



# 2017 ENERGY REPORT CARD

## MONTSERRAT

*This document presents Montserrat'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 Montserrat 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.*

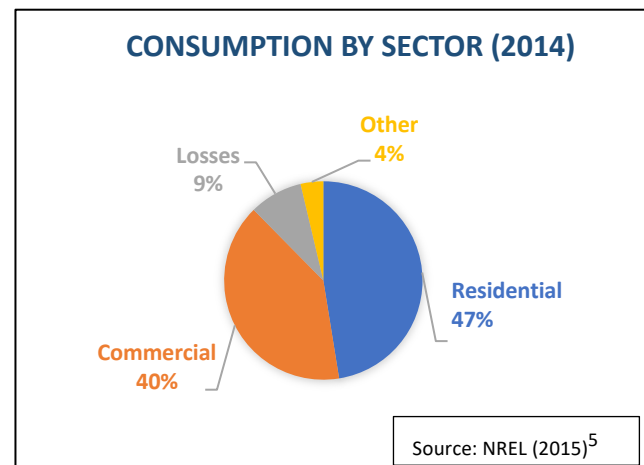
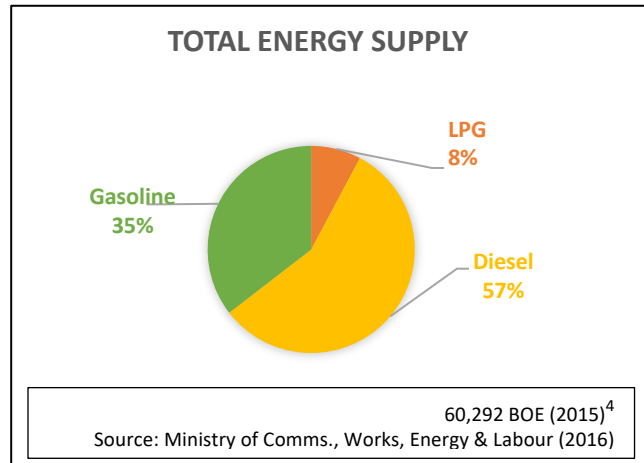
*December 2018*

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

KEY DATA & INFORMATION – ENERGY SECTOR	
Population	5,292 (2017) <sup>1</sup>
GDP (USD) Per Capita	\$12,044(2016) <sup>2</sup>
Debt: GDP Ratio	
Human Development Index	Not ranked <sup>3</sup>
National Development Plan/ Overall Country Development Strategy	
National Energy Policy	Yes (2016) <sup>4</sup>
Renewable Energy (RE) Policy	
RE Target	100% Renewable Electricity by 2020 <sup>4</sup>
Energy Performance Standards/Appliance Labelling	
Number of Persons Employed in Energy Sector	
Total Oil Import (BOE) per day	
Total Oil Export (BOE) per day	
Total Installed Capacity (MW)	5.44 MW (2015) <sup>4</sup>
Total Installed RE (MW)	0 MW (2015) <sup>5</sup>
Electricity System Losses (%)	12.3% (Technical losses 2015) <sup>4</sup>
Energy Use (kWh) Per Capita	2,321 <sup>6</sup>
Energy Intensity (BTU/\$)	5,486 <sup>7</sup>
Fuel & Oil Imports as % of GDP	24.9% <sup>5</sup>
Climate Change Policy	
National Determined Contributions (NDC)	None <sup>8,9</sup>
National Repository for Energy Data	



### MONTSERRAT’S ENERGY SECTOR PERFORMANCE AGAINST TARGETS





Indicator	Base /Current Performance (Year)	National Target	National Target (Proposed by CARICOM – CSERMS Report) <sup>10</sup>	<i>Indicative RE Oil Displacement<sup>11,12</sup> Potential Annually**</i>
RE as % of Installed Capacity	0% (2015) <sup>10</sup>	100% Renewable Electricity by 2020 <sup>4</sup>	34% by 2027	<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>13</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)				

\*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>11</sup>

## KEY ENERGY SECTOR STAKEHOLDERS: MONTSERRAT

Key electricity stakeholders include:

<b>GOVERNMENT MINISTRIES, DEPARTMENTS AND AGENCIES<sup>14</sup>:</b>	 Ministry of Communications, Works, Energy and Labour  Ministry of Finance, Economic Development, Tourism & Culture
<b>ELECTRIC UTILITY(IES):</b>	 Montserrat Utilities Limited
<b>INDEPENDENT POWER PRODUCER(S):</b>	
<b>REGULATOR:</b>	 Ministry of Communications, Works, Energy and Labour <sup>5</sup>




### Key Stakeholders: Road Transportation Sub-sector

Other key energy sector stakeholders include<sup>4</sup>:

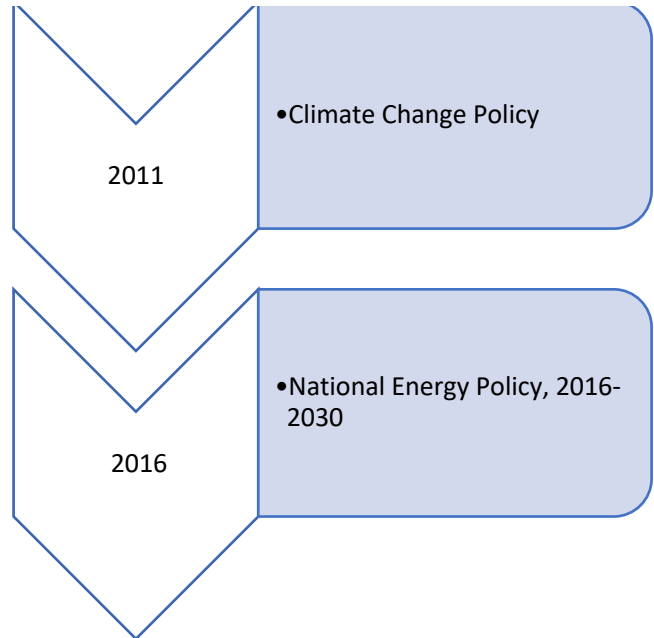
-  Delta Petroleum Limited
-  Montserrat Chamber of Commerce & Industry Inc.
-  Montserrat Hospitality Association
-  Montserrat National Trust
-  Montserrat Farmers Association
-  Montserrat Boaters & Fishers Association

## POLICY, LEGAL AND REGULATORY FRAMEWORK: MONTSERRAT

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

✓ Energy Policy <sup>4</sup> and Energy Action Plan	●	
✓ RE Target <sup>4</sup>	●	
✓ EE Target		
✓ Electricity Regulator		
✓ Net billing/Net metering <sup>5</sup>	●	
✓ Interconnection Policy/Standards		
✗ Feed-in-tariff	●	
✗ RE/EE Act	●	
 Completed/ In place	 In progress/ In Development	 Not yet started/ Not established

### Key Achievements: PLR Framework Timeline for the Electricity Sector



### Policies and Legislation Relevant to the Transportation Sector

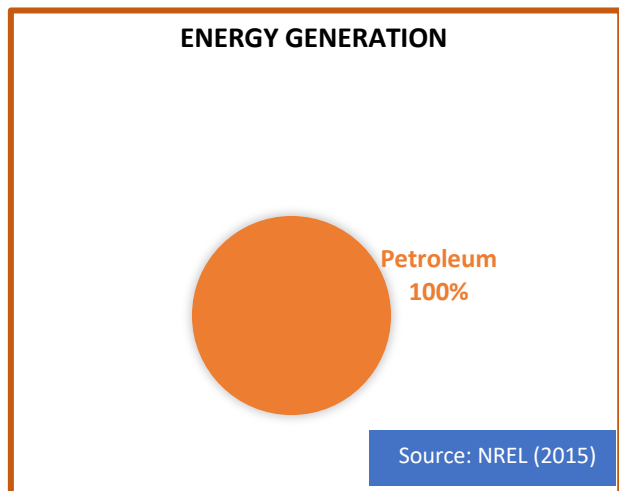
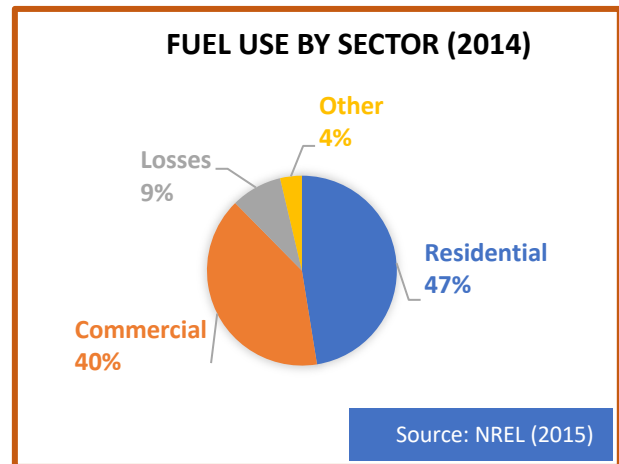
Policies	 National Energy Policy
Legislation & Regulation	

### Climate Change Framework - Montserrat

Climate Change Policy	Yes <sup>5</sup>
National Determined Contributions	None <sup>8</sup>
Emissions Reduction Target	
Priority Sectors for NDC	
National Communications (NC) to the UNFCCC	None listed for Montserrat <sup>15</sup>
Greenhouse Gas (GHG) Inventory	

## ELECTRICITY SUBSECTOR & ENERGY EFFICIENCY: MONTSERRAT

KEY DATA & INFORMATION	
<b>CONVENTIONAL ENERGY</b>	
1. Total Fuel Use – Electricity Subsector (barrels)	
2. Total Installed Capacity (MW)	5.44 MW <sup>4</sup>
3. Installed Conventional Capacity – Electric Utility (MW)	
4. Installed Conventional Capacity – IPPs (MW)	
5. Base Load (MW)	
6. System Peak Demand (MW)	2.1 MW (2015) <sup>4</sup>
7. Total Generation (MWh)	12,282 (2015) <sup>4</sup>
8. Total Sales (MWh)	11,557 (2015) <sup>4</sup>
9. Total Number of Customers	3,590 (2015) <sup>4</sup>
<b>RENEWABLE ENERGY</b>	
10. Total Installed RE Capacity (MW)	0 MW <sup>4,5</sup>
11. RE Capacity – Electric Utility (MW)	
12. RE Capacity – IPPs (MW)	
13. RE as % of Total Installed Generating Capacity	0%
14. RE Target	
<b>TARIFFS</b>	
15. Residential Tariff (US\$/kWh)	\$0.50–\$0.52 (2015) <sup>4</sup>
16. Commercial (US\$/kWh)	\$0.54 (2015) <sup>4</sup>
17. Industrial/Large Power (US\$/kWh)	\$0.51(2015) <sup>4</sup>
18. Street Lights (US\$/kWh)	
<b>EFFICIENCY</b>	
19. Electricity System Heat Rate	
20. Electricity System Losses (%)	8.7% (T&D losses 2012) <sup>5</sup>
21. Energy Use (kWh) Per Capita	2,321 <sup>6</sup>
22. Energy intensity index (EII) BTU/US\$1 Unit of output	5,486 <sup>7</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		
Solar		
Hydro		
Geothermal		
Biomass/ WTE		
<b>Total</b>	0	

**RE as % of installed Power Capacity = 0%**

RE Resource Potentials	Potential Capacity (MW)	Assessment Conducted?
Wind		
Solar	1.5 <sup>10</sup>	
Hydro		
Geothermal	940 <sup>10</sup>	
Biomass/ WTE		
<b>Total</b>	941.5	

## TRANSPORTATION SUBSECTOR: MONTSERRAT

Key Transportation Data and Information		Breakdown of Fuel Use in the Transportation Sector		
Fuel Consumption, Transportation (BOE)		Type of Fuel/s	Quantity (BOE)	Purpose (Road, Railway, Aviation, Marine)
Energy-related transportation targets?				
Sustainable /Alternative fuels used?		Diesel	7,714 <sup>4</sup>	Transport (Vehicles & Ferry)
Total Imports for Alternative Fuels		Gasoline	13,766 <sup>4</sup>	Transport (Vehicles)
Conventional Vehicle Stock/Vehicle Registration	2,652 (2015) <sup>4</sup>			
Trucks				
Cars	1028 (2015) <sup>4</sup>			
Buses				
SUVs				
Hybrid vehicle stock				
Electric vehicle stock				
Fuel Quality Standards?				

## WORKFORCE: ENERGY SECTOR, MONTSERRAT

### 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:





## References

- <sup>1</sup>Central Intelligence Agency. (2018). *The World Factbook 2017*. Retrieved from <https://www.cia.gov/library/publications/download/download-2017/index.html>
- <sup>2</sup> United Nations Statistics Division. (2017). National Accounts Main Aggregates Database. Country Profile: Montserrat. Retrieved from <https://unstats.un.org/unsd/snaama/resCountry.asp>
- <sup>3</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>4</sup> Ministry of Communications, Works, Energy & Labour. (2016). *The Montserrat Energy Policy 2016 – 2030*. Retrieved from <http://www.gov.ms/wp-content/uploads/2016/02/The-Power-to-Change-MNEP-Cabinet-Approved.pdf>
- <sup>5</sup> National Renewable Energy Laboratory. (2015). *Energy Transition Initiative: Islands Energy Snapshot - Montserrat*. Retrieved from <https://www.nrel.gov/docs/fy15osti/64126.pdf>
- <sup>6</sup> Calculated using 2015 generation and 2017 population figures.
- <sup>7</sup> Calculated using total energy supply an GDP.
- <sup>8</sup> As a British Overseas Territory, Montserrat is not a Party to the Paris Agreement and therefore did not submit an INDC (<https://www.energimyndigheten.se/globalassets/klimat--miljo/internationella-klimatinsatser/policy-brief-on-ndc-mitigation-targets-of-the-caricom-member-states---final.pdf>).
- <sup>9</sup> <https://www4.unfccc.int/sites/NDCStaging/Pages/All.aspx> Not listed
- <sup>10</sup> 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](http://www.worldwatch.org/system/files/C-SERMS_Full_PDF.pdf)
- <sup>11</sup>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](https://www.mset.gov.jm/sites/default/files/pdf/Grid%20Impact%20Analysis%20for%20Renewable%20Energy%20Penetration_2.pdf)
- <sup>12</sup> 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](https://ec.europa.eu/energy/intelligent/projects/sites/iee-projects/files/projects/documents/make-it-be_energy_unit_conversion_tool.xlsx)
- <sup>13</sup> J.M.K.C. Donev et al. (2018). *Energy Education - Energy intensity*. Retrieved from [https://energyeducation.ca/encyclopedia/Energy\\_intensity](https://energyeducation.ca/encyclopedia/Energy_intensity).
- <sup>14</sup> Government of Montserrat. (2018). *Government of Montserrat Ministry Portfolios*. Retrieved from <http://www.gov.ms/ministries-and-departments/>
- <sup>15</sup> United Nations Framework Convention on Climate Change. (2018). *Process and Meetings: National Communication submissions from Non-Annex I Parties*. Retrieved from <https://unfccc.int/process-and-meetings/transparency-and-reporting/reporting-and-review-under-the-convention/national-communications-and-biennial-update-reports-non-annex-i-parties/national-communication-submissions-from-non-annex-i-parties>