



BARBADOS

ENERGY REPORT CARD (ERC) FOR 2021







BARBADOS

INTRODUCTION

This document presents Barbados' Energy Report Card (ERC) for 2021.

The ERC provides an overview of the energy sector performance in Barbados. 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.

















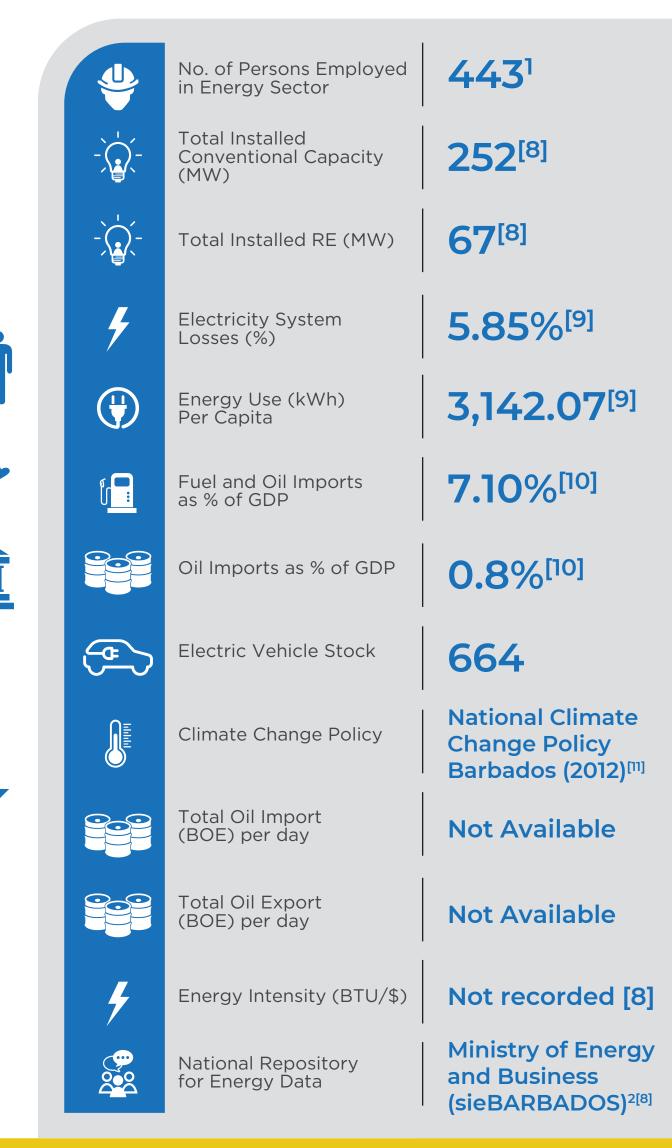






BARBADOS NATIONAL STRATEGIC PLAN 2006-2025^[5] National Development Plan/ Overall Country Development Strategy BARBADOS NATIONAL ENERGY POLICY (BNEP) 2019-2030^[6] National Energy Policy 136.30%^[3] Debt as % of GDP National Energy Policy None Renewable Energy (RE) Policy RE Target RE Target

ENERGY SECTOR SUMMARY

























ENERGY PERFORMANCE STANDARDS / APPLIANCE LABELLING [7]

ENERGY MANAGEMENT

ISO 12655: 2013 Energy performance of buildings
- Presentation of measured energy use of buildings

ISO 50001:2011 Energy management systems - Requirements with guidance for use

ISO 50002: 2014 Energy audits
- Requirements with guidance for use

ISO 50004: 2014 Energy management systems
– Guidance for the implementation, maintenance and improvement of an ISO 50001 energy management system

ISO 50015: 2014 Energy management systems
- Measurement and verification of energy performance of organisations - General principles of guidance

BNS IEC 60081: 2002-05 (+ Amendment 4.0: 2010-02)
Double-capped florescent lamps
- Performance Requirements

BNS IEC 60969: 2001-03 (Edition 1.2 + Performance Requirements Amendment 1 & 2) Self -ballasted lamps for general lighting services

SOLAR ENERGY

IEC 61215 Crystalline silicone terrestrial photovoltaic (PV)

- Design qualification and type approval IEC 61345 UV test for photovoltaic (PV) modules

IEC 61646 Thin-film terrestrial photovoltaic (PV) modules

IEC 61701 Salt mist corrosion testing of photovoltaic (PV) modules

IEC/TS 61836:2007-21 S Solar photovoltaic energy systems - Terms, definitions and Edition 2.0 symbols

IEC 61853-1 Photovoltaic modules (PV) performance testing and energy rating Part 1: Irradiance and temperature performance measurements and power rating

WIND ENERGY

IEC 61400-1 Wind turbines - Part 1 - Design requirements

IEC/TS 61400-2 Wind turbines - Part 2 - Design requirements for small wind turbines

IEC 61400-14 Wind turbines - Part 14 - Declaration of apparent sound power

NATIONAL DETERMINED CONTRIBUTIONS (NDC)

Total absolute emissions in the base year (2008) have been restated at 2,123Gg CO2e. The 2015 NDC inventory stated emissions at 1,816Gg CO2e.

The absolute emissions reductions resulting from this 2021 NDC update conditional contribution below the 2008 base year are 705Gg CO2e (2025) and 1,459Gg CO2e (2030) respectively.

Total economy wide BAU emissions projections are 1,881Gg CO2e (2025) and 1,958Gg CO2e (2030) respectively.^[12]





















Performance Against Targets















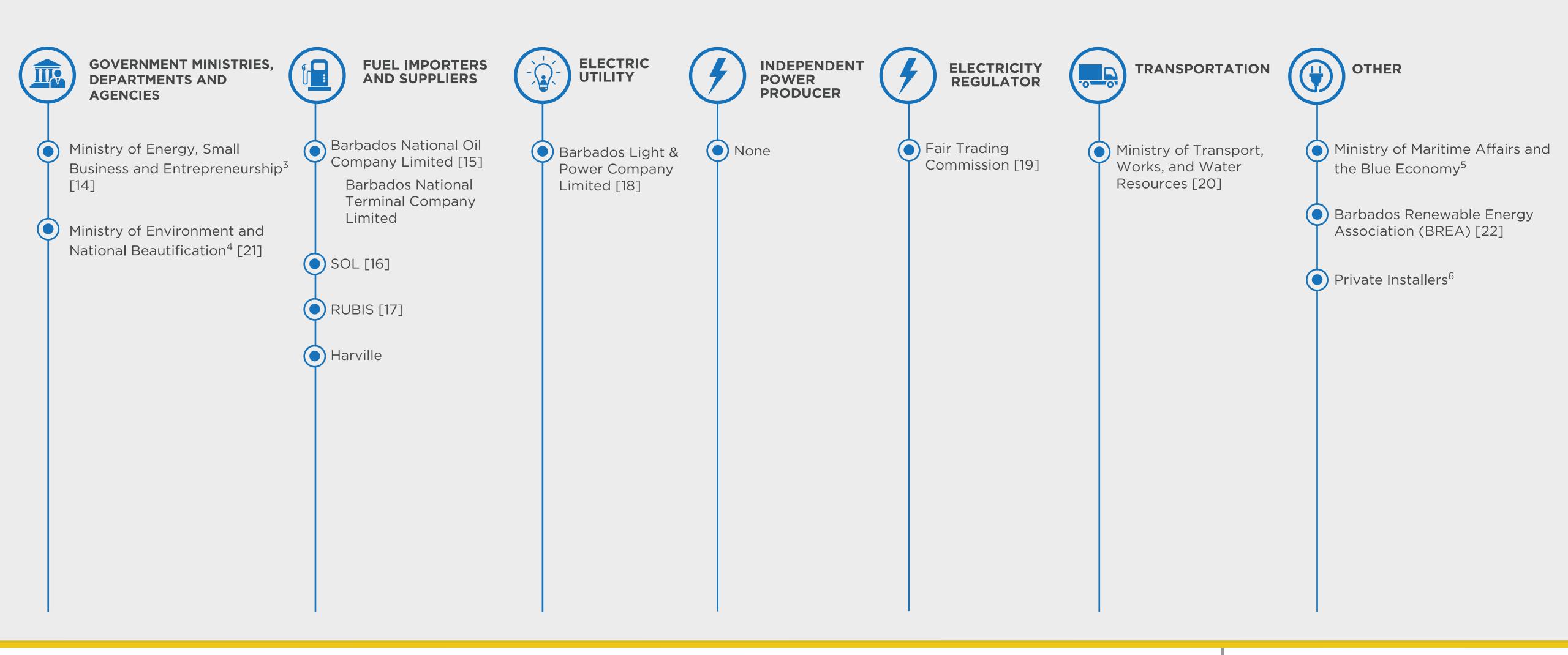








KEY ENERGY STAKEHOLDERS



















6. The Ministry of Energy and Business can be contacted for a full list of installers.

^{4.} Renamed the Ministry of Environment and National Beautification, Green and Blue Economy in 2022.

^{5.} This ministry was combined with the Ministry of the Environment and Beautification in 2022 to become the Ministry of Environment and National Beautification, Green and Blue Economy.





Energy Policy and Energy Action Plan^{[6][23]}

RE Target^[6]

EE Target^[6]

Feed-in-tariff^[6]

NOT ESTABLISHED
DRAFT IN PROGRESS
DRAFT
DRAFT UPDATE

COMPLETE

NOT ESTABLISHED
DRAFT IN PROGRESS

Electricity

Regulator^[24]

DRAFT UPDATE

COMPLETE 2002

Net Billing/ Net Metering

NOT ESTABLISHED
DRAFT IN PROGRESS
DRAFT
DRAFT UPDATE

COMPLETE 2010

Interconnection Policy/
Standards [25]

NOT ESTABLISHED
DRAFT IN PROGRESS
DRAFT
DRAFT UPDATE

COMPLETE 2017

RE/EE Act

NOT ESTABLISHED

DRAFT IN PROGRESS
DRAFT
DRAFT UPDATE
COMPLETE







2019







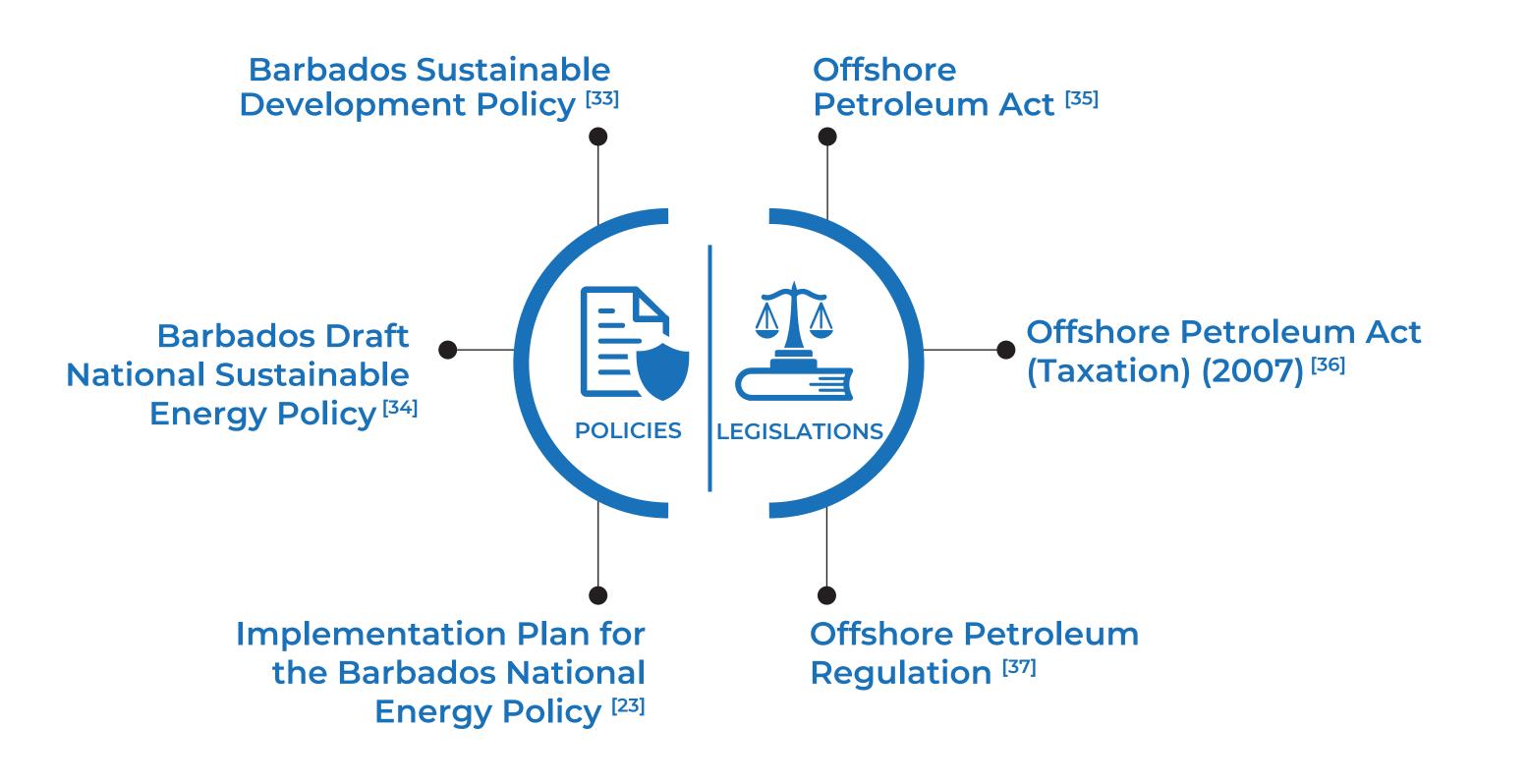








Policies and Legislation Relevant to the Energy Sector



KEY ACHIEVEMENTS

PLR Framework Timeline For Electricity Sector

1936	Electricity Act

2002 Fair Trading Commission Act [24]

2002 Utilities Regulation Act [26]

2010 The Sustainable Energy Framework for Barbados (SEFB)

2012 Integrated Resource Plan

2013 Electric Light & Power Act (ELPA)

2015 Electric Light and Power (Amendment) Bill 2015 [27]

2019 Electric Light and Power [28]

2019 Barbados National Energy Policy 2019 -2030 [6]

2019 Implementation Plan for the Barbados National Energy Policy (2019)

2019 Utilities (Amendment) Bill (2019) [29]

2020 Fair Trading Commission (Amendment) Bill [30]

2020 Utilities Regulation (Amendment) Bill [31]

The Integrated Resource & Resilience Plan for Barbados [32]





















POLICIES AND LEGISLATION RELEVANT TO THE TRANSPORTATION SECTOR





Transport Board Act [38]

Road Traffic Act (last Amendment in 2018) [39]















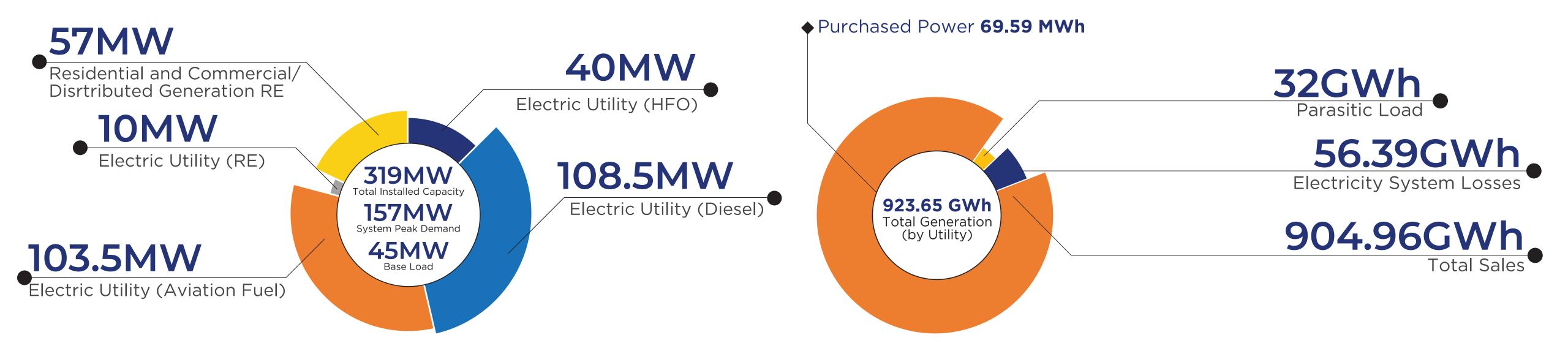






Installed Capacity (MW)

Energy Consumption (GWh)

















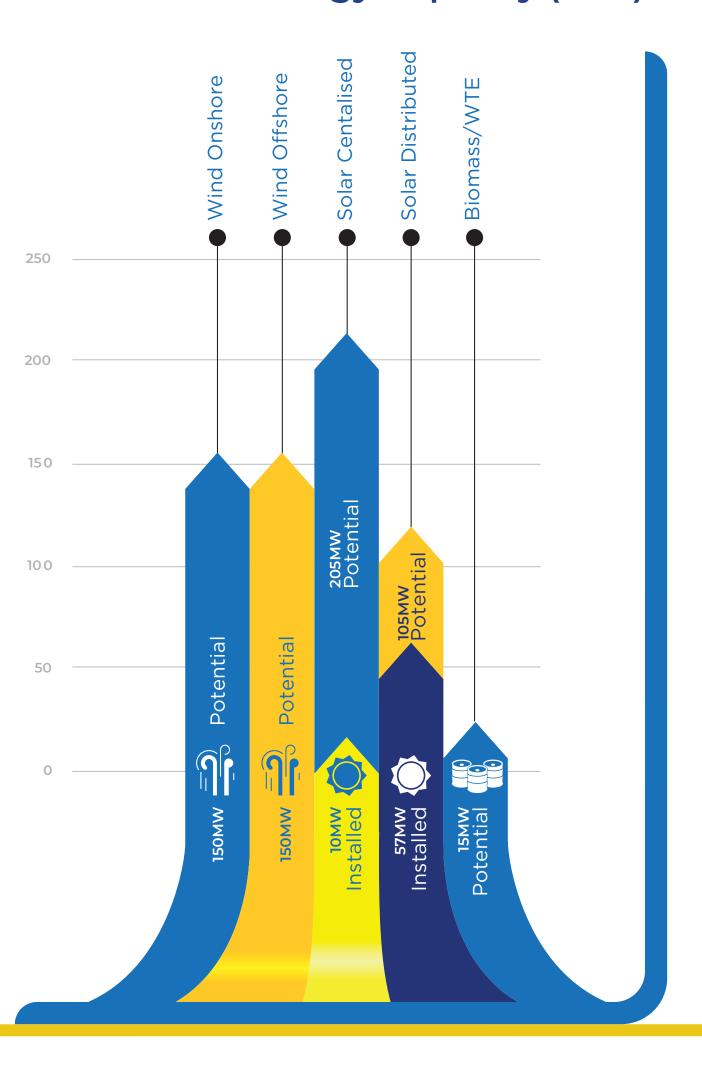








Renewable Energy Capacity (MW)























Electricity Tariffs^[10]

	RATE CLASS	CUSTOMER CHARGE (US\$/MONTH)	DEMAND CHARGE (US\$/KVA) (INCL. VAT)	BASE CHARGE (US\$/KWH) (INCL. VAT)	FUEL CHARGE (US\$/KWH) (INCL. VAT)
DOMESTIC TARIFF (US\$/KWH)	0-150kWh	3.52	Not Applicable	0.075	FCA x 1.175
	151-500kWh	5.87		O.1	FCA x 1.175
	500 - 1,500kWh	8.22		0.09	FCA x 1.175
	Over 1,500 kWh	8.22		O.11	FCA x 1.175
GENERAL SERVICE	0-100kWh	4.7	Not Applicable	O.11	
	101-500kWh	6.465		0.125	
	500 1,500kWh	8.225		0.15	
	0-100 kWh				
	Next 400 kWh, per kWh				
	Next 1,000 kWh, per kWh				
	Over 1,500 kWh	8.225		O.17	
	All kWh, per kWh.				FCA x 1.175
SECONDARY VOLTAGE POWER	Each Service	11.75	14.1	0.08	FCA x 1.176
LARGE POWER	Each Service	176.5	12.925	0.07	FCA x 1.177
STREETLIGHTS	Each 50 Watt HPS light	3.52			FCA x 1.178
	Each 70 Watt HPS light	3.565			
	Each 100 Watt HPS light	4.295			
	50 Watt HPS (25 kWh / month)		Not Applicable		25*FCA x 1.175
	70 Watt HPS (33 kWh / month)				33*FCA x 1.175
	100 Watt HPS (43 kWh / month)				43*FCA x 1.175















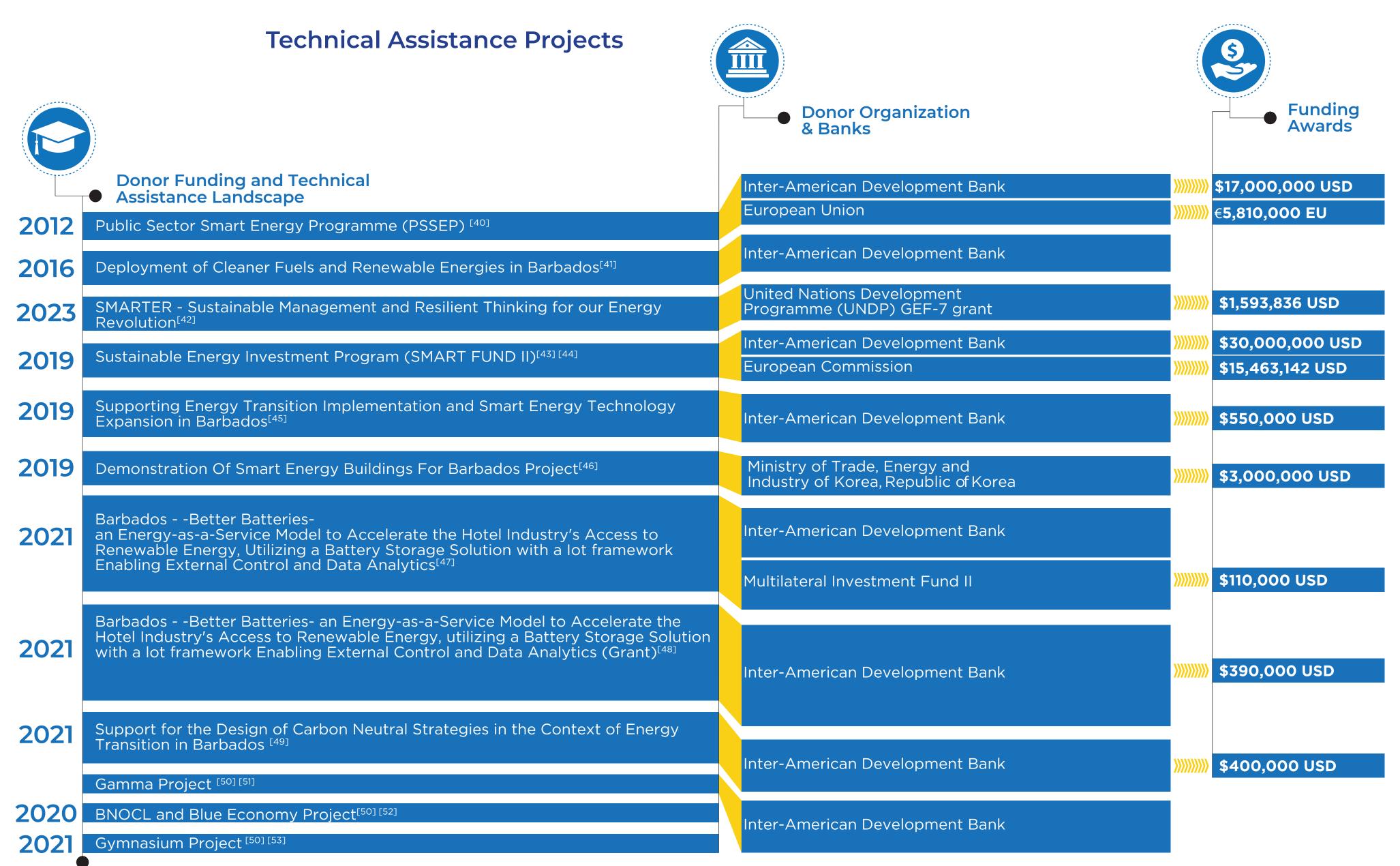


^{10.} A monthly fuel surcharge rate is applied to the final monthly bill for all rate classes and 16% VAT on all units consumed over 150 kWh for domestic customers while 16% VAT on all units for all other rate classes.

^{11.} te per month12. te per month



























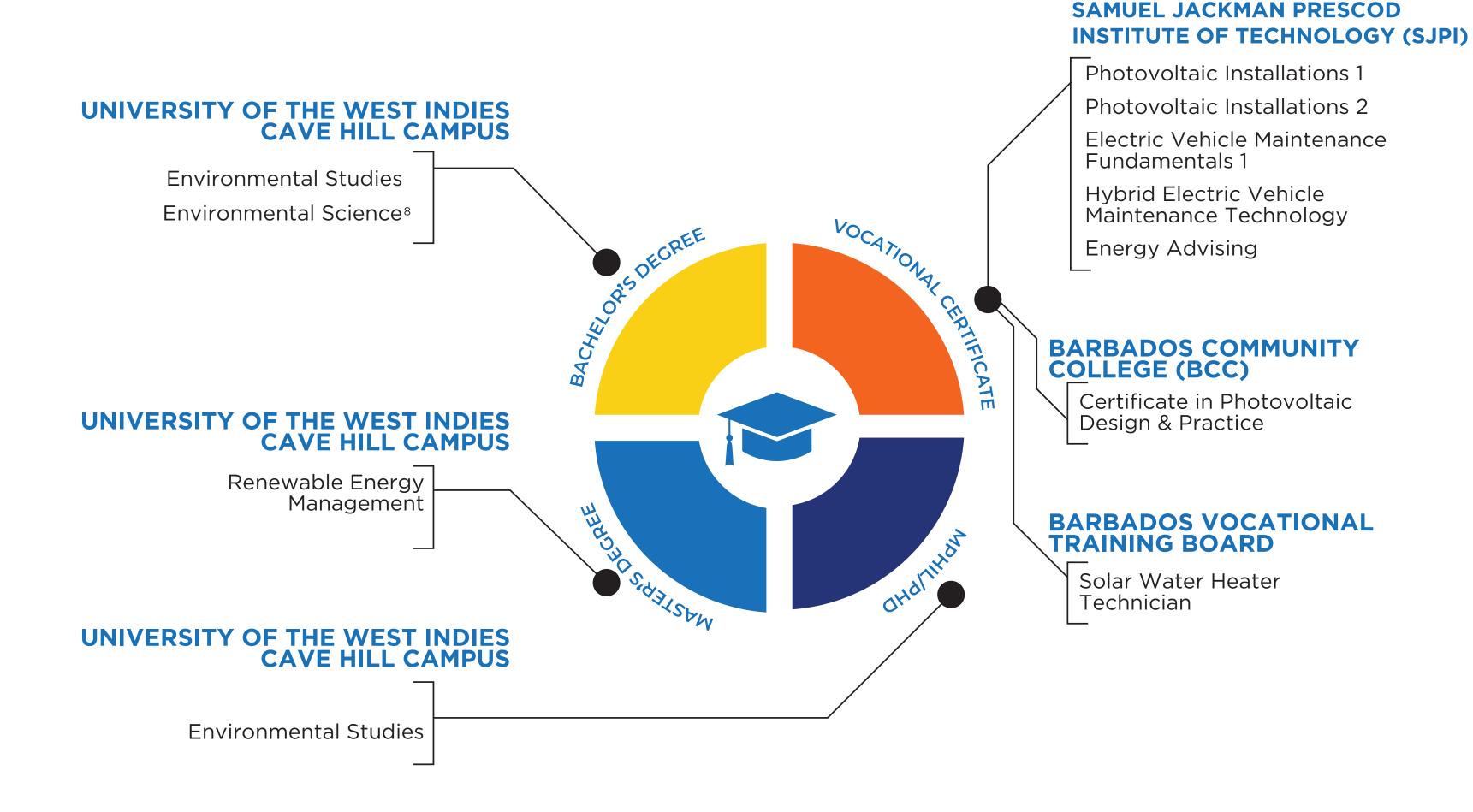


























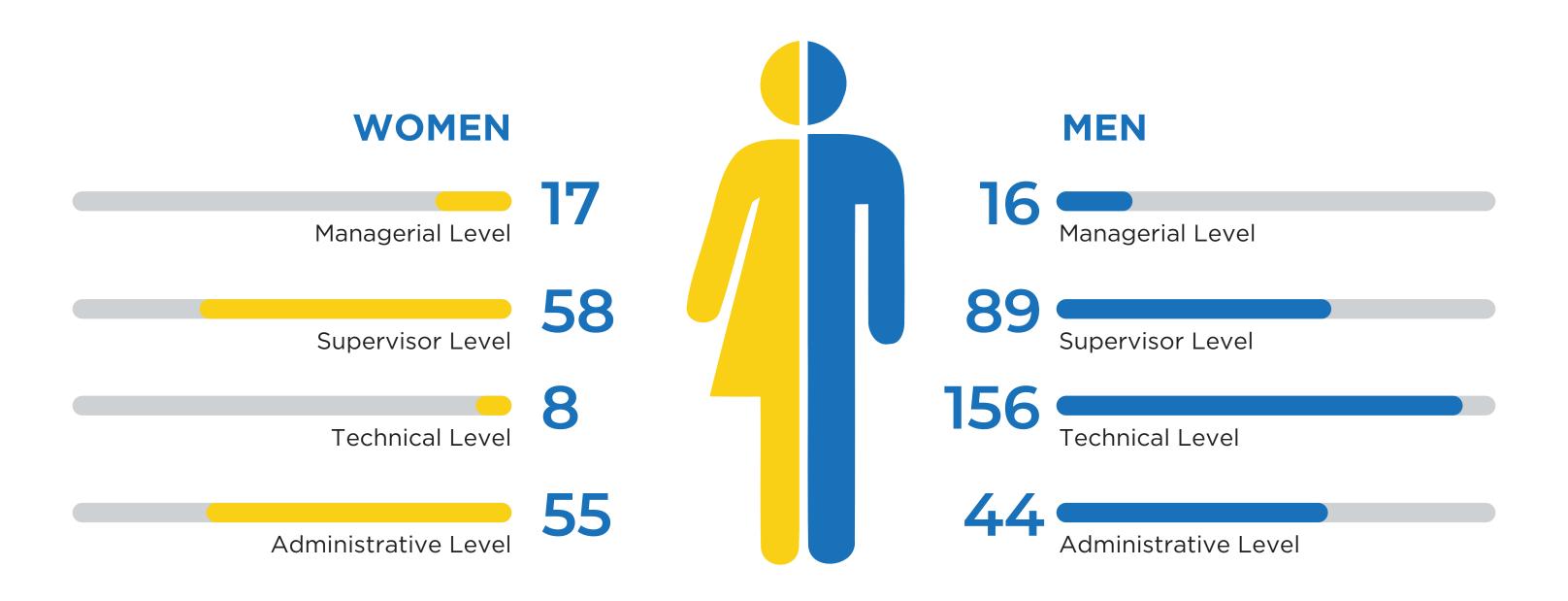








Persons Employed in the Energy Sector



























TRANSPORTATION SECTOR

Detailed data was not available on the transportation sector for Barbados. There are, however, 664 electric vehicles including 49 buses.





















CLIMATE CHANGE FRAMEWORK

Climate Change Policy

National Climate Change Policy (2012) [11]

National
Determined
Contributions [12]

Total absolute emissions in the base year (2008) have been restated at 2,123Gg CO2e. The 2015 NDC inventory stated emissions at 1,816Gg CO2e.

The absolute emissions reductions resulting from this 2021 NDC update conditional contribution below the 2008 base year are 705Gg CO2e (2025) and 1,459Gg CO2e (2030) respectively.

Total economy wide BAU emissions projections are 1,881Gg CO2e (2025) and 1,958Gg CO2e (2030) respectively.

Emissions Reduction Target [12] 2025

20% reduction relative to business-as-usual emissions in 2025 without international support (unconditional). 35% reduction relative to the business-as-usual emissions in 2025 conditional upon international support.

2030

35% reduction relative to business-as-usual emissions in 2030 without international support (unconditional). 70% reduction relative to business-as-usual emissions in 2030 conditional upon international support.

Priority
Sectors
for NDC [12]

Barbados' First National Communication Under the United Nations Framework Convention on Climate Change 2001 [54]

National
Communications
(NC) to the
UNFCCC

Barbados' Second National Communication Under the United Nations Framework Convention on Climate Change 2018 [55]





















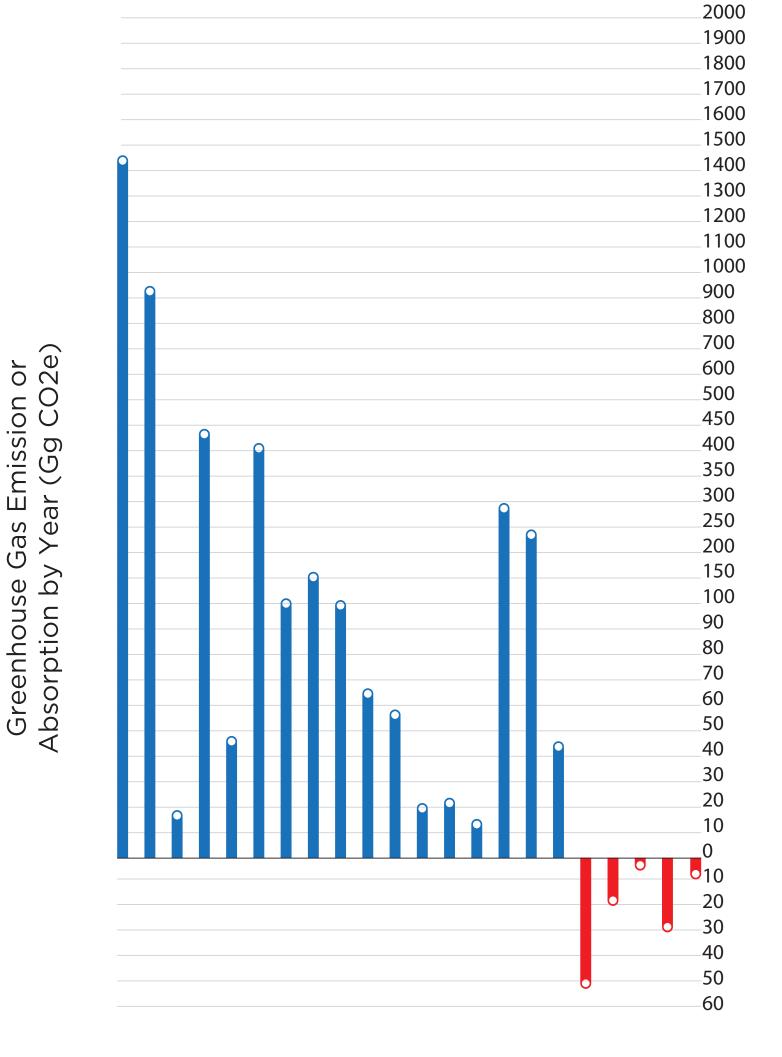
Gas

Greenhouse

GREENHOUSE GAS SOURCES AND SINKS BY SECTOR AND ACTIVITY FOR 2010 [55]

Greenhouse Gas Emission or

Absorption by Year (Gg CO2e)



Sectors and Activities

Total¹⁰ 1930 Energy (excluding Domestic Transport)¹¹ 1460 (1011) **Energy Industries** 941 19 Manufacturing Industries and Construction **Domestic Transport** 449 Commercial and Residential 48 International Aviation 410 103 International Shipping¹² Industrial Processes¹¹ 168 **Cement Production** 101 HFC and SF6 Consumption **67** Agriculture¹¹ **59 Enteric Fermentation** 21 Manure Management 23 15 Soils and Indirect Emissions 295 Waste11 Landfill 248 47 Wastewater LULUCF¹¹ -51 Changes in Forest and Other Woody Bio-stocks -18 Forest and Grassland Conversion -4 Abandonment of Managed Lands -29 CO2 Emissions and Removals from Soils -8











Austrian

Agency













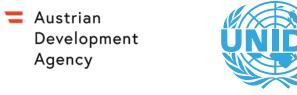
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