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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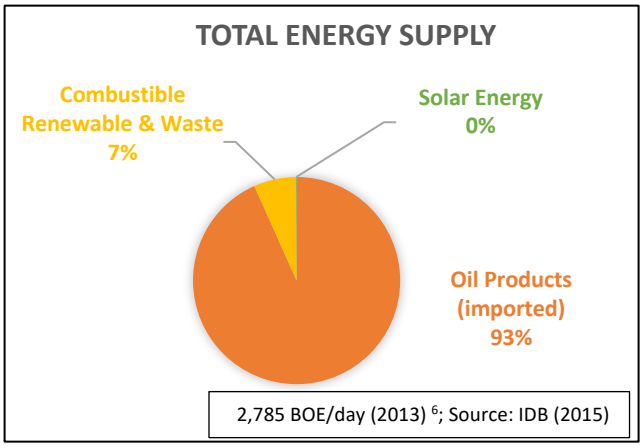
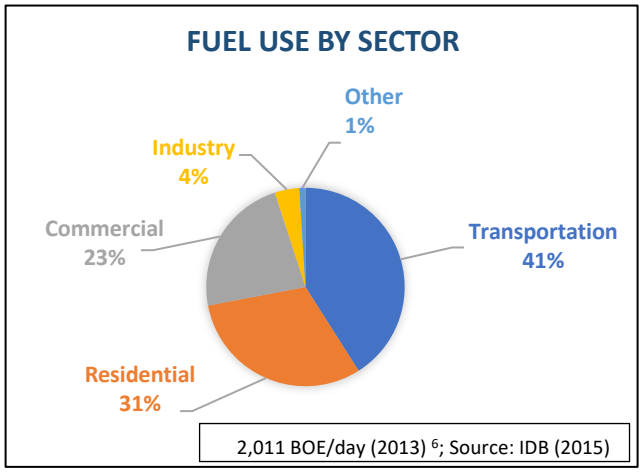
"AT-A-GLANCE" SUMMARY OF GRENADA'S ENERGY SECTOR

KEY DATA & INFORMATION – ENERGY SECTOR IN DOMINICA	
Population	111,724 (July 2017 est.)[1]
GDP (USD) Per Capita	14,900 (2017 est.)[1]
Debt: GDP Ratio	71.4% of GDP (2017 est.)[1]
Human Development Index	0.772 (2017)[2]
National Development Plan/ Overall Country Development Strategy	In development[3]
National Energy Policy	Yes (2011)[4]
Renewable Energy (RE) Policy	
RE Target	100% by 2030[5]
Energy Performance Standards/Appliance Labelling	
Number of Persons Employed in Energy Sector	
Total Oil Import (BOE) per day	2,600 (oil products) (2013)[6]
Total Oil Export (BOE) per day	
Total Installed Capacity (MW)	50.87MW (2017)[7]
Total Installed RE (MW)	2.16 (2017)[7]
Electricity System Losses (%)	8.12% (2017)[7]
Energy Use (kWh) Per Capita	1,984[8]
Energy Intensity	3,494[9]
Oil Imports as % of GDP	6% (2013)[6]
Climate Change Policy	Yes (2017)[10]
National Determined Contributions (NDC)	Yes (2015)[11]
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)
RE as % of Installed Capacity	4.2% (2017)	100% by 2030[5]	70% by 2027[15]
***Energy Intensity (BTU/US$1 Unit of output)**			
% Reduction in Energy Sector Emissions (NDC)[11]	251,649 tons of CO_2 (2010)	30% of 2010 levels by 2025	

Indicative RE Oil Displacement Potential Annually*[12,13]*

- *1 MW wind displaces 1,760 barrels of oil equivalent (BOE)*
- *1 MW hydro displaces 3,300 BOE*
- *1 MW solar displaces 1,210 BOE*

***Energy Intensity (EI)*[14]:**

- *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.*

*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.[12]

KEY ENERGY SECTOR STAKEHOLDERS: GRENADA

Key electricity stakeholders include:

GOVERNMENT MINISTRIES, DEPARTMENTS AND AGENCIES[16]:	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 UTILITY(IES):	Grenada Electricity Services Limited
INDEPENDENT POWER PRODUCER(S):	
REGULATOR:	Public Utilities Regulatory Commission
OTHER	PDV Grenada Ltd Grenada Hotel and Tourism Association Grenada Solar Power Company Ltd.

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	Completed/ In place
✓ RE Target	Completed/ In place
✓ EE Target	
✓ Electricity Regulator	Completed/ In place
✓ Net billing/Net metering	Completed/ In place
✓ Interconnection Policy/Standards	Completed/ In place
× Feed-in-tariff	Not yet started/ Not established
× RE/EE Act	Not yet started/ Not established

In progress/ Draft

Key Achievements: PLR Framework Timeline for the Electricity Sector

2011
- National Energy Policy

2016
- Public Utilities Regulatory Commission Act
- Electricity Supply Act

2017
- Electricity Supply Amendment Act
- National Climate Change Policy (2017-2021)
- National Climate Change Adaptation Plan (2017-2021)

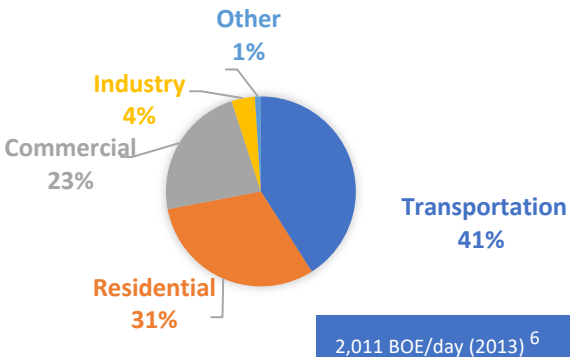
Policies and Legislation Relevant to the Transportation Sector	
Policies	National energy Policy, 2011
Legislation & Regulation	The Civil Aviation Act, 2004 Petroleum Act Petroleum and Natural Gas Deposits Act Petrol Tax Act

Climate Change Framework - Grenada	
Climate Change Policy	Yes (2017)[10]
National Determined Contributions	Yes (2015)[11]
Emissions Reduction Target	30% of 2010 levels (251,649 tons of CO_2) by 2025[11]
Priority Sectors for NDC	Electricity, Transport, Waste, Forestry[11]
National Communications (NC) to the UNFCCC	NC1 submitted in 2000[17]
Greenhouse Gas (GHG) Inventory	Yes[17]

ELECTRICITY SUBSECTOR & ENERGY EFFICIENCY: GRENADA

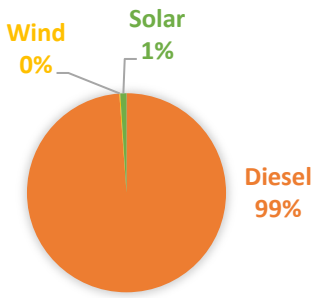
KEY DATA & INFORMATION	
CONVENTIONAL ENERGY	
1. Total Fuel Use – Electricity Subsector (barrels)	
2. Total Installed Capacity (MW)	50.87MW (2017)[7]
3. Installed Conventional Capacity – Electric Utility (MW)	48.71 (2017)[7]
4. Installed Conventional Capacity – IPPs (MW)	
5. Base Load (MW)	
6. System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

FUEL USE BY SECTOR



2,011 BOE/day (2013) [6]

ELECTRICITY GENERATION BY FUEL TYPE



Source: NREL (2015) [5]

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

RE as % of installed Power Capacity = 4.2%

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

TRANSPORTATION SUBSECTOR: GRENADA

Key Transportation Data and Information	
Fuel Consumption, Transportation (BOE)	835 boe/day (2013)[6]
Energy-related transportation targets?	100% renewable fuels by 2030[15]
Sustainable /Alternative fuels used?	
Total Imports for Alternative Fuels	
Conventional Vehicle Stock/Vehicle Registration	26,387 (2009)[6]
Trucks	
Cars	
Buses	
SUVs	
Hybrid vehicle stock	
Electric vehicle stock	Yes[7]
Fuel Quality Standards?	

Breakdown of Fuel Use in the Transportation Sector		
Type of Fuel/s	**Quantity (BOE)**	**Purpose** (Road, Railway, Aviation, Marine)
Gasoline		
Diesel		
Kerosene		

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[7]	**Females:** Managerial Level: Supervisor: Technical: Administrative:	**Males:** 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	
			Females: Managerial Level: Supervisor: Technical: Administrative:	**Males:** 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

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[8] Calculated using 2017 population and generation figures.

[9] Calculated using Total Energy Supply and GDP.

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