per Capita	14,900 (2017 est.) <sup>1</sup>
Debt: GDP Ratio	71.4% of GDP (2017 est.) <sup>1</sup>
Human Development Index	0.772 (2017) <sup>2</sup>
National Development Plan/ Overall Country Development Strategy	In development <sup>3</sup>
National Energy Policy	Yes (2011) <sup>4</sup>
Renewable Energy (RE) Policy	
RE Target	100% by 2030 <sup>5</sup>
Energy Performance Standards/Appliance Labelling	
Number of Persons Employed in Energy Sector	
Total Oil Import (BOE) per day	2,600 (oil products) (2013) <sup>6</sup>
Total Oil Export (BOE) per day	
Total Installed Capacity (MW)	50.87MW (2017) <sup>7</sup>
Total Installed RE (MW)	2.16 (2017) <sup>7</sup>
Electricity System Losses (%)	8.12% (2017) <sup>7</sup>
Energy Use (kWh) Per Capita	1,984 <sup>8</sup>
Energy Intensity	3,494 <sup>9</sup>
Oil Imports as % of GDP	6% (2013) <sup>6</sup>
Climate Change Policy	Yes (2017) <sup>10</sup>
National Determined Contributions (NDC)	Yes (2015) <sup>11</sup>
National Repository for Energy Data	



### GRENADA’S ENERGY SECTOR PERFORMANCE SUMMARY











Indicator	Base /Current Performance (Year)	National Target	National Target (Proposed by CARICOM – CSERMS Report)	<i>Indicative RE Oil Displacement<sup>12,13</sup> Potential Annually**</i>
RE as % of Installed Capacity	4.2% (2017)	100% by 2030 <sup>5</sup>	70% by 2027 <sup>15</sup>	<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>
*Energy Intensity (BTU/US\$1 Unit of output)				<p><b>Energy Intensity (EI)<sup>14</sup>:</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>
% Reduction in Energy Sector Emissions (NDC) <sup>11</sup>	251,649 tons of CO <sub>2</sub> (2010)	30% of 2010 levels by 2025		

\*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>12</sup>

## KEY ENERGY SECTOR STAKEHOLDERS: GRENADA

Key electricity stakeholders include:

<p><b>GOVERNMENT MINISTRIES, DEPARTMENTS AND AGENCIES<sup>16</sup>:</b></p>	<ul style="list-style-type: none"> <li> Ministry of Infrastructure Development, Public Utilities, Energy, Transport &amp; Implementation</li> <li> Ministry of Finance, Planning, Economic Development &amp; Physical Development</li> <li> Ministry of Economic Development, Trade, Planning and Cooperatives</li> <li> Grenada Bureau of Standards</li> <li> Ministry of Carriacou and Petite Martinique Affairs &amp; Local Government &amp; Legal Affairs</li> </ul>
<p><b>ELECTRIC UTILITY(IES):</b></p>	<ul style="list-style-type: none"> <li> Grenada Electricity Services Limited</li> </ul>
<p><b>INDEPENDENT POWER PRODUCER(S):</b></p>	
<p><b>REGULATOR:</b></p>	<ul style="list-style-type: none"> <li> Public Utilities Regulatory Commission</li> </ul>
<p><b>OTHER</b></p>	<ul style="list-style-type: none"> <li> PDV Grenada Ltd</li> <li> Grenada Hotel and Tourism Association</li> <li> Grenada Solar Power Company Ltd.</li> </ul>

### Key Stakeholders: Road Transportation Sub-sector

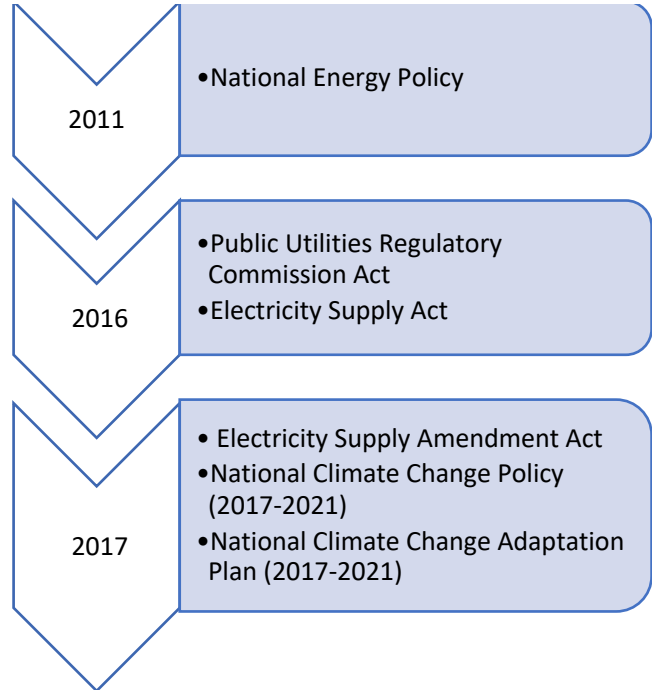
- Ministry of Infrastructure Development, Public Utilities, Energy, Transport & Implementation
- Ministry of Finance, Planning, Economic Development & Physical Development
- SOL EC Ltd.
- Rubis Grenada

## POLICY, LEGAL AND REGULATORY FRAMEWORK: GRENADA

### Electricity Sector: Policy, Legal and Regulatory (PLR) Framework

✓ 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



### Policies and Legislation Relevant to the Transportation Sector

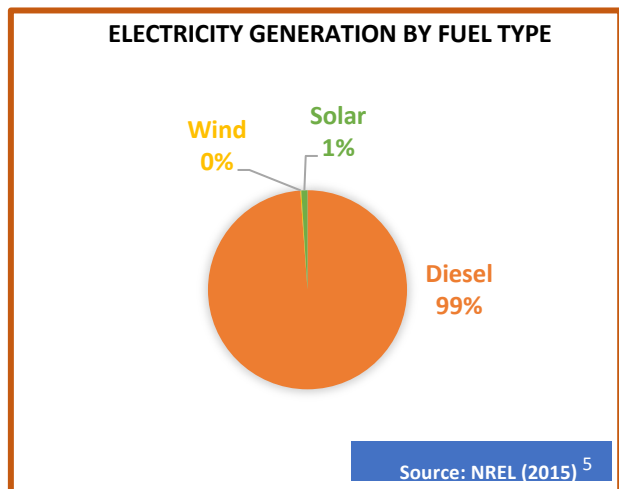
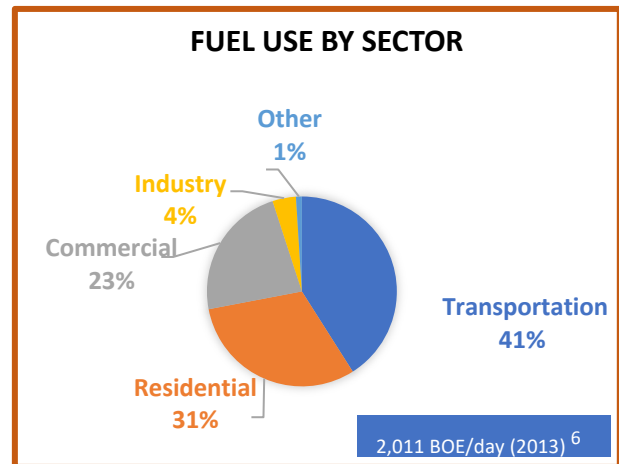
<b>Policies</b>	National energy Policy, 2011
<b>Legislation &amp; Regulation</b>	The Civil Aviation Act, 2004 Petroleum Act Petroleum and Natural Gas Deposits Act Petrol Tax Act

### Climate Change Framework - Grenada

Climate Change Policy	Yes (2017) <sup>10</sup>
National Determined Contributions	Yes (2015) <sup>11</sup>
Emissions Reduction Target	30% of 2010 levels (251,649 tons of CO <sub>2</sub> ) by 2025 <sup>11</sup>
Priority Sectors for NDC	Electricity, Transport, Waste, Forestry <sup>11</sup>
National Communications (NC) to the UNFCCC	NC1 submitted in 2000 <sup>17</sup>
Greenhouse Gas (GHG) Inventory	Yes <sup>17</sup>

## ELECTRICITY SUBSECTOR & ENERGY EFFICIENCY: GRENADA

KEY DATA & INFORMATION	
<b>CONVENTIONAL ENERGY</b>	
1. Total Fuel Use – Electricity Subsector (barrels)	
2. Total Installed Capacity (MW)	50.87MW (2017) <sup>7</sup>
3. Installed Conventional Capacity – Electric Utility (MW)	48.71 (2017) <sup>7</sup>
4. Installed Conventional Capacity – IPPs (MW)	
5. Base Load (MW)	
6. System Peak Demand (MW)	32 MW (2017) <sup>7</sup>
7. Total Generation (MWh)	221,700 (2017) <sup>7</sup>
8. Total Sales (MWh)	199,320 (2017) <sup>7</sup>
9. Total Number of Customers	50,019 (2017) <sup>7</sup>
<b>RENEWABLE ENERGY</b>	
10. Total Installed RE Capacity (MW)	2.16 (2017) <sup>7</sup>
11. RE Capacity – Electric Utility (MW)	2.16 (2017) <sup>7</sup>
12. RE Capacity – IPPs (MW)	
13. RE as % of Total Installed Generating Capacity	4.2%
14. RE Target	100% by 2030 <sup>5</sup>
<b>TARIFFS</b>	
15. Residential Tariff (US\$/kWh)	0.425 (2015) <sup>5</sup>
16. Commercial (US\$/kWh)	0.442(2015) <sup>5</sup>
17. Industrial/Large Power (US\$/kWh)	0.383 (2015) <sup>5</sup>
18. Street Lights (US\$/kWh)	
<b>EFFICIENCY</b>	
19. Electricity System Heat Rate	
20. Electricity System Losses (%)	8.12% (2017) <sup>7</sup>
21. Energy Use (kWh) Per Capita	1,984 <sup>8</sup>
22. Energy intensity index (EII) BTU/US\$1 Unit of output	3,494 <sup>9</sup>
23. EE Target	
<b>MANAGEMENT OF ENERGY DATA/KNOWLEDGE</b>	
24. Name of Energy Knowledge Management System	
25. Name of Energy Data Management System	



RE Resource	Installed Capacity (MW)	Year Commissioned
Wind	0.1 <sup>6</sup>	
Solar	2.06	2012-2016
Hydro		
Geothermal		
Biomass/ WTE		
<b>Total</b>	<b>2.16<sup>18</sup></b>	

**RE as % of installed Power Capacity = 4.2%**

RE Resource Potentials	Potential Capacity (MW)	Assessment Conducted?
Wind	20 <sup>5</sup>	
Solar	50 <sup>5</sup>	
Hydro	0.5 <sup>5</sup>	
Geothermal	50 <sup>5</sup>	
Biomass/ WTE	Unknown <sup>5</sup>	
<b>Total</b>	<b>120.5</b>	

## TRANSPORTATION SUBSECTOR: GRENADA

Key Transportation Data and Information		Breakdown of Fuel Use in the Transportation Sector		
Fuel Consumption, Transportation (BOE)	835 boe/day (2013) <sup>6</sup>	Type of Fuel/s	Quantity (BOE)	Purpose (Road, Railway, Aviation, Marine)
Energy-related transportation targets?	100% renewable fuels by 2030 <sup>15</sup>			
Sustainable /Alternative fuels used?		Gasoline		
Total Imports for Alternative Fuels		Diesel		
Conventional Vehicle Stock/Vehicle Registration	26,387 (2009) <sup>6</sup>	Kerosene		
Trucks				
Cars				
Buses				
SUVs				
Hybrid vehicle stock				
Electric vehicle stock	Yes <sup>7</sup>			
Fuel Quality Standards?				

## WORKFORCE: ENERGY SECTOR, GRENADA

### Number of Persons Employed in the Energy Sector

NAME OF ENTITY	PRIVATE OR PUBLIC?	NUMBER OF PERSONS EMPLOYED	BREAKDOWN BY GENDER AND EMPLOYMENT LEVEL	
Grenada Electricity Services Limited		244 <sup>7</sup>	<b>Females:</b> Managerial Level: Supervisor: Technical: Administrative:	<b>Males:</b> Managerial Level: Supervisor: Technical: Administrative:

### Number of Persons Trained in the Energy Sector in 2017

NAME OF ENTITY	PRIVATE OR PUBLIC?	NUMBER OF PERSONS TRAINED	BREAKDOWN BY GENDER AND EMPLOYMENT LEVEL	
			<b>Females:</b> Managerial Level: Supervisor: Technical: Administrative:	<b>Males:</b> Managerial Level: Supervisor: Technical: Administrative:

### Indicative Number and Type of Tertiary level and vocational training SE Programmes Offered in-Country

Name of Education Programme Provider	Name of Programme	Number of persons enrolled	Type of Programme			
			Certificate	B.Sc	M.Sc	Ph.D

## References

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- <sup>2</sup> United Nations Development Programme. (2018). *Human Development Reports: Table 2. Human Development Index Trends, 1990-2017*. Retrieved from <http://hdr.undp.org/en/composite/trends>
- <sup>3</sup> Government of the Commonwealth of Grenada. (2018). *National Development Plan 2030 on Track*. Retrieved from [https://www.gov.gd/egov/news/2018/sep18/07\\_09\\_18/item\\_3/national-development-plan-2030-track.html](https://www.gov.gd/egov/news/2018/sep18/07_09_18/item_3/national-development-plan-2030-track.html)
- <sup>4</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>5</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>6</sup> Inter-American Development Bank. (2015). *Challenges and Opportunities for the Energy Sector in the Eastern Caribbean: Grenada Energy Dossier*. Retrieved from <https://publications.iadb.org/bitstream/handle/11319/7303/IDB-TN-851%20Energy%20Dossier%20Grenada.pdf?sequence=1>
- <sup>7</sup> Grenada Electricity Services Ltd GRENLEC. (2018). *Annual Report 2017*. Retrieved from <http://grenlec.com/Portals/0/AnnualReportsPDF/2017GrenlecAnnualReport.pdf>
- <sup>8</sup> Calculated using 2017 population and generation figures.
- <sup>9</sup> Calculated using Total Energy Supply and GDP.
- <sup>10</sup> Government of the Commonwealth of Grenada. (2017). *National Climate Change Policy for Grenada, Carriacou and Petite Martinique (2017-2021)*. Retrieved from [https://www.gov.gd/egov/docs/other/Grenada-National-Climate-Change-Policy-2017\].pdf](https://www.gov.gd/egov/docs/other/Grenada-National-Climate-Change-Policy-2017].pdf)
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<sup>16</sup> Government of the Commonwealth of Grenada. (2018). *Official Website of The Government of Grenada: Government Ministries*. Retrieved from <https://www.gov.gd/index.html>

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<sup>18</sup> Grenada Electricity Services Ltd GRENLEC. (2018.) *Renewable Energy: Good for Our Nation*. Retrieved from <http://grenlec.com/energise/RenewableEnergyGoodforOurNation.aspx>