

# 2020 ENERGY REPORT CARD

# JAMAICA



## CCREEE

CARIBBEAN CENTRE FOR RENEWABLE ENERGY & ENERGY EFFICIENCY

AN INSTITUTION OF



[www.ccreee.org](http://www.ccreee.org)

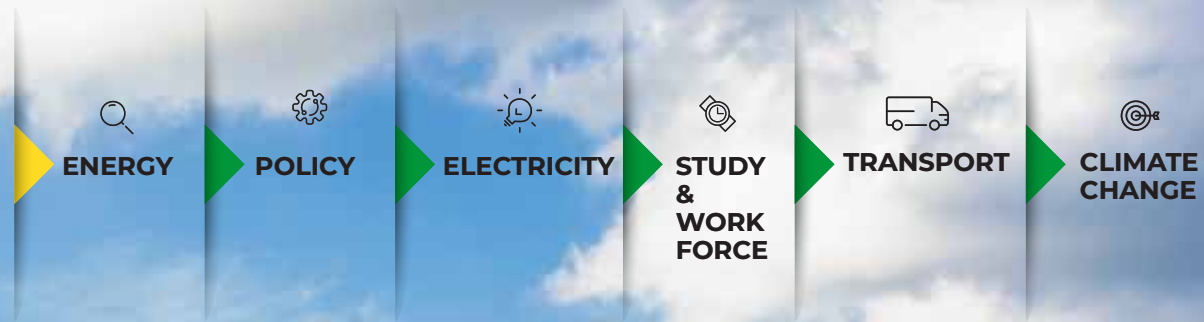
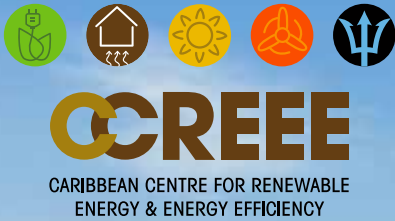


UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION



Implemented by





## 2020 ENERGY REPORT CARD

# INTRODUCTION

This document presents Jamaica's Energy Report Card (ERC) for 2020. The ERC provides an overview of the energy sector performance in Jamaica. The ERC also includes energy efficiency, 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, utilities, and statistical offices. The data collected was supplemented by internet research, author calculations and inferences. This data is a collection from a variety of public sources and, as such, is for general information only. It is not intended for decision-making purposes, and therefore reliance placed on the information herein is strictly at the user's risk.

# ENERGY SECTOR SUMMARY

ENERGY

POLICY

ELECTRICITY

STUDY  
&  
WORK  
FORCE

TRANSPORT

CLIMATE  
CHANGE

Population  
(Projection)  
**2,961,167**  
[1]

National Repository  
for Energy Data  
**Energy Information System  
of Jamaica Ministry of  
Science, Energy  
and Technology**  
[15]

Energy Performance  
Standards/  
Appliance Labelling  
**Energy Efficiency Testing  
and Labelling Programme  
using the Jamaican  
Standards; JS178,  
JS179, JS1 Part 21.**  
(2011)  
[11]

Total Oil  
Export (BOE)  
per day  
**11,877**  
[9]

National  
Energy Policy  
**Jamaica's National  
Energy Policy  
2009-2030**  
[6]

Human  
Development  
Index  
**0.734**  
(2019)  
[4]

Energy  
Intensity  
(BTU/\$)  
**10,650**  
[10]

Renewable  
Energy (RE) Policy  
**Draft National Renewable  
Energy Policy 2009 – 2030:  
Creating a  
Sustainable Future**  
[7]

RE Target  
**20% by 2030**  
[6]

Debt as  
% of GDP  
**91.10%**  
[3]

Climate  
Change Policy  
**Climate Change  
Policy Framework  
for Jamaica**  
[12]

Energy Use  
(kWh)  
Per Capita  
**1,023**  
[11]

No. of Persons  
Employed in  
Energy Sector  
**Not Available**

Total Oil  
Import (BOE)  
per day  
**59,130**  
[9]

National  
Determined  
Contributions  
(NDC)  
**25.4% by 2030  
(unconditional)  
28.5% by 2030  
(unconditional)**  
[14]

Electricity  
System  
Losses (%)  
**27%**  
[11]

Total  
Installed  
RE (MW)  
**188.12**  
[10]

National  
Development  
Plan  
**Jamaica Vision  
2030**  
[4]

GDP (USD)  
Per Capita  
**4,664.50**  
[2]

Electric  
Vehicle Stock  
**15**  
[13]

Total  
Installed  
Conventional  
Capacity (MW)  
**911.86**



**CCREEE**

CARIBBEAN CENTRE FOR RENEWABLE  
ENERGY & ENERGY EFFICIENCY

ENERGY

POLICY

ELECTRICITY

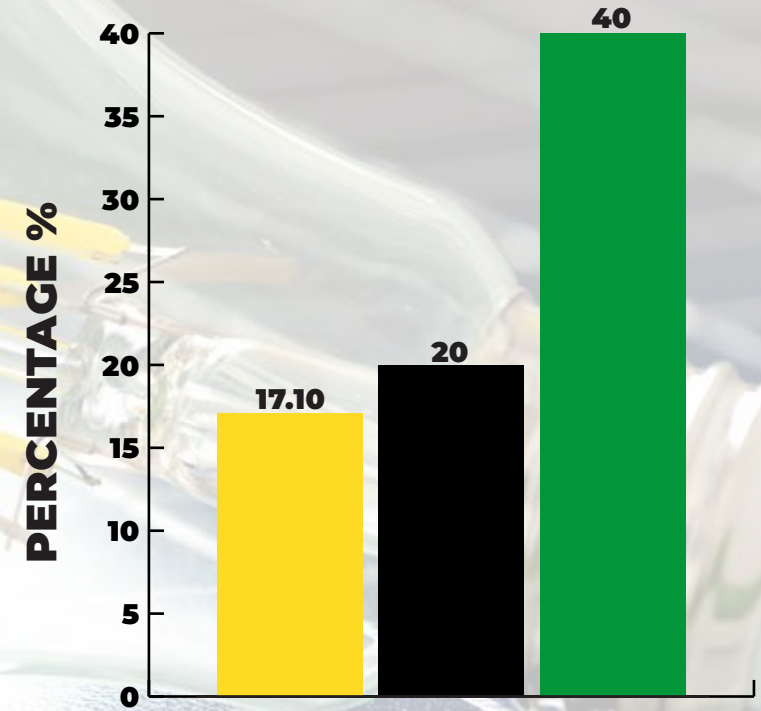
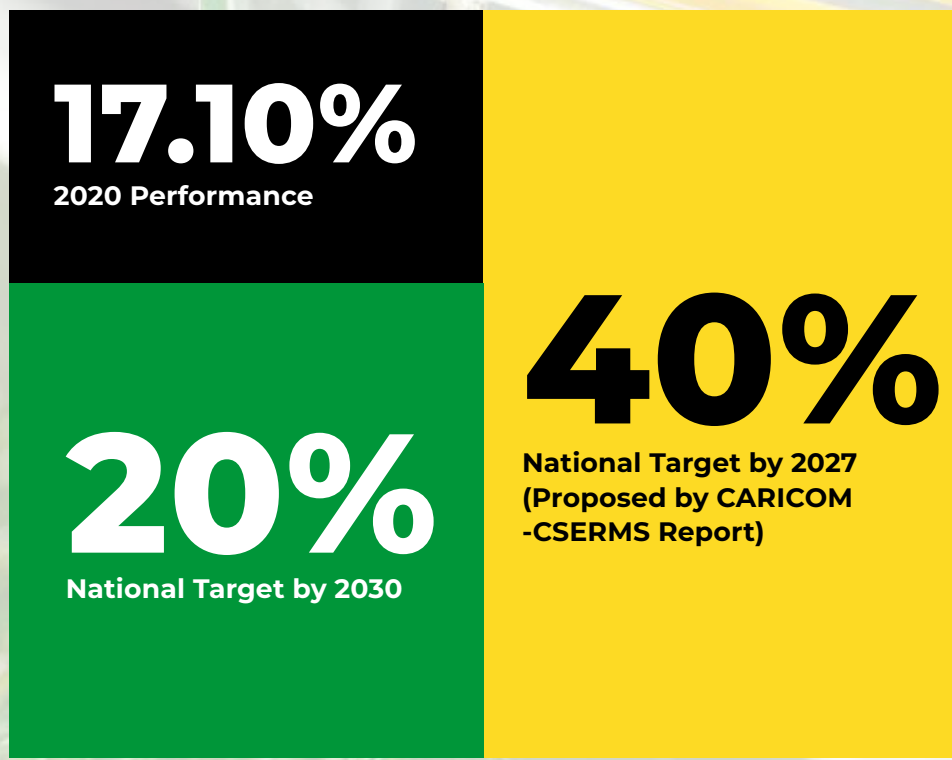
STUDY  
&  
WORK  
FORCE

TRANSPORT

CLIMATE  
CHANGE

# ENERGY SECTOR PERFORMANCE AGAINST TARGETS

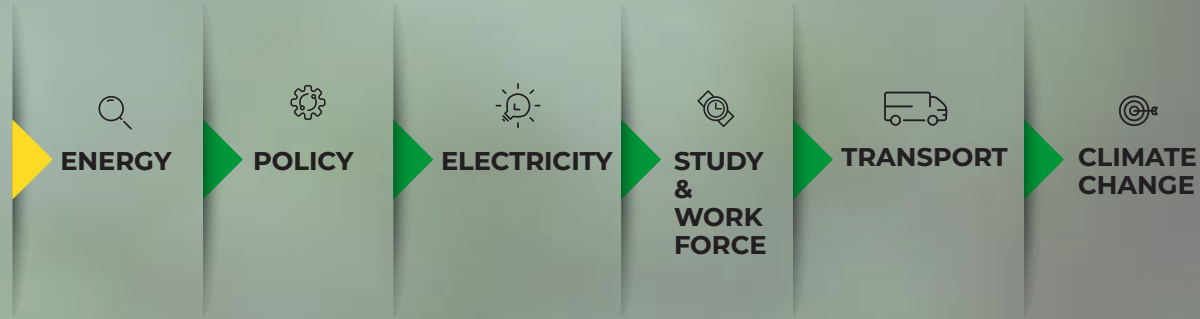
## RENEWABLE ENERGY PERFORMANCE AGAINST TARGETS



Installed Renewable Energy Capacity

■ 2020 Performance ■ National Target by 2030  
■ National Target by 2027 (Proposed by CARICOM -CSERMS Report)

# KEY ENERGY STAKEHOLDERS



## Government Ministries, Departments and Agencies

Ministry of Science Energy and Technology [16]  
 Petrojam Limited [17]  
 \*Petroleum Corporation of Jamaica  
 Climate Change Branch-Ministry of Housing, Urban Renewal, Environment and Climate Change [16]

## Fuel Suppliers

Rubis Energy Jamaica Limited [18]  
 Total Jamaica [19]  
 GB Energy / Texaco Jamaica [20]  
 Unipet [21]  
 IGL Blue (LPG)  
 Massy Gas Products (Jamaica) Ltd [22]  
 (New Fortress Energy)-  
 Cogeneration [23]

## Electric Utility

Jamaica Public Service Company (JPS Co.) [24]

## Independent Power Producer

South Jamaica Power Company [24]  
 Jamaica Energy Partners [25]  
 Jamaica Private Power Co.  
 Wigton Wind Farm [26]  
 JAMALCO [27]  
 BMR Jamaica Wind Ltd [28] WRB  
 Enterprises-Solar [29] EREC  
 Paradise Park  
 Solar Farm [30]

## Electricity Regulator

Office of Utilities Regulation [31]

## Transportation

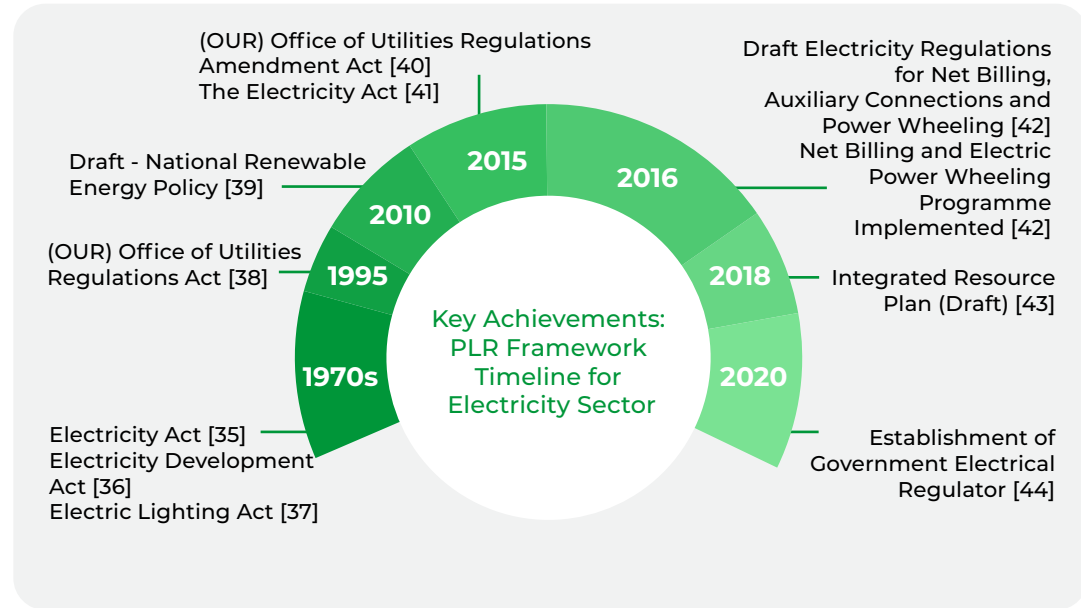
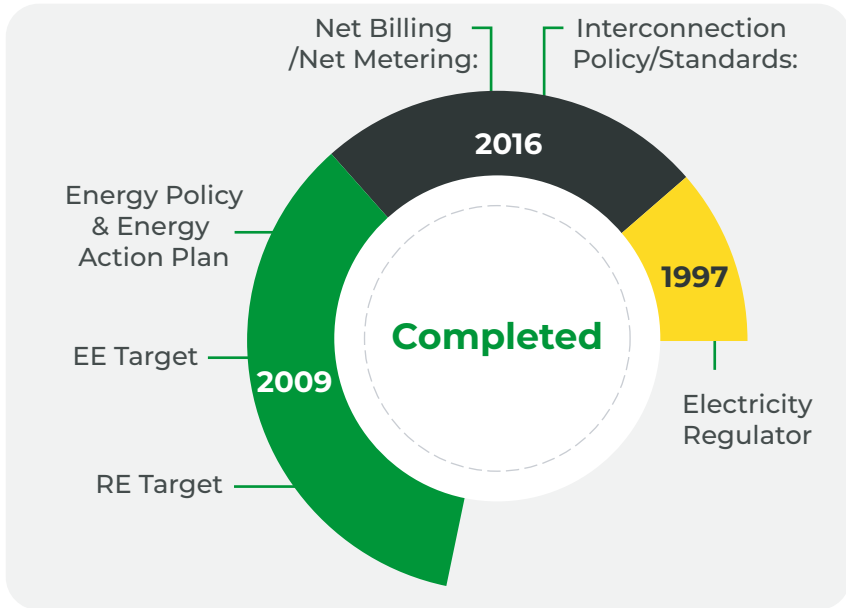
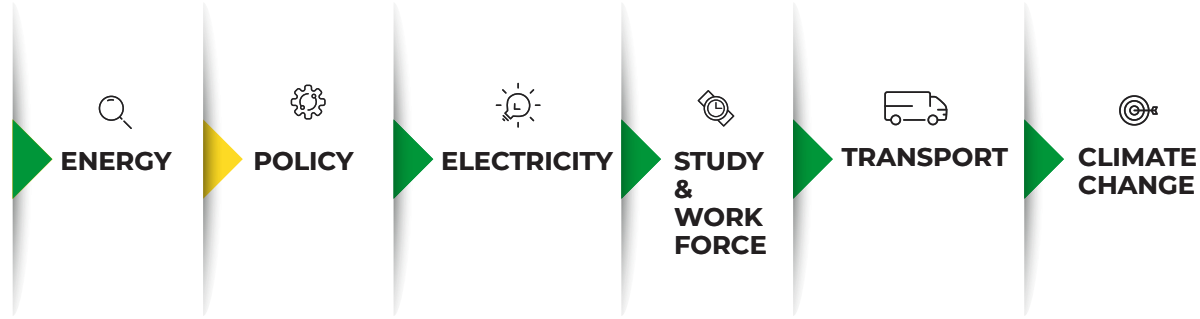
Transport Authority of Jamaica [32]  
 Ministry of Transport and Mining [33]

## Other

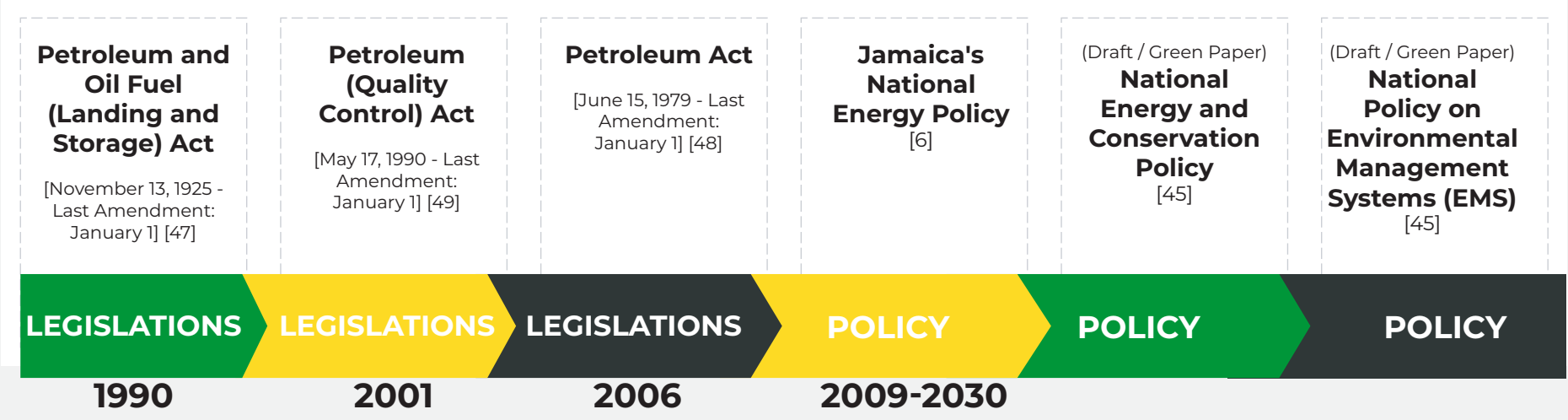
Government Electrical Inspectorate [34]

\*Petroleum Corporation of Jamaica was closed in 2020

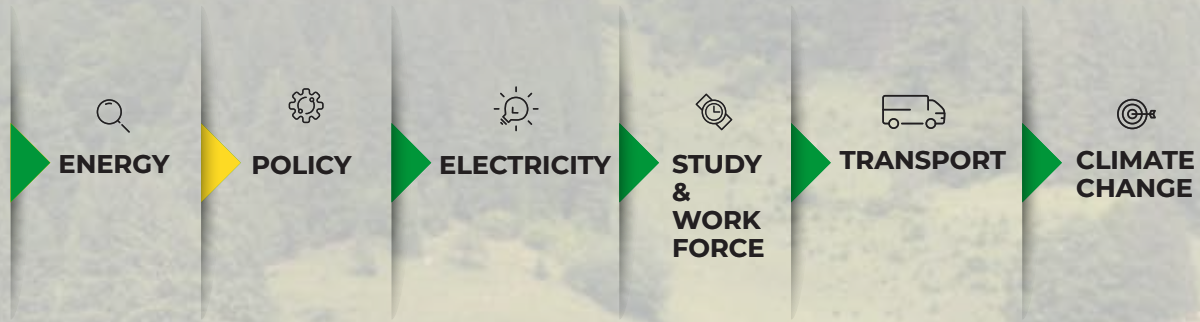
# POLICY, LEGAL AND REGULATORY (PLR) FRAMEWORK



## POLICIES AND LEGISLATION RELEVANT TO THE ENERGY SECTOR



# POLICY, LEGAL AND REGULATORY (PLR) FRAMEWORK



## POLICIES AND LEGISLATION RELEVANT TO THE TRANSPORTATION SECTOR

### LEGISLATION & REGULATION

**2007**  
POLICY

National Transport Policy (2007) [50]

**Legislations & Regulations**

Public Passenger Transport (Kingston Metropolitan Transport Region) Act [54]

**2005**  
**Legislations & Regulations**

The Road Traffic Act [April 1, 1938 - Last Amendment: January 1, 2005] [53]

**2001**  
POLICY

National Road Safety Policy (2001) [51]

**2014**  
**Legislations & Regulations**

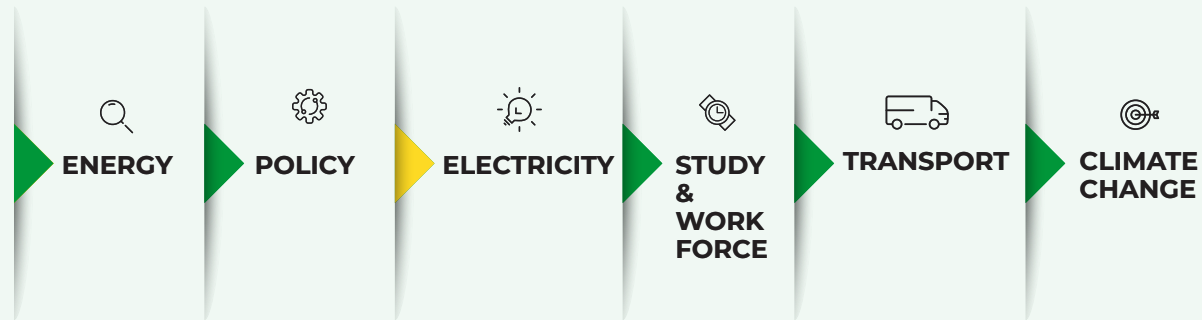
The Transport Authority Act (January 1, 1988 - Last Amendment: January 1, 2014) [52]

**Legislations & Regulations**

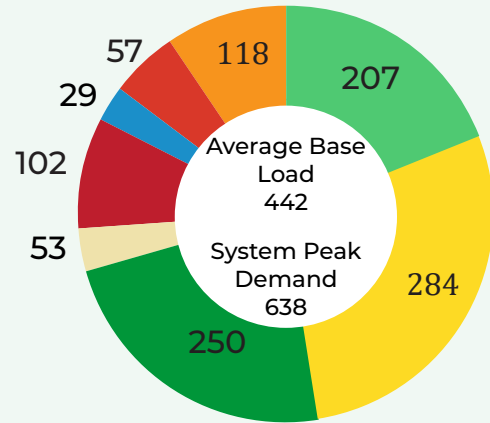
Public Passenger Transport (Rural Area) Act [55]

Legislations & Regulations

# ELECTRICITY & ENERGY EFFICIENCY

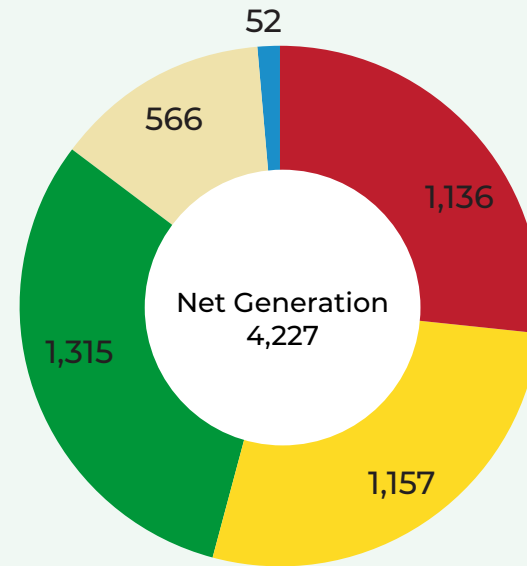


## INSTALLED CAPACITY (MW)



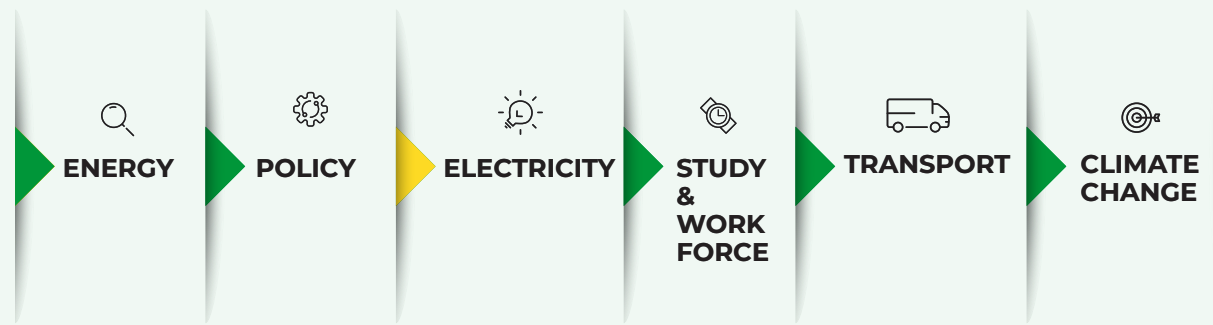
- Electric Utility Diesel
- IPP's LNG
- IPP's HFO
- Electric Utility HFO
- Wind
- Hydropower
- Electric Utility LNG
- Solar

## ENERGY CONSUMPTION (GWh)

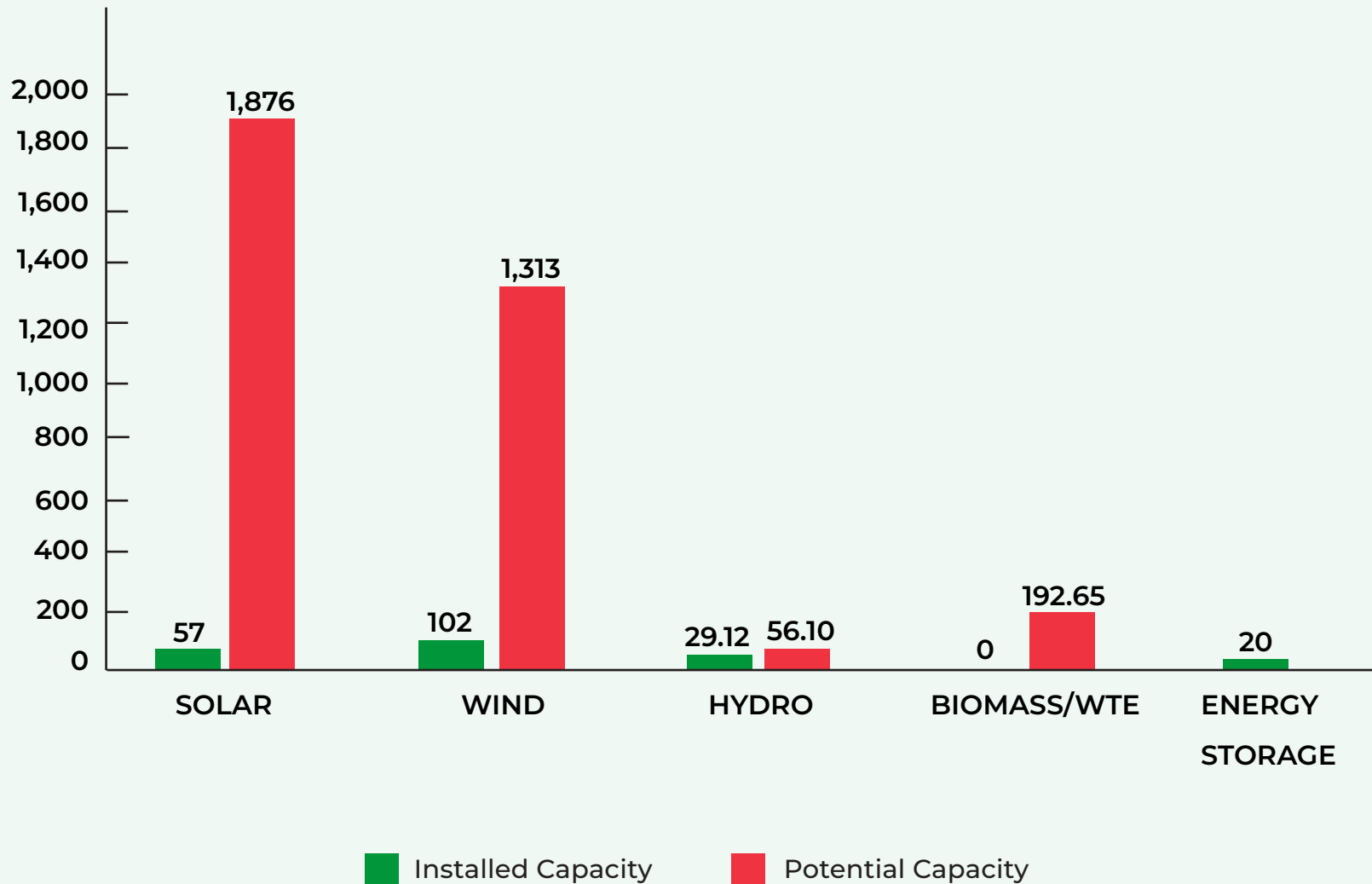


- Residential
- Commercial and Industrial (Small)
- Losses
- Commercial and Industrial (Large)
- Other

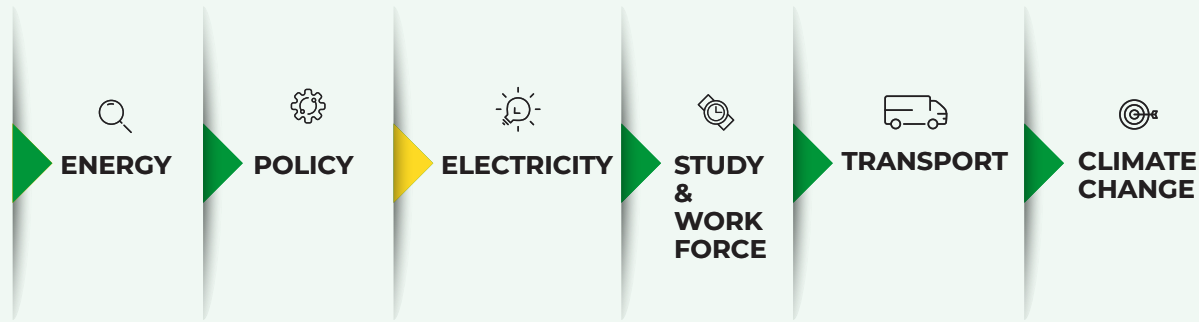
# ELECTRICITY & ENERGY EFFICIENCY



## RENEWABLE ENERGY RESOURCES (MW)



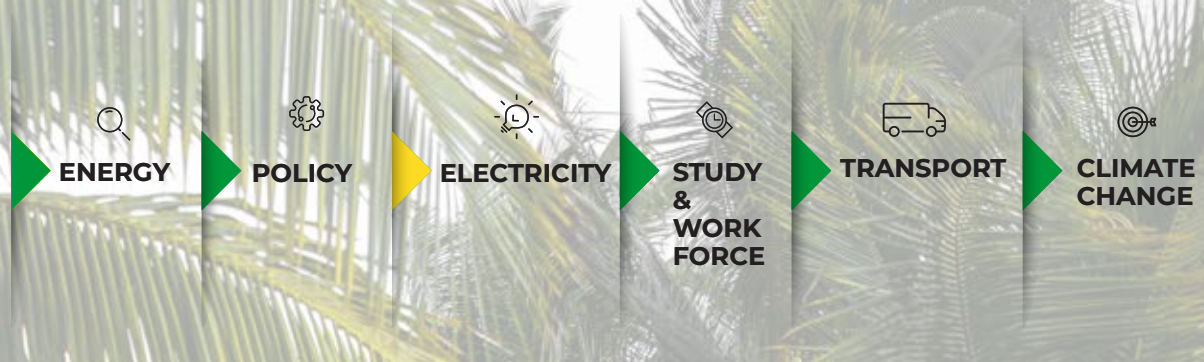
# ELECTRICITY & ENERGY EFFICIENCY



## ELECTRICITY TARIFFS

CLASS	MONTHLY CONSUMPTION / DEMAND (KWh)	MONTHLY CHARGE (US\$)	ENERGY CHARGE (US\$/KWh)	DEMAND / (US\$/KVA)			
				STD	OFF PEAK	PART PEAK	ON PEAK
RATE 10 LV (RESIDENTIAL)	<b>&lt;=100KW</b>	<b>3.32</b>	<b>0.07</b>				
RATE 10 LV (RESIDENTIAL)	<b>&gt;100KW</b>	<b>3.32</b>	<b>0.17</b>				
RATE 20 (SMALL COMMERCIAL)	<b>&lt;25KVA</b>	<b>7.39</b>	<b>0.14</b>				
RATE 40 LV - STD1 (LARGE COMMERCIAL)	<b>&lt;25KVA</b>	<b>52.08</b>	<b>0.04</b>	<b>13.34</b>			
RATE 40 LV - TOU2 (LARGE COMMERCIAL)	<b>&lt;25KVA</b>	<b>52.08</b>	<b>0.04</b>		<b>0.56</b>	<b>5.87</b>	<b>7.51</b>
RATE 50 MV - STD (SMALL INDUSTRIAL)	<b>≥25KVA</b>	<b>52.08</b>	<b>0.04</b>	<b>11.95</b>			
RATE 50 MV - TOU (SMALL INDUSTRIAL)	<b>≥25KVA</b>	<b>52.08</b>	<b>0.04</b>		<b>0.53</b>	<b>5.20</b>	<b>6.67</b>
RATE 70 MV - STD (LARGE INDUSTRIAL)	<b>&gt;2MVA</b>	<b>52.08</b>	<b>0.03</b>	<b>11.37</b>			
RATE 70 MV - TOU (LARGE INDUSTRIAL)	<b>&gt;2MVA</b>	<b>52.08</b>	<b>0.03</b>		<b>0.51</b>	<b>5.01</b>	<b>6.44</b>
RATE 60 LV (STREET LIGHTS)		<b>21.00</b>	<b>0.18</b>				

# PROJECTS IN THE PIPELINE

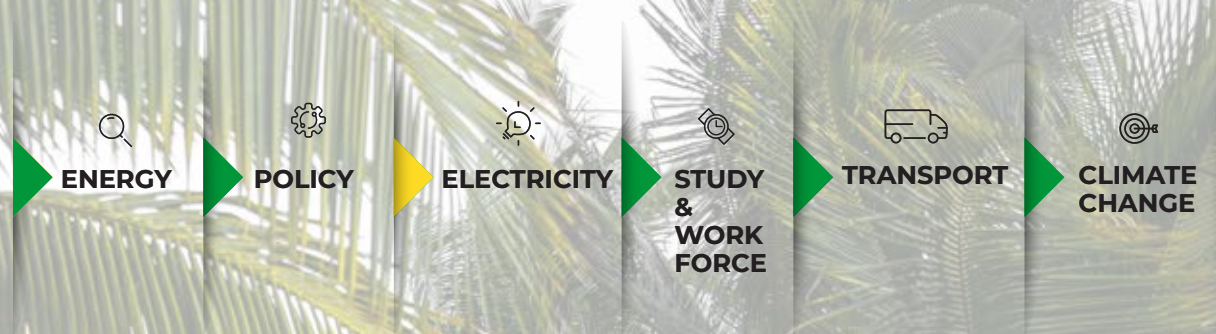


## TECHNICAL ASSISTANCE PROJECTS

DONOR FUNDING AND TECHNICAL ASSISTANCE LANDSCAPE	DONOR ORGANIZATION & BANKS	IMPLEMENTING AGENCIES	FUNDING AWARDS	YEAR
<b>ENERGY EFFICIENCY AND CONSERVATION PROGRAM</b>	INTER-AMERICAN DEVELOPMENT BANK	MINISTRY OF SCIENCE, ENERGY & TECHNOLOGY	20 MILLION USD	2019
<b>SUPPORTING SUSTAINABLE TRANSPORTATION THROUGH THE SHIFT TO ELECTRIC MOBILITY IN JAMAICA</b>	GLOBAL ENVIRONMENT FACILITY / UNITED NATIONS DEVELOPMENT PROGRAMME	MINISTRY OF ECONOMIC GROWTH & JOB CREATION; MINISTRY OF TRANSPORT, WORKS & MINING	1.80 MILLION USD	2019
<b>*JAMAICA ELECTRIC VEHICLE CLIMATE ACTION &amp; RESILIENCE PROGRAM</b>	INTER-AMERICAN DEVELOPMENT BANK	MINISTRY OF ECONOMIC GROWTH & JOB CREATION; MINISTRY OF TRANSPORT, WORKS & MINING	10 MILLION USD	2019
<b>MITIGATING THE IMPACTS OF CLIMATE CHANGE THROUGH THE ALBION HEIGHTS GREEN COMMUNITY PROJECT</b>	GLOBAL ENVIRONMENT FACILITY / UNITED NATIONS SMALL GRANTS PROGRAMME	JAMAICA CLIMATE CHANGE YOUTH COUNCIL; CARIBBEAN MARITIME UNIVERSITY	65 THOUSAND USD	2019
<b>JAMAICA'S ENERGY MANAGEMENT AND EFFICIENCY PROGRAMME</b>	JAPAN INTERNATIONAL COOPERATION AGENCY / INTER-AMERICAN DEVELOPMENT BANK	CARIBBEAN INVESTMENT FACILITY	36 MILLION EUROS	2017
<b>DEPLOYMENT OF RENEWABLE ENERGY AND EFFICIENCY IN THE PUBLIC SECTOR</b>	GLOBAL ENVIRONMENT FACILITY / UNITED NATIONS DEVELOPMENT PROGRAMME	PETROLEUM CORPORATION OF JAMAICA (PCJ), MINISTRY OF SCIENCE TECHNOLOGY, ENERGY	12 MILLION USD	2016

\*This was a project component under the Supporting Sustainable Transportation through the Shift to Electric Mobility in Jamaica

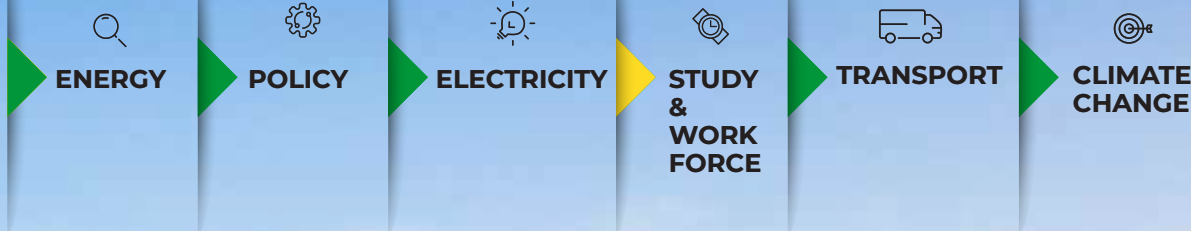
# PROJECTS IN THE PIPELINE



## ENERGY EFFICIENCY PROJECTS

ENERGY EFFICIENCY INITIATIVE	CONSUMPTION (KW) ASK IF ESTIMATED OR MEASURED	ENERGY EFFICIENCY LEGISLATION OR REGULATIONS	ENERGY SERVICE COMPANIES (YES/NO)	CHANGE IN OLD/EXISTING INFRASTRUCTURE EXPECTED IN UPCOMING CALENDAR YEAR (NUMBER/SIZE)
STREET LIGHTNING	NOT AVAILABLE	NO	YES	AS OF 26/01/2021, 80% OF THE ISLANDS' STREETLIGHTS ARE NOW LIGHT EMITTING DIODE (84,700 (LEDS)
	NOT AVAILABLE	NO	NO	INSTALLATION OF SOLAR POWERED STREETLAMPS AND SOLAR POWERED HOME SYSTEMS. INSTALLED RAINWATER HARVESTING SYSTEMS
PUBLIC BUILDINGS	NOT AVAILABLE	NO	YES	

# TERTIARY PROGRAMMES OFFERED



## THE UNIVERSITY OF THE WEST INDIES, MONA

### B.Sc.

#### ENERGY AND ENVIRONMENTAL PHYSICS

<https://www.mona.uwi.edu/physics/programmes/view/1817>

#### \*ELECTRICAL POWER ENGINEERING WITH RENEWABLE ENERGY SYSTEMS (CORE COURSE)

<https://www.mona.uwi.edu/engineering/courses/epng2020/renewable-energy-systems>

\*The Electrical Power Engineering programme includes Renewable Energy Systems as a core course

### M.Sc.

#### \*RENEWABLE ENERGY MANAGEMENT

<https://www.mona.uwi.edu/physics/programmes/view/1852>

\*The Renewable Energy Management is also offered as a Post Graduate Certificate Course.

## THE UNIVERSITY OF TECHNOLOGY, JAMAICA

### M.Sc.

#### RENEWABLE ENERGY ENGINEERING

<https://www.utech.edu.jm/academics/colleges-faculties/fenc/engineering/courses-of-study/mss-engineering>

#### SUSTAINABLE ENERGY AND CLIMATE CHANGE

<https://www.utech.edu.jm/academics/cseii/events/master-of-science-in-sustainable-energy-and-climate-change>

## HEART TRUST / (NTEI) NATIONAL TVET ENGINEERING INSTITUTE

### CERTIFICATE

#### RENEWABLE ENERGY, EFFICIENCY AND TECHNOLOGY

<https://tec.heart-nta.org/course/info.php?id=110>

## JAMAICA SOCIETY OF ENERGY EFFICIENCY ENGINEERS

### CERTIFICATE

#### ASSOCIATION OF ENERGY ENGINEERS (AEE) CERTIFIED PROFESSIONAL'S CERTIFICATIONS

<https://www.aeecenter.org/certifications>

## VECTOR TECHNOLOGY INSTITUTE

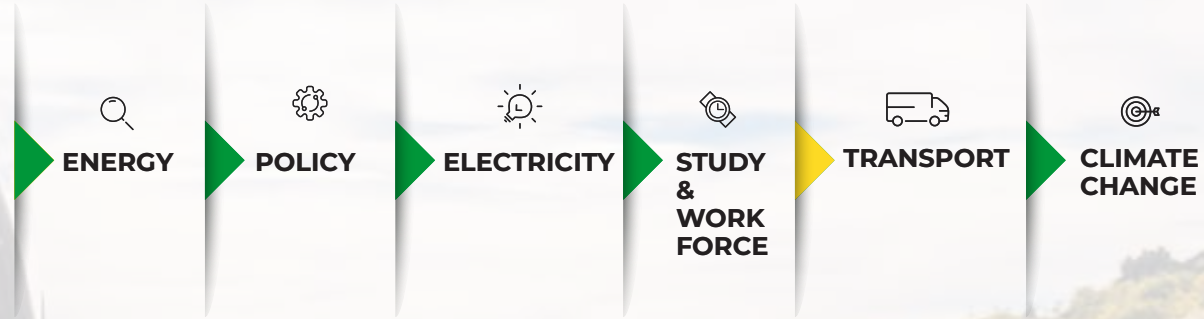
### CERTIFICATE

#### SOLAR PHOTOVOLTAIC INSTALLER TRAINING PROGRAMME

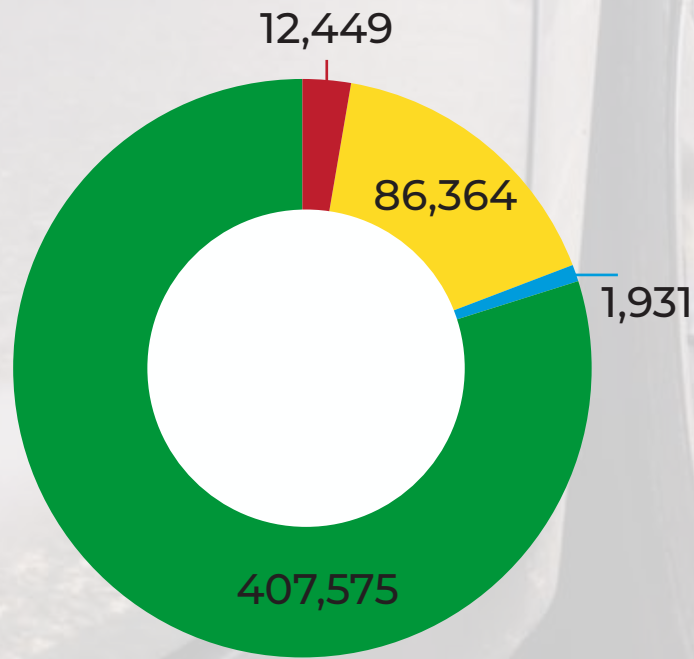
<https://www.vti.edu.jm/professional-certifications/photovoltaic-installer-level-1-and-2>

WORKFORCE - THE DISAGGREGATION OF THE 489 PERSONS IN THE WORKFORCE IN THE ENERGY SECTOR IN 2020 WAS NOT AVAILABLE.

# TRANSPORTATION SECTOR



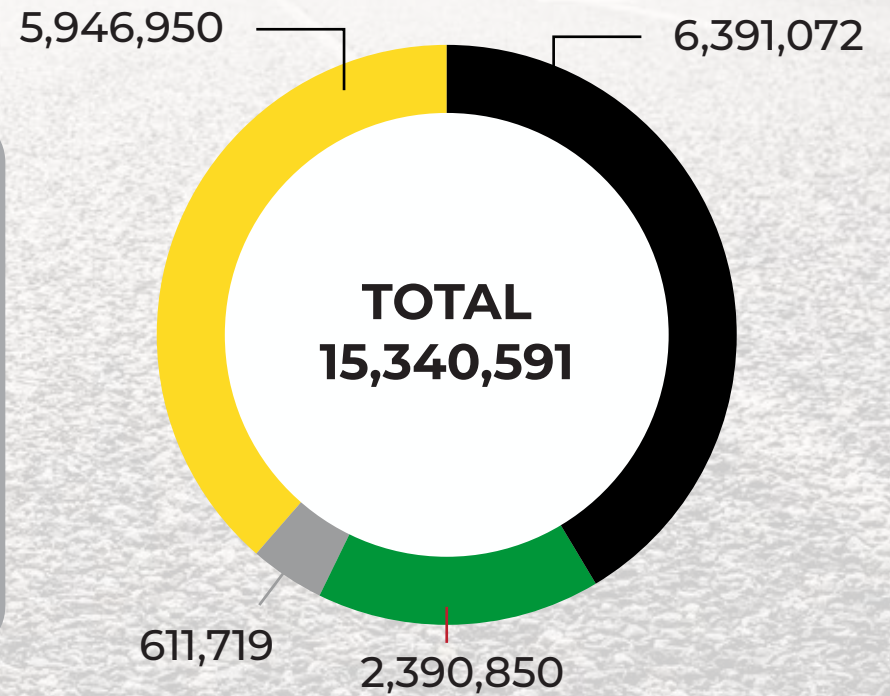
## Registered Vehicles



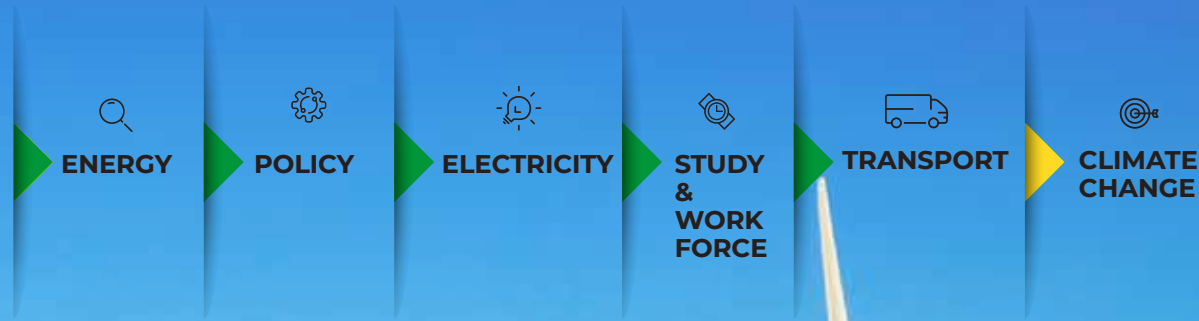
There are also:  
 406 Motor Tractors  
 14 Alternative Fuel Vehicle Stock (CNG+LPG)  
 15 Electric Vehicles



## Quantity (BOE)



# CLIMATE CHANGE FRAMEWORK



## CLIMATE CHANGE POLICY FRAMEWORK FOR JAMAICA (2015) [12]

### NATIONAL DETERMINED CONTRIBUTIONS / EMISSIONS REDUCTION TARGET:

**25.4% (unconditional) or  
28.5% (conditional on  
international support)**  
reduction in emissions by 2030  
relative to a business-as-usual  
scenario [56]

### PRIORITY SECTORS FOR NDCs

The Updated NDC includes the land-use and forestry sectors in energy considerations. Also speaks to agriculture and waste to energy. [57]

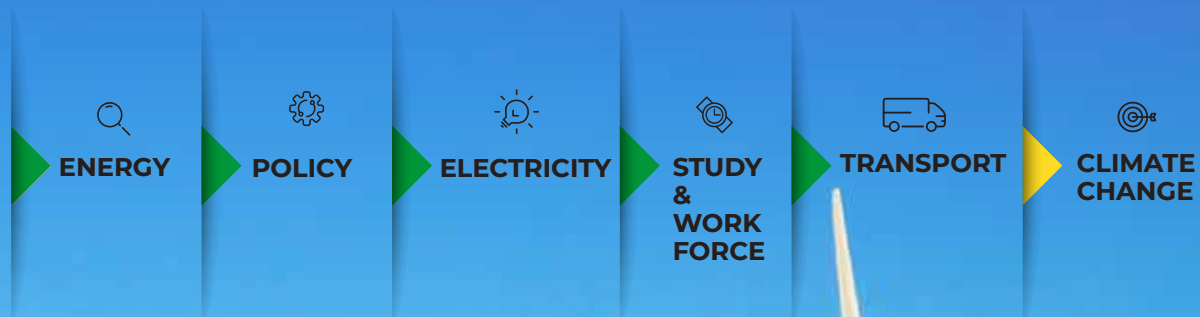
### NATIONAL COMMUNICATIONS (NC) TO THE UNFCCC :

Jamaica National Communication to the UNFCCC (1994) [58]

Second National Communication of Jamaica to the UNFCCC (2011) [59]

Third National Communication of Jamaica to the UNFCCC (2018) [60]

# CLIMATE CHANGE FRAMEWORK



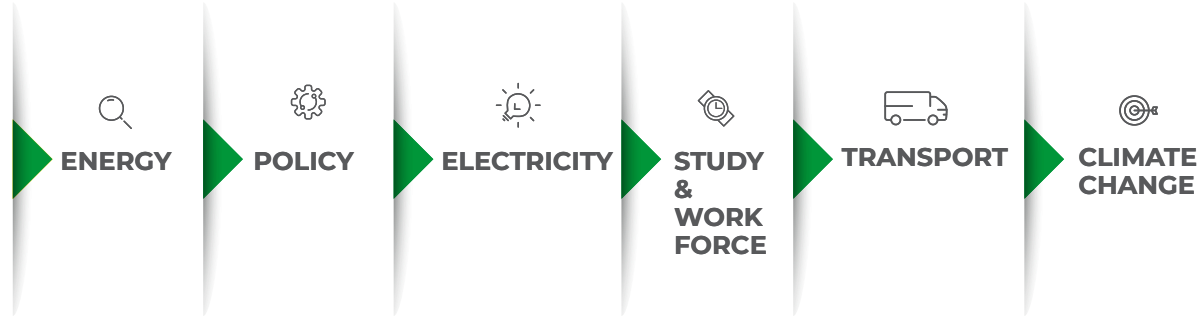
## SUMMARY OF JAMAICA'S GHG EMISSIONS AND REMOVALS (Gg)

### EMISSIONS (Gg CO<sub>2</sub> EQUIVALENT)

CATEGORIES	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	NOx	CO	NMVOCS
<b>ENERGY</b>	<b>6,829.01</b>	<b>1.46</b>	<b>0.25</b>	<b>31.86</b>	<b>69.95</b>	<b>9.73</b>
<b>MANUFACTURING INDUSTRIES &amp; CONSTRUCTION</b>	<b>1,502.57</b>	<b>0.15</b>	<b>0.03</b>	<b>10.17</b>	<b>9.48</b>	<b>1.50</b>
<b>ROAD TRANSPORTATION</b>	<b>1,910.67</b>	<b>0.52</b>	<b>0.18</b>	<b>15.48</b>	<b>47.16</b>	<b>6.74</b>
<b>AGRICULTURE / FORESTRY / FISHING</b>	<b>586.92</b>	<b>12.63</b>	<b>21.04</b>	<b>10.06</b>	<b>7.92</b>	<b>1.67</b>
<b>WASTE</b>	<b>-</b>	<b>26.27</b>	<b>0.15</b>	<b>0.31</b>	<b>5.30</b>	<b>-</b>

Gg represents giga grams\*

# REFERENCES



[1] World Population Review, “Jamaica Population 2021 (Live),” 2021. [Online]. Available: <https://worldpopulationreview.com/countries/jamaica-population>. [Accessed 1 July 2021].

[2] World Bank Group, “GDP per Capita (Current US\$) - Jamaica,” 2020. [Online]. Available: <https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=JM>. [Accessed 30 June 2021].

[3] Statistical Institute of Jamaica, “Annual GDP,” [Online]. Available: <https://statinja.gov.jm/NationalAccounting/Annual/>. [Accessed 3 August 2020].

[4] UNDP, “Human Development Report 2020 - The Next Frontier: Human Development and the Anthropocene,” 2020. [Online]. Available: [http://hdr.undp.org/sites/all/themes/hdr\\_theme/country-notes/JAM.pdf](http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/JAM.pdf). [Accessed 30 June 2021].

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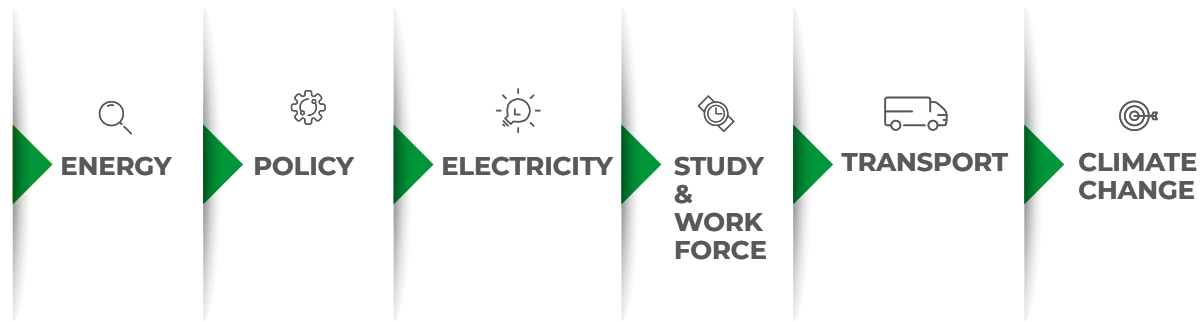
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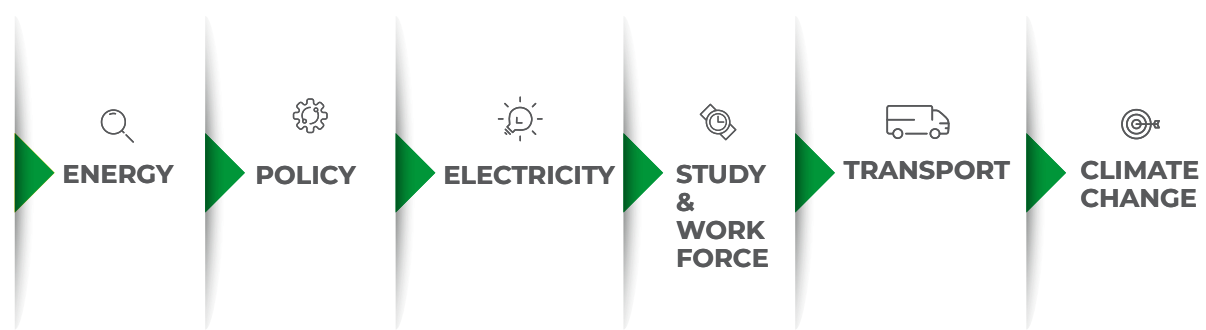
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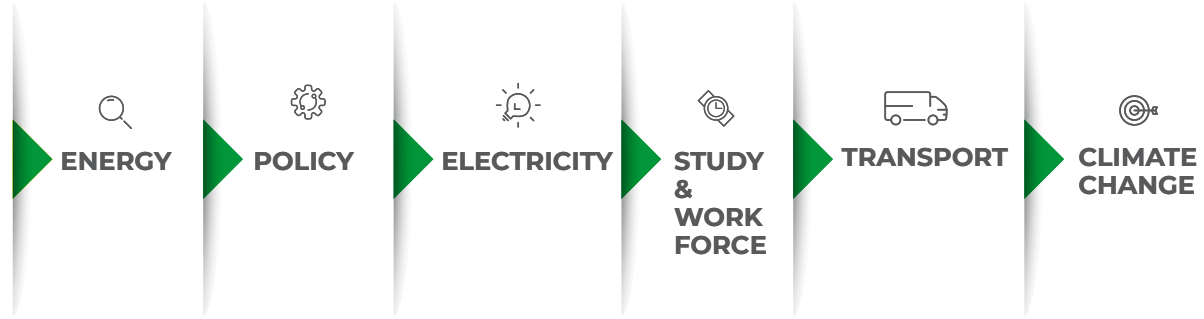


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