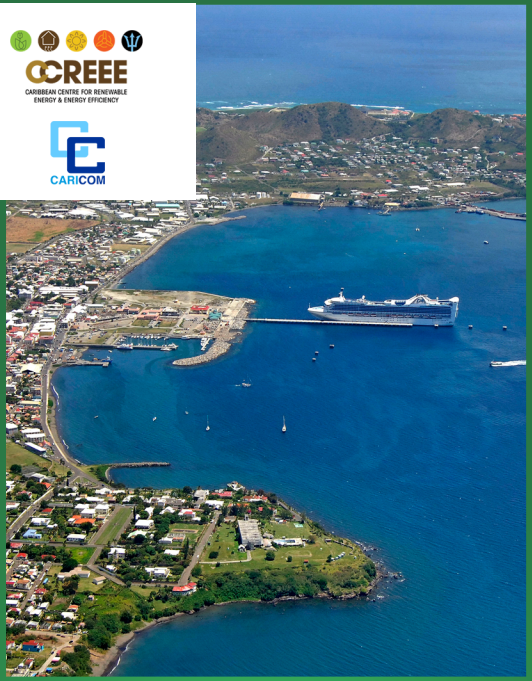
CCREEE
CARIBBEAN CENTRE FOR RENEWABLE ENERGY & ENERGY EFFICIENCY

CARICOM



2018 ENERGY REPORT CARD
ST. KITTS & NEVIS

This document presents Saint Kitts and Nevis' Energy Report Card (ERC) for 2018. The ERC provides an overview of energy sector performance in Saint Kitts and Nevis. 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	53 094 [1]
GDP (USD) Per Capita	$21 425.63 [2]
Human Development Index	0.778 [2]
National Energy Policy	Yes [3]
Renewable Energy (RE) Policy	
RE Target	100 % renewable energy in the power sector [3]
Energy Performance Standards/Appliance Labelling	No
Total Oil Imports (BOE) per day	882 (St. Kitts) [4]
Total Oil Export (BOE) per day	0 [4]
Total Installed Capacity (MW)	66 - St. Kitts [3] 22.8 - Nevis
Total Installed RE (MW)	4.4 [3]
Fuel & Oil Imports as % of GDP	13.2 [2]
Electric vehicle stock	
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)[5]
RE as % of Installed Capacity	6.7 % [9]	100% RE in the power sector [3]	57% (St. Kitts) and 67% (Nevis) by 2027
***Energy Intensity (BTU/US$1 Unit of output)**			

Indicative RE Oil Displacement[6,7] Potential Annually**

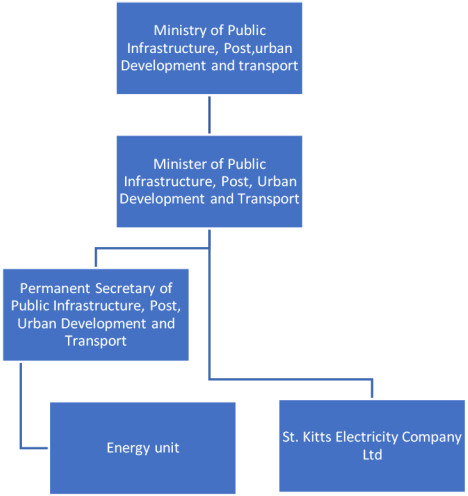
- *1 MW wind displaces 1,760 barrels of oil equivalent (BOE)*
- *1 MW hydro displaces 3,300 BOE*
- *1 MW solar displaces 1,210 BOE*

Energy Intensity (EI)[8]:

- *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.*

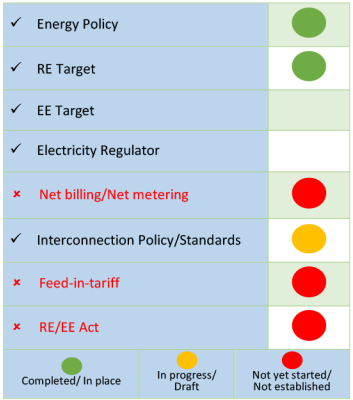
*The energy efficiency target for CARICOM is 33% reduction in energy intensity by 2027, compared to a reference of Average Annual Energy Intensity of ~13,000 BTU per USD of GDP in 2015.
**Based on capacity factors of 0.32 for wind. 0.6 for hydro and 0.22 for solar.

KEY ENERGY SECTOR STAKEHOLDERS [3]



POLICY, LEGAL AND REGULATORY FRAMEWORK

Electricity Sector : Policy, Legal and Regulatory (PLR) Framework [3]



Key Achievements: PLR Framework Timeline for the Electricity Sector [3]

ELECTRICITY & ENERGY EFFICIENCY

KEY DATA & INFORMATION	
1. Fuel Consumption – Electricity Subsector (BOE)	
2. Installed Conventional Capacity – Electric Utility (MW)	45 - St. Kitts [4] 20.6 – Nevis [10]
3. Installed Conventional Capacity – IPPs (MW)	0.75 - St Kitts [4] 2.2 – Nevis [10]
4. Base Load (MW)	18 - St Kitts [4] 5 – Nevis [10]
5. System Peak Demand (MW)	27.1 - St. Kitts [4] 8.97 – Nevis [10]
6. Total Generation (MWh)	
7. Total Sales (MWh)	
8. Total Number of Customers	20 717 - St. Kitts [4] 7450 – Nevis [10]
TARIFFS	
9. Residential Tariff (US$/kWh)	0.23 - 0.50 [4] [10]
10. Commercial (US$/kWh)	0.25 - 0.52 [4] [10]
11. Industrial/Large Power (US$/kWh)	0.25 [4]
12. Street Lights (US$/kWh)	0.21 [4]
EFFICIENCY	
13. EE Target	
14. Electricity System Losses (%)	20 - St. Kitts [4] 12 – Nevis [10]
15. Energy Use (kWh) Per Capita	3 910 (2017) [11]
16. EE Initiative and Impact	

RE Resource	Installed Capacity (MW) [4]
Wind	2.2
Solar	2.2
Hydro	
Geothermal	
Biomass/ WTE	
Total	4.4

RE as % of installed Power Capacity = 4%

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[1]Central Intelligence Agency: The World Factbook: https://www.cia.gov/library/publications/the-world-factbook/geos/sc.html

[2]Saint Kitts and Nevis Statistical Department (2019)

[3]Saint Kitts and Nevis Ministry of Public Infrastructure, Post, Urban Development and Transport, Energy Unit (2019)

[4]Saint Kitts Electricity Company Limited – Generation Manager (2019)

[5]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

[6]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

[7]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

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

[9]Calculated

[10]Nevis Electricity Company – Generation Manager (2019)

[11]Calculated using generation and population figures

REFERENCES

[12]Rapid Scan Assessment of the Capacity Requirements for Sustainable Energy Development for CARICOM Countries (Professor Dr. Olav Hohmeyer, International Energy Consulting) (2019)