CCREEE
CARIBBEAN CENTRE FOR RENEWABLE ENERGY & ENERGY EFFICIENCY

CARICOM

2018 ENERGY REPORT CARD

ANTIGUA AND BARBUDA

This document presents Antigua and Barbuda's Energy Report Card (ERC) for 2018. The ERC provides an overview of energy sector performance in Antigua and Barbuda. 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.

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"AT-A-GLANCE"

Summary of the Energy Sector

KEY DATA & INFORMATION – ENERGY SECTOR	
Population	96,286[1]
GDP (USD) Per Capita	$26739.47[1]
Human Development Index	0.78[2]
National Energy Policy	Yes (2011)[3]
Renewable Energy (RE) Policy	
RE Target	N/A
Energy Performance Standards/Appliance Labelling	Yes - Minimum Energy Performance Standards are in place but not enforced yet[4]
Total Oil Imports (BOE) per day	4335[3]
Total Oil Export (BOE) per day	N/A
Total Installed Capacity (MW)	81[5]
Total Installed RE (MW)	9[4]
Fuel & Oil Imports as % of GDP	7.5 %[3]
Electric vehicle stock	N/A
National Repository for Energy Data	No

ENERGY SECTOR PERFORMANCE AGAINST TARGETS

Indicator	Base /Current Performance (Year)	National Target	National Target (Proposed by CARICOM – CSERMS Report)[8]
RE as % of Installed Capacity	11%	N/A	51%
*Energy Intensity (BTU/US$1 Unit of output)			

Indicative RE Oil Displacement[9,10] Potential Annually*

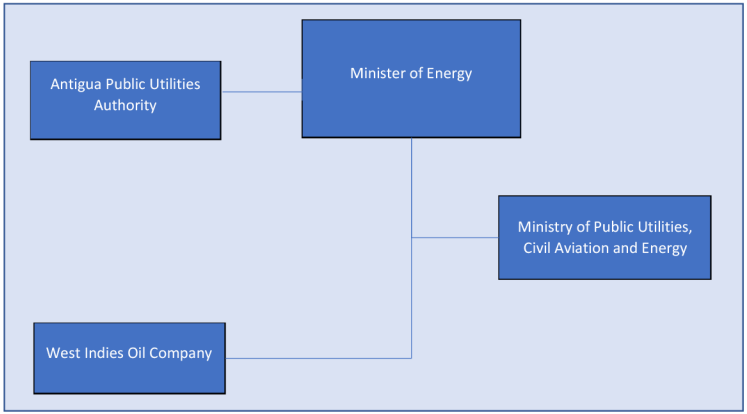
- *1 MW wind displaces 1,760 barrels of oil equivalent (BOE)*
- *1 MW hydro displaces 3,300 BOE*
- *1 MW solar displaces 1,210 BOE*

Energy Intensity (EI)[11]:

- *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.

KEY ENERGY SECTOR STAKEHOLDERS



KEY ELECTRICITY STAKEHOLDERS:

Ministry of Finance & Corporate Governance

Ministry of Works

Department of the Environment

Antigua Power Company

PDV Caribe Antigua and Barbuda Ltd

Antigua and Barbuda Bureau of Standards

Development Control Authority

KEY STAKEHOLDERS: ROAD TRANSPORTATION

Ministry of Public Utilities, Civil Aviation and Energy

Antigua and Barbuda Transport Board (Transportation Regulator)

West Indies Oil Company

Sol Antigua and Barbuda

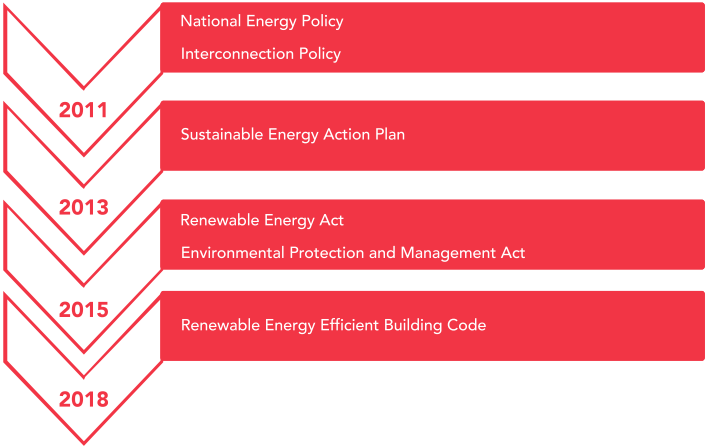
POLICY, LEGAL AND REGULATORY FRAMEWORK

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



POLICY, LEGAL AND REGULATORY FRAMEWORK

Policies and Legislation Relevant to the Energy Sector [4], [5]	
Policies	• National Energy Policy • Sustainable Energy Action Plan • Interconnection Policy
Legislation & Regulation	• Renewable Energy Act • Regional Energy Efficient Building Code • Transport Board Act • Vehicles and Road Traffic Act

ELECTRICITY AND ENERGY EFFICIENCY

KEY DATA & INFORMATION	
1. Fuel Consumption – Electricity Subsector (BOE)	167,535 (2012)[7]
2. Installed Conventional Capacity – Electric Utility (MW)	30[5]
3. Installed Conventional Capacity – IPPs (MW)	51[4]
4. Base Load (MW)	30 (2017)[12]
5. System Peak Demand (MW)	50 (2017)[12]
6. Total Generation (MWh)	361985 [12]
7. Total Sales (MWh)	287344 [12]
8. Total Number of Customers	35079 [12]
TARIFFS	
9. Residential Tariff (US$/kWh)	
10. Commercial (US$/kWh)	
11. Industrial/Large Power (US$/kWh)	
12. Street Lights (US$/kWh)	
EFFICIENCY	
13. EE Target	N/A
14. Electricity System Losses (%)	11 % [5]
15. Energy Use (kWh) Per Capita	3,759 [4]
16. EE Initiative and Impact	

RE Resource	Installed Capacity (MW)
Wind	N/A
Solar	9[4]
Hydro	N/A
Geothermal	N/A
Biomass/ WTE	N/A
Total	9

RE as % of installed Power Capacity = 11%

ELECTRICITY AND ENERGY EFFICIENCY

Key Transportation Data and Information	
Fuel Consumption, Transportation (BOE)	595,315[7]
Energy-related transportation targets?	50% improvement in transport efficiency in 15 years[8]
Sustainable /Alternative fuels used?	N/A
Total Imports for Alternative Fuels	
Conventional Vehicle Stock/Vehicle Registration	17,344
Trucks	1377
Cars	17125
Sport Utility Vehicle (SUV)	11897
Buses	1387
Hybrid vehicle stock?	
Electric vehicle stock	
Fuel Quality Standards?	

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REFERENCES

[1]World Bank (2019) https://data.worldbank.org/country/antigua-and-barbuda

[2]United Nations Human Development Indices and Indicators (2018)
https://www.un-ilibrary.org/economic-and-social-development/human-development-indices-and-indicators-2018_656a3808-en

[3]Government of the Commonwealth of Antigua and Barbuda. (2011). National Energy Policy. Retrieved from
http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/laws/8481.pdf

[4]Ministry of Public Utilities, Civil Aviation and Energy - Antigua (2019)

[5]Antigua Public Utilities Authority (APUA) System Control (2019)

[6]International Renewable Energy Agency IRENA, Abu Dhabi. (2016). Renewable Readiness Assessment: Antigua and Barbuda. Retrieved from
https://www.irena.org//media/Files/IRENA/Agency/Publication/2016/IRENA_RRA_Antigua_and_Barbuda_2016.pdf

[7]Inter-American Development Bank. (2015). Challenges and Opportunities for the Energy Sector in the Eastern Caribbean: Antigua and Barbuda Energy Dossier.
https://publications.iadb.org/bitstream/handle/11319/7297/IDBTN-849%20Energy%20Dossier%20Antigua%20%26%20barbuda.pdf

[8]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

REFERENCES

[9]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

[10]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

[11]J.M.K.C. Donev et al. (2018). Energy Education - Energy intensity. Retrieved from https://energyeducation.ca/encyclopedia/Energy_intensity.

[12]Ministry of Public Utilities, Civil Aviation, Transport and Energy (Focal Point: Mr. Edson Joseph). (2017). CARIFORUM Energy Report Card Input Data 2017 (Information provided for Antigua and Barbuda).

[13]Government of the Commonwealth of Antigua and Barbuda. (2018). Antigua and Barbuda's Government Information and Services - A-Z Index of AB Government Agencies. Retrieved from https://ab.gov.ag/detail_page.php?page=1

[14]Transport Board – Antigua (2018)