2017 ENERGY REPORT CARD
JAMAICA

This document presents Jamaica's Energy Report Card (ERC) for 2017 and was prepared primarily using data and information submitted by the Member State, with supplemental data from online resources (see list of References). The ERC provides an overview of energy sector performance in Jamaica 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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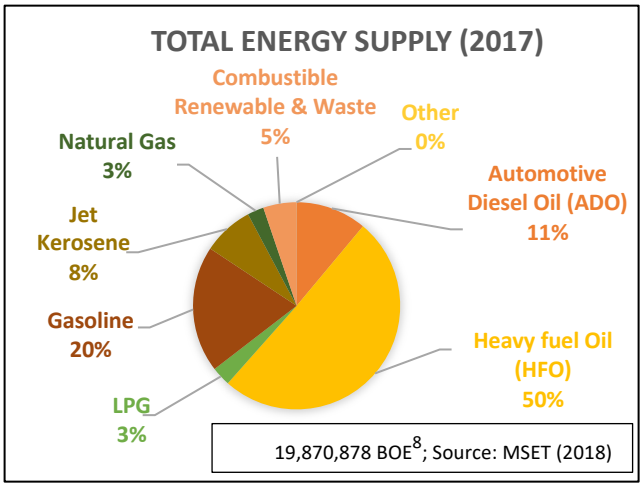
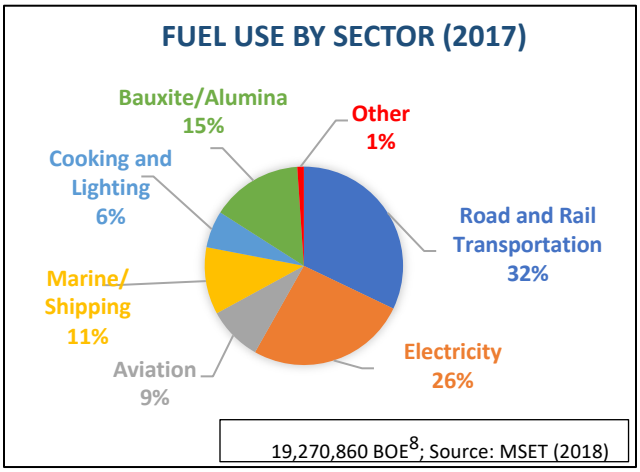
"AT-A-GLANCE" SUMMARY OF JAMAICA'S ENERGY SECTOR

KEY DATA & INFORMATION – ENERGY SECTOR IN JAMAICA	
Population	2,728,864 (2017)[1]
GDP Per Capita	US$9,200 (2017)[2]
Debt: GDP Ratio	116% (2017)[3]
Human Development Index	0.732 (2017)[4]
National Development Plan/ Overall Country Development Strategy	Yes (2009)[5]
National Energy Policy	Yes (2009)[6]
Renewable Energy (RE) Policy	Yes (Draft)[7]
RE Target	20% by 2030[6]
Energy Performance Standards/ Appliance Labelling	Yes[8]
No. of Persons Employed in Energy Sector	
Total Oil Import (BOE) per day	57,258 (2017)[8]
Total Oil Export (BOE) per day	11,168 (2017)[8]
Total Installed Capacity (MW)	1,021(2017)[8]
Total Installed RE (MW)	151.12 (2017)[8]
Electricity System Losses (%)	26.5% (2017)[8]
Energy Use (kWh) Per Capita	1,598 (2017)[8, 9]
Energy Intensity (BTU/US$)	4,560 (2017)[10]
Oil Imports as % of GDP	11% (2017)[8]
Climate Change Policy	Yes (2015)[11]
National Determined Contributions	Yes (2015)[12]
National Repository for Energy Data	Ministry of Science, Energy & Technology (MSET)





JAMAICA'S ENERGY SECTOR PERFORMANCE AGAINST TARGETS

Indicator	Base /Current Performance (Year)	National Target	National Target (Proposed by CARICOM – CSERMS Report)[13]
RE as % of Installed Capacity	15% (2017)	20% by 2030[6]	40% by 2027
*Energy Intensity (BTU/US$1 Unit of output)	15,392 (2008)[6]	6000 by 2030[6]	
% Reduction in Energy Sector Emissions (NDC)		7.8% by 2030 (against BAU)[12]	

Indicative RE Oil Displacement[14,15] 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)[16]:

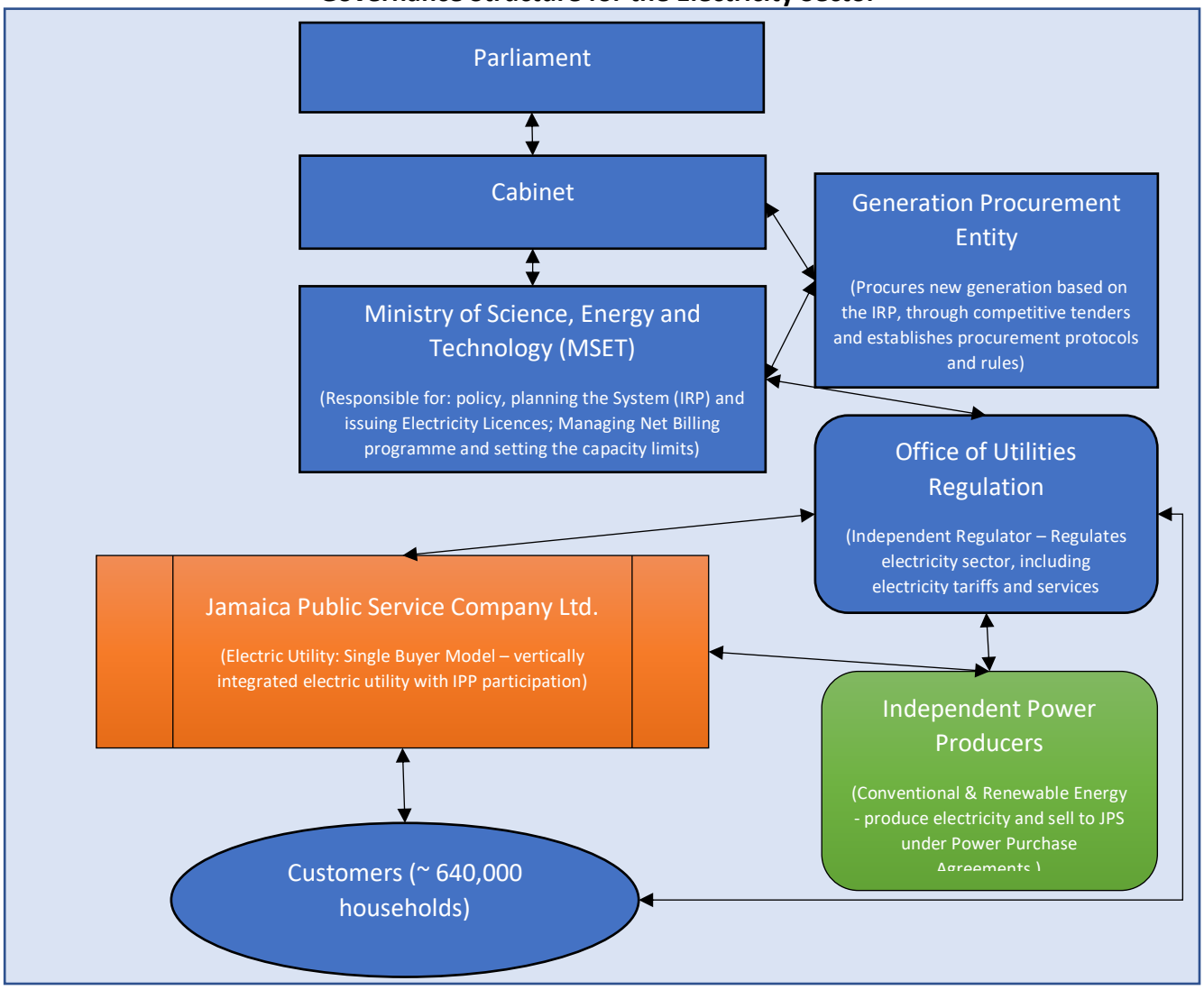
- *EI measures how energy benefits the economy and is calculated by taking the ratio of total primary energy use (all of the fuels and flows that a country uses to get energy) to GDP (the total money made in a country). EI indicates how effectively an economy uses their fuels and flows.*

*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.[14]

KEY ENERGY SECTOR STAKEHOLDERS: JAMAICA

Governance Structure for the Electricity Sector[8]



Other key electricity stakeholders include[8]:

- Agencies and Departments of the MSET, such as the Petroleum Corporation of Jamaica.
- Fuel Suppliers: import or produce fuel (LNG, fuel oil, gasoline, diesel), and supply power producers and fuel wholesalers, who then sell to retailers and finally to end consumers.
- The Government Electrical Regulator: Regulates electrical inspection and licenses electricians and electrical inspectors.

Key Stakeholders: Road Transportation Sub-sector[6, 8]

- Cabinet/Parliament
- Ministry of Transport and Mining
- Ministry of Local Government Community Development
- Petroleum Corporation of Jamaica
- Petrojam; Petrojam Ethanol
- Island Traffic Authority
- Jamaica Urban Transit Company
- Transport Authority
- Jamaica Gasolene Retailers Association.

Note: No Regulator/regulation is in place for Fuel Supply in the Transportation sector, but there are standards for fuel quality. The Transport Authority has responsibility for the licensing of all public and commercial vehicles and the regulating and monitoring of public Transportation in Jamaica.

POLICY, LEGAL AND REGULATORY FRAMEWORK: JAMAICA

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

✓ Finalized Energy Policy and Energy Action Plan	
✓ RE Target	
✓ EE Target	
✓ Independent Regulator	
✓ Net billing	
× Feed-in-tariff	
× RE/EE Act	

Completed/ In place | In progress | Not yet started/ Not established

Key Achievements: PLR Framework Timeline for the Electricity Sector

- 2009: • National Energy Policy approved by Cabinet
- 2010: •Draft subsidiary policies, such as the RE Policy
- 2011: • Amendment of Electricity Licence
- 2015: • OUR Act •The Electricity Act
- 2017: •Draft Electricity Regulations for Net Billing, Auxiliary Connections and Power Wheeling
- 2018: •Integrated Resource Plan

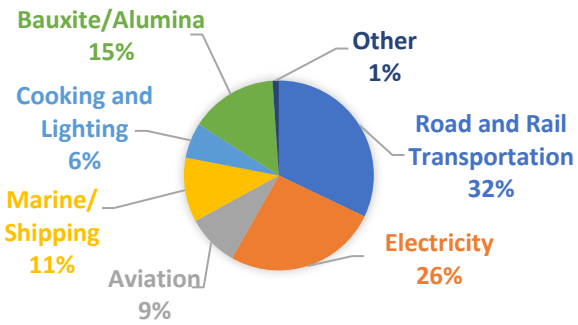
Policies and Legislation Relevant to the Transportation Sector [6, 8]	
Policies	Vision 2030 National Development Plan Vision 2030 Transport Sector Plan 2009–2030 National Transport Policy (2007 – draft) National Energy Policy, 2009-2030 National Biofuels Policy (Draft)
Legislation & Regulation	The Transport Authority Act Petroleum Oil Fuel (Landing and Storage) Act Petroleum (Quality Control) Act The Petroleum Act

Climate Change Framework - Jamaica	
Climate Change Policy	Yes (2015)[11]
National Determined Contributions	Yes (2015)[12]
Emissions Reduction Target	Reduction of 7.8% of emissions by 2030 versus business-as-usual (BAU) Conditional Target: Reduction of 10% of emissions by 2030 versus BAU[12]
Priority Sectors for NDC	Energy, including Transportation[12]
National Communications (NC) to the UNFCC	NC1 submitted in 2000, NC2 in 2011[17]
Greenhouse Gas (GHG) Inventory	Yes [18]

ELECTRICITY SUBSECTOR & ENERGY EFFICIENCY: JAMAICA

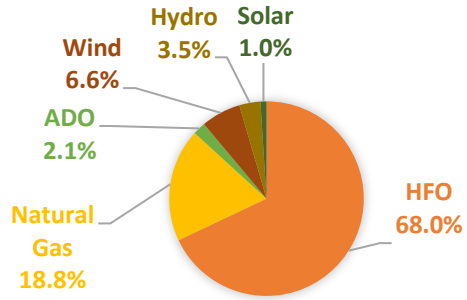
KEY DATA & INFORMATION	
CONVENTIONAL ENERGY	
1. Fuel Consumption – Electricity Subsector (BOE)	5,028,151 (2017)[8]
2. Total Installed Capacity (MW)	1021 (2017)[8]
3. Installed Conventional Capacity – Electric Utility (MW)	607.88 (2017)[8]
4. Installed Conventional Capacity – Independent Power Producers (IPPs) (MW)	262.2 (2017)[8]
5. Base Load (MW)	425 (2017)[8]
6. System Peak Demand (MW)	667 (2017)[8]
7. Total Generation (MWh)	4,360,567 (2017)[8]
8. Total Sales (MWh)	3,208,946 (2017)[8]
9. Total Number of Customers	642,944 (2017)[8]
RENEWABLE ENERGY	
10. Total Installed RE Capacity (MW)	151.12 (2017)[8]
11. RE Capacity – Electric Utility (MW)	32.12 (2017)[8]
12. RE Capacity – IPPs (MW)	119 (2017)[8]
13. RE as % of Total Installed Generating Capacity	15%
14. RE Target	20% by 2030[6]
TARIFFS	
15. Residential Tariff (US$/kWh)	0.2680 (2017)[8]
16. Commercial (US$/kWh)	0.2270 (2017)[8]
17. Industrial/Large Power (US$/kWh)	0.2080 (2017)[8]
18. Street Lights (US$/kWh)	0.3250 (2017)[8]
EFFICIENCY	
19. Electricity System Heat Rate	
20. Electricity System Losses (%)	26.5 (2017)[8]
21. Energy Use (kWh) Per Capita	1,598 (2017)[8, 9]
22. Energy intensity index (EII) BTU/US$1 Unit of output	4,560 (2017)
23. EE Target	
MANAGEMENT OF ENERGY DATA/KNOWLEDGE	
24. Name of Energy Knowledge Management System	
25. Name of Energy Data Management System	Energy Database Management Information System (EDMIS)

FUEL USE BY SECTOR (2017)



19,270,860 BOE[8]; Source: MSET (2018)

2017 GENERATION BY FUEL TYPE



5,028,151 BOE[8]; Source: MSET (2018)

RE Resource	Installed Capacity(MW)	Year Commissioned
Wind	102	2004, 2010, 2016
Solar	20	2016
Hydro	29.12	1945-1989;2014
Geothermal		
Biomass/WTE		
Total	**151.12**	

RE as % of installed Power Capacity = 15 %

RE Resource Potentials	Potential Capacity (MW)	Assessment Conducted?
Wind	122[13]	
Solar	650[13]	
Hydro	33.4[13]	
Geothermal		
Biomass/ WTE	192[13]	
Total	997.4	

TRANSPORTATION SUBSECTOR: JAMAICA

Key Transportation Data and Information	
Fuel Consumption, Transportation (BOE)	6.186 million (2017)[8]
Energy-related transportation targets?	
Sustainable /Alternative fuels used?	E10-87 and E10-90 (2017)[8]
Total Imports for Alternative Fuels	
Conventional Vehicle Stock/Vehicle Registration	**3,304,559**[8] (2003-2016)
Trucks	310, 206
Cars	1, 120, 025
Buses	
SUVs	
Hybrid vehicle stock	Yes
Electric vehicle stock	Yes
Fuel Quality Standards?	Yes

Breakdown of Fuel Use in the Transportation Sector		
Type of Fuel/s	**Quantity (BOE)**	**Purpose** (Road, Railway, Aviation, Marine)
Gasoline	5,470,146 (2017)[8]	Road and Railway
Diesel		
Turbo Fuel	10,068 (2017)[8]	Aviation
HFO Bunker and ADO Bunker	97,274 (2017)[8]	Marine

WORKFORCE: ENERGY SECTOR, JAMAICA

Number of Persons Employed in the Energy Sector

NAME OF ENTITY	PRIVATE OR PUBLIC?	NUMBER OF PERSONS EMPLOYED	BREAKDOWN BY GENDER AND EMPLOYMENT LEVEL	
			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] Energy Division, Ministry of Science Energy and Technology. (2018). CARIFORUM Energy Report Card Input Data Jamaica.

[9] Calculated using total generation and population.

[10] Calculated using total energy supply and GDP.

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