



2020 ENERGY REPORT CARD

ANTIGUA & BARBUDA



CCREEE

CARIBBEAN CENTRE FOR RENEWABLE
ENERGY & ENERGY EFFICIENCY

AN INSTITUTION OF

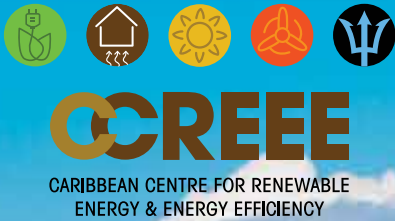


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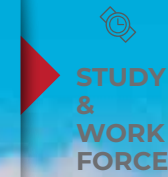
ENERGY



POLICY



ELECTRICITY



STUDY
&
WORK
FORCE



TRANSPORT



CLIMATE
CHANGE

2020- ENERGY REPORT CARD

INTRODUCTION

This document presents Antigua and Barbuda's Energy Report Card (ERC) for 2020. The ERC provides an overview of the energy sector performance in Antigua and Barbuda. 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 (Census/Projection)
97,928
(Estimate)
[1]

National Energy Policy
National Energy Policy
(2011)
[6]

National Development Plan
Medium-Term Development Strategy: 2016-2020
(2015)
[5]

RE Target
100% by 2030 - Electricity Sector
100% by 2040 - Transport Sector
[8]

GDP (USD) Per Capita
14,450
[2]

Human Development Index
0.78
(2019)
[4]

Climate Change Policy
Sustainable Energy Action Plan
(2013)
[7]

National Repository for Energy Data
None
[10]

Debt as % of GDP
103.09%
[3]

No. of Persons Employed in Energy Sector
Data not available

Total Oil Import (BOE) per day
16,798
[10]

Energy Performance Standards/ Appliance Labelling
CARICOM Energy Efficiency Labelling Standards
(to be adopted after pilot phase is complete)
[9]

Total Installed Conventional Capacity (MW)
78.25
[10]

Electricity System Losses (%)
10.30%
[10]

Energy Use (kWh) Per Capita
3143.13
[11]

Total Oil Export (BOE) per day
12,378
[10]

Renewable Energy (RE) Policy
Sustainable Energy Action Plan
(2013)
[7]

Electric Vehicle Stock
29
[13]

Energy Intensity (BTU/\$)
3688.90
(2015)
[12]

Total Installed RE (MW)
9.20
[10]

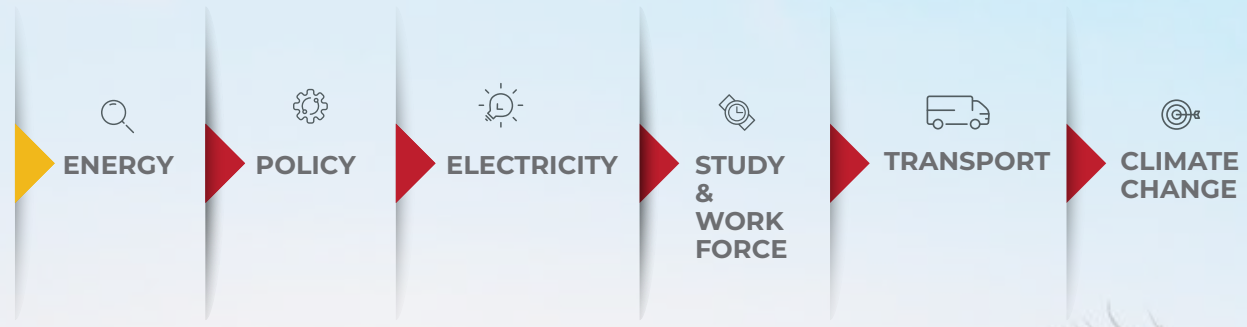
National Determined Contributions (NDC) [14]

Conditional Mitigation Targets

1. By 2020, establish efficiency standards for the importation of all vehicles and appliances.
2. By 2020, finalize the technical studies with the intention to construct and operationalize a waste to energy (WTE) plant by 2025.
3. By 2030, achieve an energy matrix with 50 MW of electricity from renewable sources both on and off-grid in the public and private sectors.
4. By 2030, all remaining wetlands and watershed areas with carbon sequestration potential are protected as carbon sinks.

Unconditional Targets

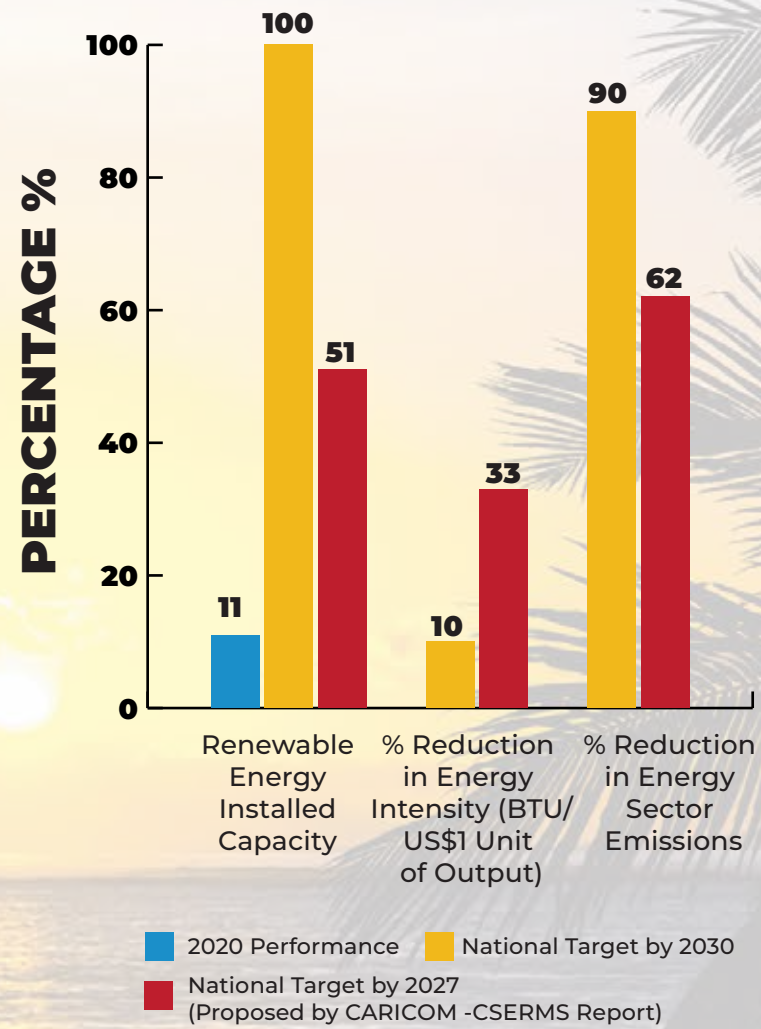
1. Enhance the established enabling legal, policy and institutional environment for a low carbon emission development pathway to achieve poverty reduction and sustainable development.
2. By 2020, update the Building Code to meet projected impacts of climate change.



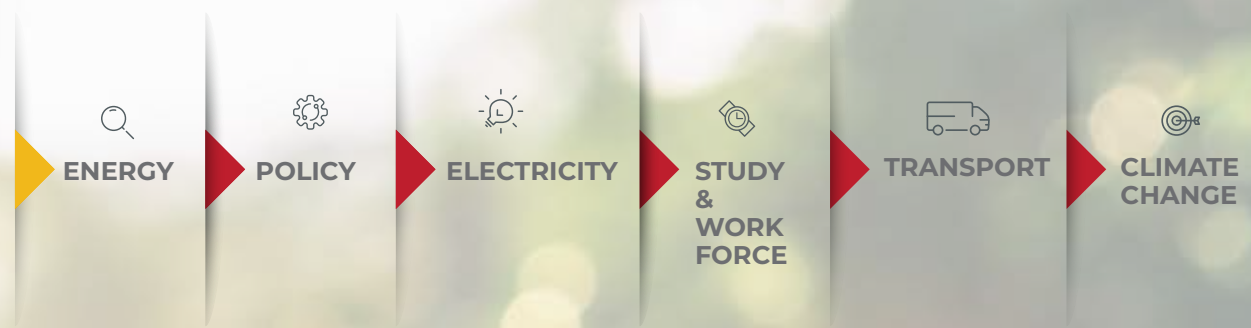
RENEWABLE ENERGY PERFORMANCE AGAINST TARGETS ^[2]

PERFORMANCE AGAINST TARGETS

<p>11% 2020 performance</p>	<p>Renewable Energy Installed Capacity</p>	<p>100% National Target by 2030</p> <p>Renewable Energy Installed Capacity</p>
<p>51% National Target by 2027</p> <p>Renewable Energy Installed Capacity</p>	<p>33% National Target by 2027</p> <p>% Reduction in Energy Intensity (BTU/ US\$1 Unit of Output)</p>	<p>10% National Target by 2030</p> <p>% Reduction in Energy Intensity (BTU/ US\$1 Unit of Output)</p>
<p>62% National Target by 2027</p> <p>% Reduction in Energy Sector Emissions</p>	<p>90% National Target by 2030</p> <p>% Reduction in Energy Sector Emissions</p>	



KEY ENERGY STAKEHOLDERS



Government Ministries, Departments and Agencies

Department of Environment (Ministry of Health, Wellness and the Environment) [15]
 Ministry of Public Utilities, Civil Aviation, Transport and Energy [16]
 Antigua Public Utilities Authority (APUA) [17]

Fuel Importers & Suppliers

West Indies Oil Company LTD [18]
 Rubis Caribbean [19]

Electric Utility

Antigua Public Utilities Authority (APUA) [17]

Independent Power Producer

Antigua Power Company (APC) [20]

Electricity Regulator

Antigua Public Utilities Authority (APUA) [17]

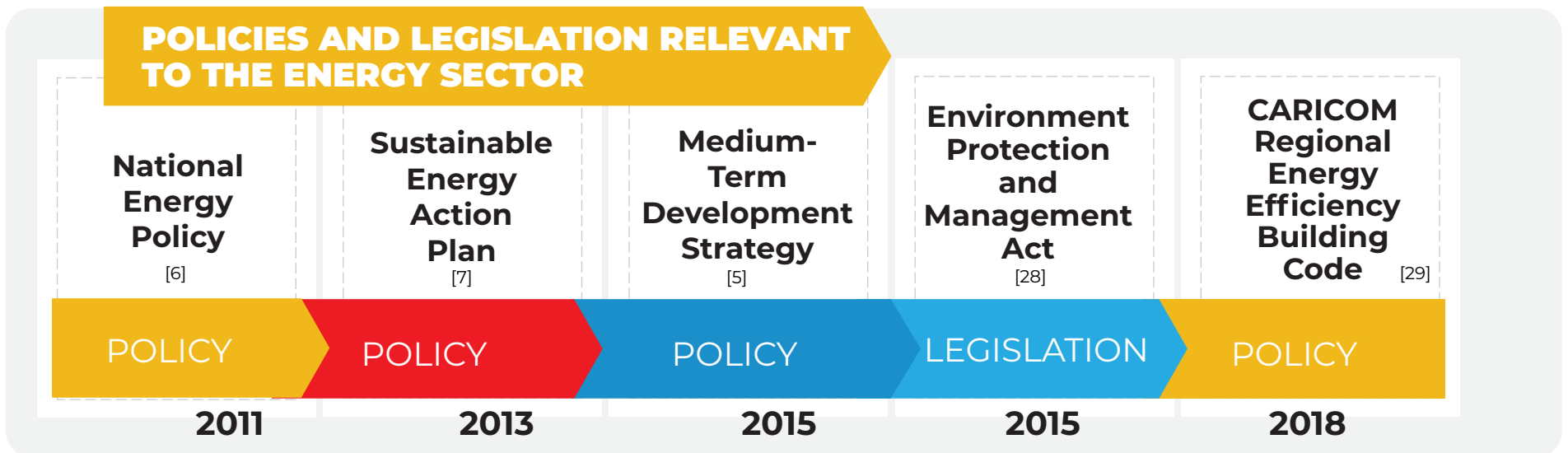
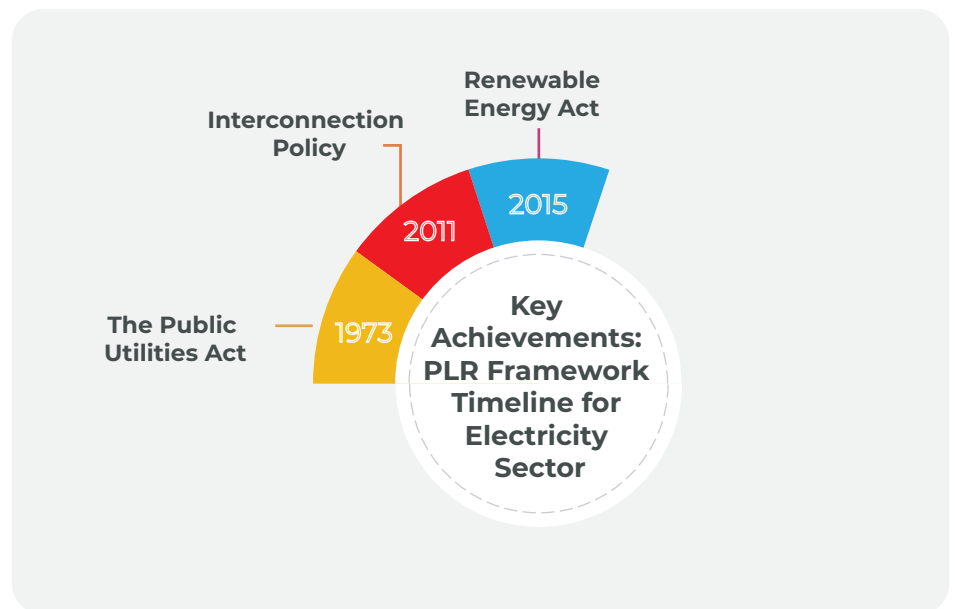
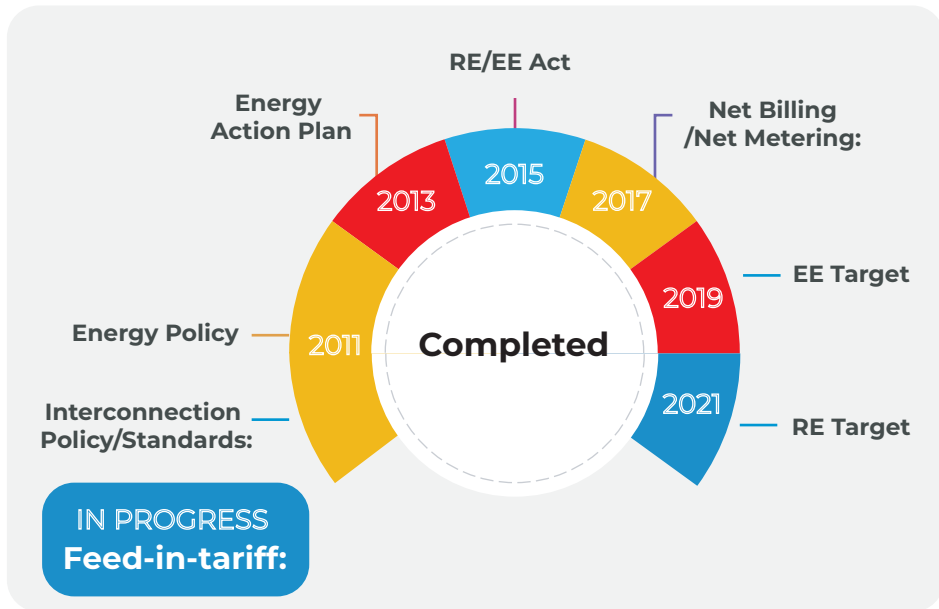
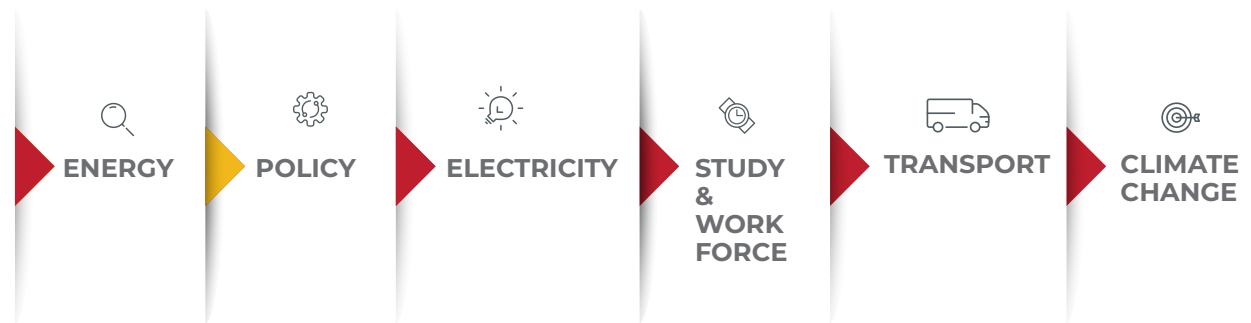
Transportation

Antigua and Barbuda Transport Board (ABTB) [21]

Other

Development Control Authority [22]
 Antigua and Barbuda Bureau of Standards [23]
 Ministry of Finance and Corporate Governance [24]

POLICY, LEGAL AND REGULATORY (PLR) FRAMEWORK



POLICY, LEGAL AND REGULATORY (PLR) FRAMEWORK

ENERGY

POLICY

ELECTRICITY

STUDY & WORK FORCE

TRANSPORT

CLIMATE CHANGE

POLICIES AND LEGISLATION RELEVANT TO THE TRANSPORTATION SECTOR

LEGISLATION & REGULATION

1931

Motor Vehicles (Customs Duty Exemption) Act ^[30]

1952

Motor Vehicles Insurance (Third-Party Risks) Act ^[32]

1963

The Petroleum Industry (Encouragement) Act ^[34]

2018

The Vehicles and Road Traffic (Amendment) Act ^[35]

1949

The Petroleum Act ^[31]

1962

Motor Vehicles (Control of Hire) Act ^[33]

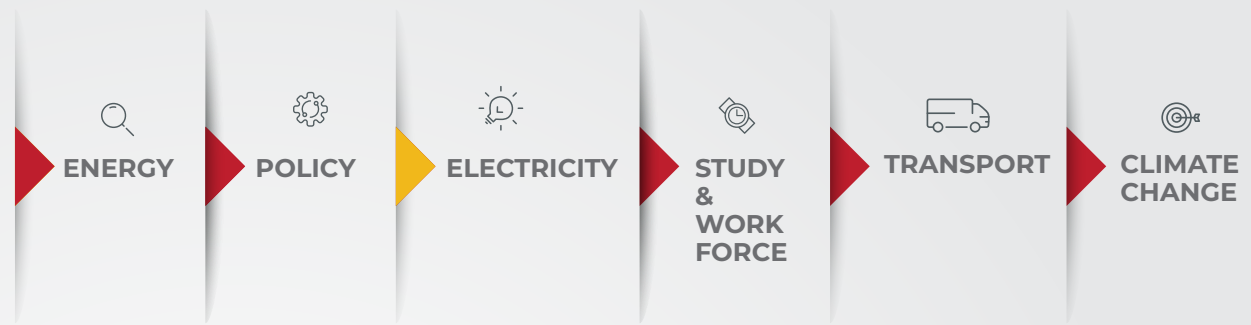
2015

Environment Protection and Management Act ^[29]

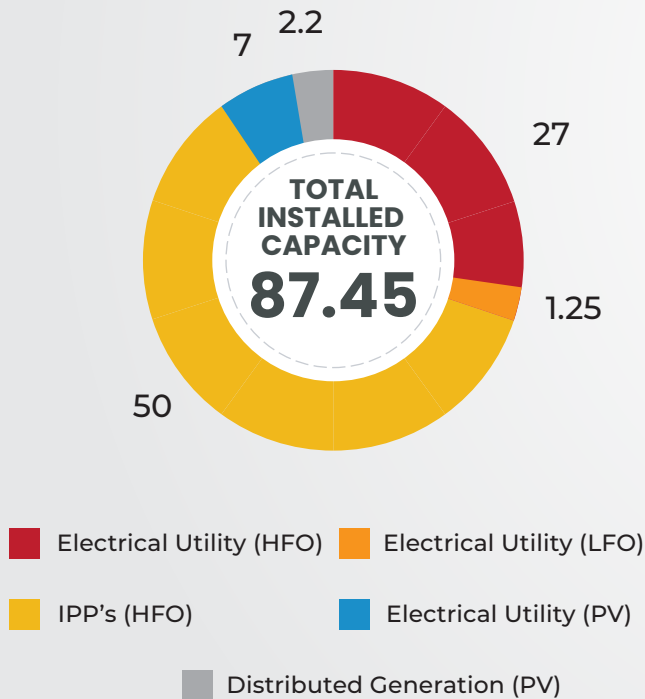
2020

The Transport Board Act (Amendment) ^[36]

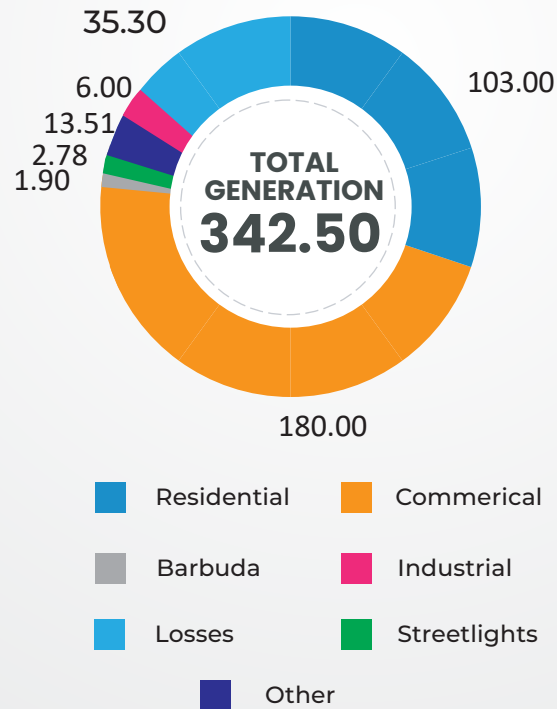
ELECTRICITY & ENERGY EFFICIENCY



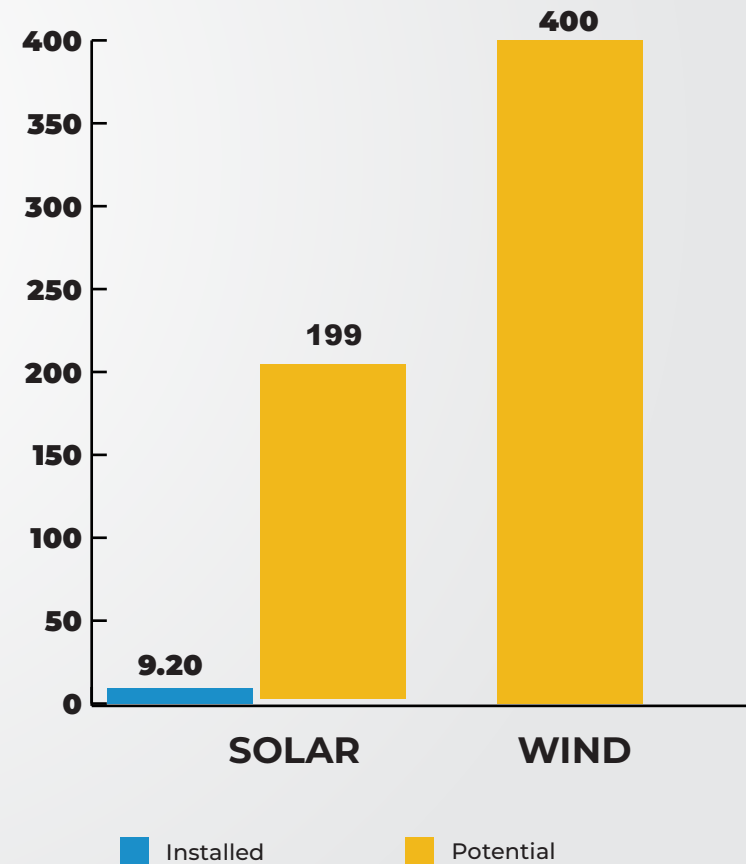
INSTALLED CAPACITY (MW)

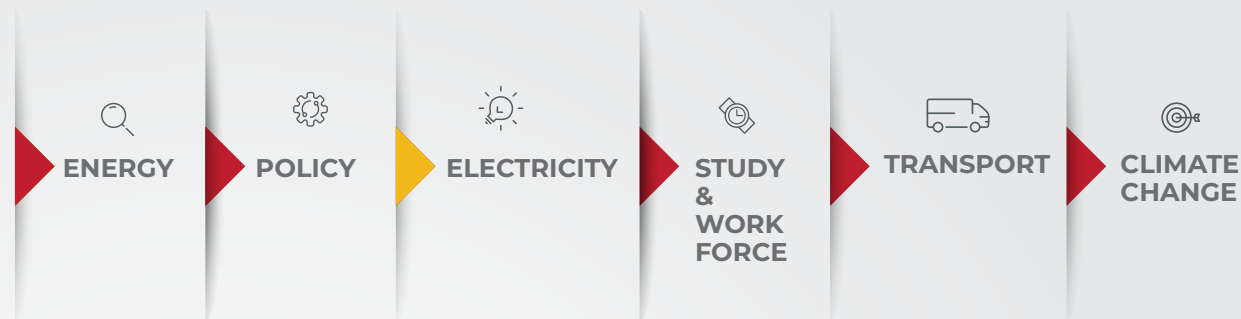


ELECTRICITY CONSUMPTION (GWH)



RENEWABLE ENERGY CAPACITY (MW)





ELECTRICITY TARIFFS ^[37]

RATE CLASS	MONTHLY CONSUMPTION / DEMAND (kWh)	MINIMUM CHARGE (US\$)	TARIFF / (US\$/kWh)	DEMAND / (US\$/kVA)
DOMESTIC TARIFF 'A' (D.T.A.) < 50	< 50	2.96	0.15	
DOMESTIC TARIFF 'B' (D.T.B.) ≥ 50	1 – 300	9.26	0.15	
	≥ 300	9.26	0.14	
COMMERCIAL & NON-DOMESTIC TARIFF (C.N.D.T.)	≥ 100	16.67	0.17	
	100 - 250	16.67	0.16	2.96
	≥ 250	16.67	0.14	2.96
INDUSTRIAL TARIFF (I.T.)	≥ 100	16.67	0.17	0.17
	100 – 250	16.67	0.15	0.15
	≥ 250	16.67	0.13	0.13
GENERAL PURPOSES TARIFF (G.P.T.) STREETLIGHTS AND TEMPORARY SUPPLY		5.56	0.17	

PROJECTS IN THE PIPELINE



TECHNICAL ASSISTANCE PROJECTS

DONOR FUNDING AND TECHNICAL ASSISTANCE LANDSCAPE	RE SPECIFIC TASK/GOALS	DONOR ORGANIZATION & BANKS	FUNDING AWARDS	YEAR
GRID-INTERACTIVE SOLAR PV SYSTEMS FOR SCHOOLS AND CLINICS (GISS)	SUPPLY AND INSTALLATION OF GRID-INTERACTIVE SOLAR PV SYSTEMS WITH BATTERY BACKUP ON NINETEEN (19) SCHOOL FACILITIES.	ITALIAN GOVERNMENT	\$825,000.00	2017
SUSTAINABLE PATHWAYS-PROTECTED AREAS AND RENEWABLE ENERGY (SPPARE)	INSTALLATION OF FIFTEEN 275KW WIND TURBINES		\$13,900,417.00	2015
	INSTALLATION OF 2322 SOLAR PV PANELS, EACH AT 300W AT THE MOUNT ST JOHN'S MEDICAL CENTRE		\$652,692.71	
	RENEWABLE ENERGY FOR THE LEED CERTIFIED INTERPRETATION CENTER	GLOBAL ENVIRONMENT FACILITY (GEF), INTERNATIONAL RENEWABLE ENERGY AGENCY (IRENA)/ABU DHABI DEVELOPMENT FUND(ADFD) FACILITY	\$60,000.00	2015
	RFP 1 - 9 CLINICS (CLARE HALL, GRAYS FARM , ALL SAINTS, BROWNES AVENUE, CEDAR GROVE, JOHNSON'S POINT, BETHESDA, JENNINGS, NEW FIELD), CLARE HALL PHARMACY, NODS, MINISTRY OF HEALTH		\$1,175,826.00	2015

PROJECTS IN THE PIPELINE



TECHNICAL ASSISTANCE PROJECTS

DONOR FUNDING AND TECHNICAL ASSISTANCE LANDSCAPE	RE SPECIFIC TASK/GOALS	DONOR ORGANIZATION & BANKS	FUNDING AWARDS	YEAR
CARIBBEAN DEVELOPMENT BANK PROJECT (CDB)	RFP 2 - 5 CLINICS (BENDALS, BOLANS, PARHAM, POTTERS-ISSUES NOTED WITH THIS SITE, SWEETES), GOOD SHEPHERD HOME, HOLBERTON HOSPICE, NYAHBINGHI SCHOOL, VICTORY CENTRE, HOLBERTON CHILDREN'S WARD CARE PROJECT/ CHILDREN'S WARD	CARIBBEAN DEVELOPMENT BANK: SUSTAINABLE ENERGY FACILITY (SEF), GLOBAL ENVIRONMENT FACILITY TRUST FUND; AND CLEAN TECHNOLOGY FUND,	\$1,078,000.00	2017
GISS PHASE 2 - ADAPTATION FUND (AF) REGIONAL SCHOOL PROJECT	SAFE LEARNING FACILITIES (INCLUDING STANDARDIZED SCHOOL SAFETY ASSESSMENT), SCHOOL DISASTER MANAGEMENT (INCLUDING MULTI-HAZARD SCHOOL SAFETY PLANS AND GUIDANCE DOCUMENTS) AND RISK REDUCTION AND RESILIENCE EDUCATION (INCLUDING CURRICULA AND TRAININGS ON DISASTER RISK MANAGEMENT)	ADAPTATION FUND RESILIENCE GRANT	\$9,735,000.00	2021

PROJECTS IN THE PIPELINE



TECHNICAL ASSISTANCE PROJECTS

DONOR FUNDING AND TECHNICAL ASSISTANCE LANDSCAPE	RE SPECIFIC TASK/GOALS	DONOR ORGANIZATION & BANKS	FUNDING AWARDS (USD)	YEAR
<p>ENERGY FOR SUSTAINABLE DEVELOPMENT IN THE CARIBBEAN (ESD PROJECT), (ANTIGUA AND BARBUDA). THIS IS A REGIONAL PROJECT TO INCLUDE ANTIGUA AND BARBUDA, BELIZE, GRENADA, ST, LUCIA, TRINIDAD AND TOBAGO AND 5CS.</p>	<p>TO REDUCE GREEN HOUSE GAS (GHG) EMISSIONS AT DEMO SITES THROUGH ENERGY EFFICIENCY (EE) MEASURES RENEWABLE ENERGY (RE) TECHNOLOGY.</p> <p>THE SITES ARE AS FOLLOWS:</p> <p>DEPARTMENT OF ENVIRONMENT, THE PRIME MINISTER'S OFFICE,</p> <p>THE ANTIGUA GRAMMAR SCHOOL,</p> <p>THE BOLANS CLINIC,</p> <p>ANTIGUA AND BARBUDA STANDARDS OFFICE.</p>	<p>GLOBAL ENVIRONMENT FUND (GEF)</p>	<p>\$4,859,000.00</p> <p>(ENTIRE PROJECT GRANT)</p>	<p>2014</p>
<p>AN INTEGRATED APPROACH TO PHYSICAL ADAPTATION AND COMMUNITY RESILIENCE IN THE ANTIGUA AND BARBUDA'S NORTHWEST MCKINNON'S WATERSHED</p>	<p>TO TRANSITION CHURCHES IN MCKINNON'S TO COMMUNITY SHELTERS. THESE SHELTERS WILL BE POWERED BY RE TECHNOLOGY. THE FIVE SELECTED CHURCHES ARE AS FOLLOWS: VILLA BAPTIST CHURCH, ST. FRANCIS OF ASSISI, ST ANDREW'S ANGLICAN CHURCH, CHURCH OF GOD OF PROPHECY, SPRING GARDEN MORAVIAN CHURCH</p>	<p>ADAPTATION FUND</p>	<p>\$1,500,000.00</p>	<p>2021</p>

PROJECTS IN THE PIPELINE



TECHNICAL ASSISTANCE PROJECTS

DONOR FUNDING AND TECHNICAL ASSISTANCE LANDSCAPE	RE SPECIFIC TASK/GOALS	DONOR ORGANIZATION & BANKS	FUNDING AWARDS	YEAR
INTEGRATED PHYSICAL ADAPTATION AND COMMUNITY RESILIENCE THROUGH AN ENHANCED DIRECT ACCESS PILOT IN THE PUBLIC, PRIVATE, CIVIL SOCIETY SECTORS OF THREE EASTERN CARIBBEAN SMALL ISLAND DEVELOPING STATES	COMPONENT 3: TO TRANSITION FOUR - FIVE CHURCHES IN THE CASHEW HILL WATERSHED TO COMMUNITY SHELTERS. THESE SHELTERS WILL BE POWERED BY RE TECHNOLOGIES.	GREEN CLIMATE FUND (GCF)	\$900,000.00	2018
ENERGY AUDIT OF GOVERNMENT BUILDINGS	ENERGY AUDITS CONDUCTED ON FINANCE/LEGAL AFFAIRS, MIN OF EDUCATION/TOURISM, HIGH COURT, PARLIAMENT, MIN OF FOREIGN AFFAIRS/PM OFFICE, DEPT. OF YOUTH AFFAIRS, THE HOSPITAL, THE NEW TERMINAL AT THE AIRPORT.	ENERGY DIVISION		2020
GREEN CLIMATE FUND (GCF) BUILD	RESILIENCE TO HURRICANES IN THE BUILDING SECTOR IN ANTIGUA AND BARBUDA. INSTALL RE ON 54 PUBLIC BUILDINGS	GREEN CLIMATE FUND (GCF)	\$32,706,595.00	2021
		GOAB CO-FINANCING	\$13,458,035.00	

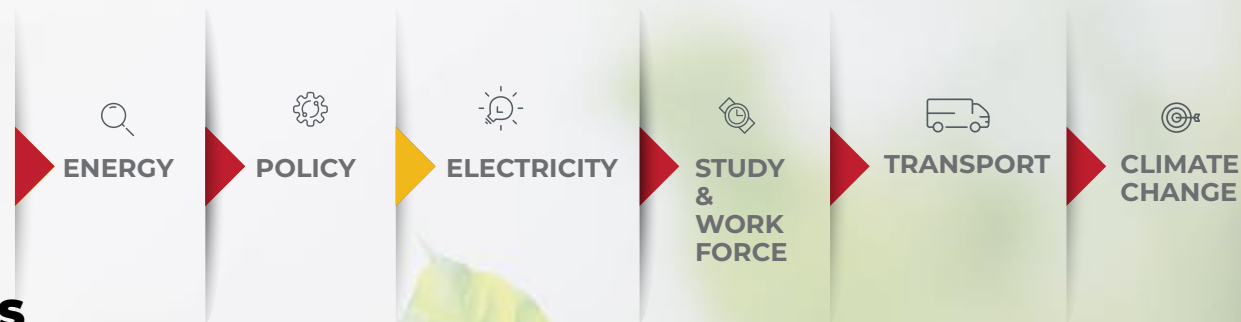
PROJECTS IN THE PIPELINE



TECHNICAL ASSISTANCE PROJECTS

DONOR FUNDING AND TECHNICAL ASSISTANCE LANDSCAPE	RE SPECIFIC TASK/GOALS	DONOR ORGANIZATION & BANKS	FUNDING AWARDS	YEAR
<p>SUSTAINABLE LOW EMISSIONS ISLAND MOBILITY (SLIM) PROJECT</p>	<p>INSTALLATION OF 2 SOLAR PV CHARGING STATIONS, PROCUREMENT OF 2 ELECTRIC TAXIS & 2 BUSES, PROVIDING CONCESSIONAL FINANCING TO PURCHASE 10 + ELECTRIC TAXIS</p>	<p>GLOBAL ENVIRONMENT FUND (GEF)</p>	<p>\$3,245,000.00</p>	<p>2021</p>
<p>ADAPTATION FUND INNOVATION GRANT</p>	<p>INNOVATIVE TECHNOLOGIES FOR IMPROVED WATER AVAILABILITY TO INCREASE FOOD SECURITY IN ANTIGUA AND BARBUDA. PROCUREMENT, INSTALLATION AND COMMISSION OF 2 DECENTRALISED SOLAR POWERED RO UNITS AND 3 SOLAR PUMPS AT 3 AGRICULTURE SITES</p>	<p>ADAPTATION FUND INNOVATION GRANT</p>	<p>\$250,000.00</p>	<p>2021</p>

PROJECTS IN THE PIPELINE



TECHNICAL ASSISTANCE PROJECTS

DONOR FUNDING AND TECHNICAL ASSISTANCE LANDSCAPE	RE SPECIFIC TASK/GOALS	DONOR ORGANIZATION & BANKS	FUNDING AWARDS	YEAR
THE TRANSFORMATION OF THE HEALTH AND WATER SECTOR (IRENA/ADFD PHASE 2)	<p>INSTALLATION OF RENEWABLE ENERGY TECHNOLOGIES AND ENERGY EFFICIENCY UPGRADES TO CRITICAL PUBLIC INFRASTRUCTURE</p> <p>AN 8 MW HYBRID POWER PLANT (SOLAR AND WIND) EXPECTED TO BENEFIT 5,500 HOUSEHOLDS AND ALLOW FOR LARGE REDUCTIONS IN THE IMPORT OF FOSSIL FUELS.</p>	IRENA /ADFD FACILITY	\$15,000,000.00	2021
SUSTAINABLE ISLAND RESOURCE FRAMEWORK (SIRF) FUND	FACILITATING IMPLEMENTATION OF RENEWABLE ENERGY TECHNOLOGIES WITHIN ANTIGUA AND BARBUDA	SPECIAL CLIMATE CHANGE FUND (SCCF)	\$1,600,000.00	2015
		SPECIAL CLIMATE CHANGE FUND (SCCF)	\$3,000,000.00	2015
		SPECIAL CLIMATE CHANGE FUND (SCCF)	\$2,000,000.00	2018

PROJECTS IN THE PIPELINE



RENEWABLE ENERGY PROJECTS

RENEWABLE ENERGY SOURCE	PROJECT DESCRIPTION	RESOURCE AND PROJECTS CAPACITY (kW)	DEVELOPMENT PARTNER	TOTAL ESTIMATED COST (USD)	FUNDING SOURCE	OWNERSHIP (PPA, UTILITY OWNED, COMMUNITY-OWNED OR PUBLIC)
SOLAR PHOTO VOLTAIC	SUSTAINABLE PATHWAYS-PROTECTED AREAS AND RENEWABLE ENERGY (SPARE)	696.0	VERGNET GROUP	\$652,692.71	GEF, IRENA/ ADFD	GOVERNMENT
	SUSTAINABLE PATHWAYS-PROTECTED AREAS AND RENEWABLE ENERGY (SPARE) - RFP 1	290.76	GREENTECH SOLAR ACT	\$1,175,826.00	ABU DHABI DEVELOPMENT FUND (ADFD)	GOVERNMENT
	CARIBBEAN DEVELOPMENT BANK (CDB)	142.22	GREENTECH SOLAR ACT	\$1,078,000.00	CARIBBEAN DEVELOPMENT BANK: SUSTAINABLE ENERGY FACILITY (SEF)	GOVERNMENT
	GRID-INTERACTIVE SOLAR PV SYSTEMS FOR SCHOOLS (GISS)	132.95	LOCAL INSTALLER: CARISUN, ALANZO JACK, GIBBS INSTALLATION MAINTENANCE, GREENTECH SOLAR ACT, JACE IRISH, MEGAPOWER, AMORY JOSEPH, CHURCHHILL NORBERT	\$825,000.00	ITALIAN GOVERNMENT	RESIDENTIAL

PROJECTS IN THE PIPELINE



RENEWABLE ENERGY PROJECTS

RENEWABLE ENERGY SOURCE	PROJECT DESCRIPTION	RESOURCE AND PROJECTS CAPACITY (kW)	DEVELOPMENT PARTNER	TOTAL ESTIMATED COST (USD)	FUNDING SOURCE	OWNERSHIP (PPA, UTILITY OWNED, COMMUNITY-OWNED OR PUBLIC)
SOLAR PHOTO VOLTAIC	AN INTEGRATED APPROACH TO PHYSICAL ADAPTATION AND COMMUNITY RESILIENCE IN THE ANTIGUA AND BARBUDA'S NORTHWEST MCKINNON'S WATERSHED	900	LOCAL INSTALLERS	\$1,500,000.00	ADAPTATION FUND	RESIDENTIAL
	INTEGRATED PHYSICAL ADAPTATION AND COMMUNITY RESILIENCE THROUGH AN ENHANCED DIRECT ACCESS PILOT IN THE PUBLIC, PRIVATE, CIVIL SOCIETY SECTORS OF THREE EASTERN CARIBBEAN SMALL ISLAND DEVELOPING STATES	650	LOCAL INSTALLERS	\$900,000.00	GREEN CLIMATE FUND (GCF)	RESIDENTIAL
	GREEN CLIMATE FUND (GCF) PROJECT	1500	TBD	\$32,706,595.00	GREEN CLIMATE FUND (GCF)	RESIDENTIAL

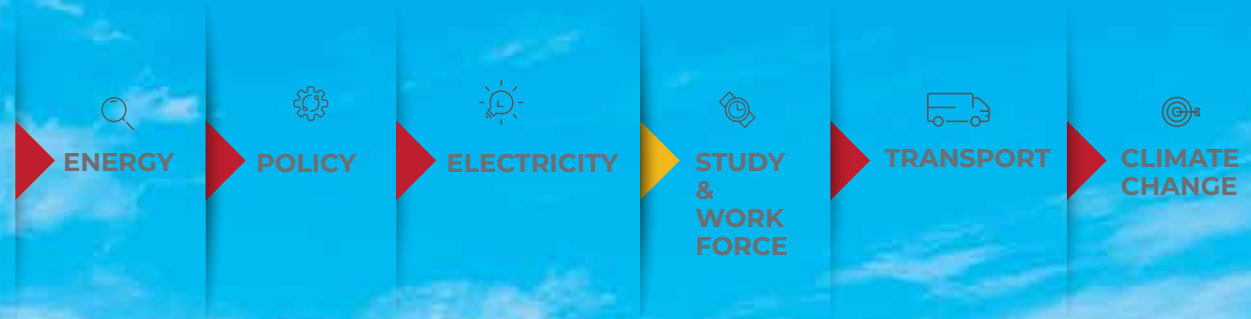
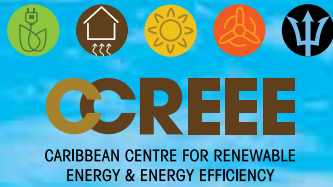
PROJECTS IN THE PIPELINE



RENEWABLE ENERGY PROJECTS

RENEWABLE ENERGY SOURCE	PROJECT DESCRIPTION	RESOURCE AND PROJECTS CAPACITY (kW)	DEVELOPMENT PARTNER	TOTAL ESTIMATED COST (USD)	FUNDING SOURCE	OWNERSHIP (PPA, UTILITY OWNED, COMMUNITY-OWNED OR PUBLIC)
SOLAR PHOTO VOLTAIC	AN INTEGRATED APPROACH TO PHYSICAL ADAPTATION AND COMMUNITY RESILIENCE IN THE ANTIGUA AND BARBUDA'S NORTHWEST MCKINNON'S WATERSHED	1800	TBD	\$15,000,000.00	IRENA/ADFD FACILITY	GOVERNMENT





TERTIARY PROGRAMMES OFFERED

Antigua State College
Green Engineering (Associate Degree)
<https://asc.edu.ag/department-of-liberal-arts/>

WORKFORCE

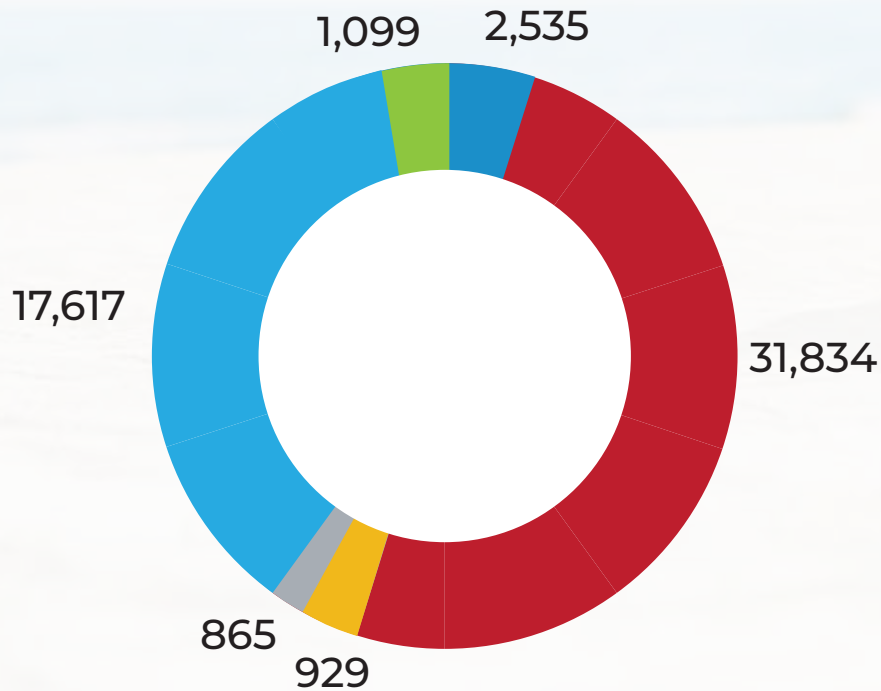
Data was not available for the workforce in the energy sector in 2020



TRANSPORTATION SECTOR

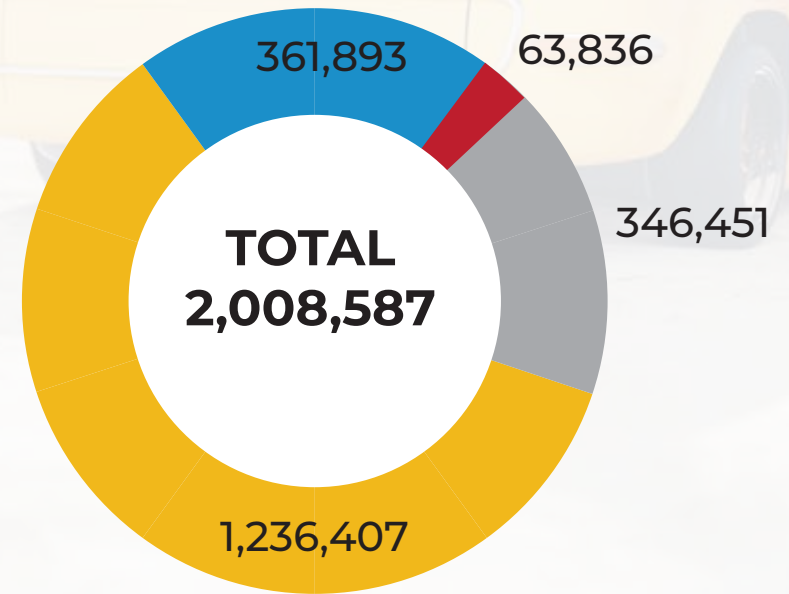


REGISTERED VEHICLES AS OF 2019



- Buses
- Cars
- Motorcycles
- Pickup Trucks
- Trucks
- SUV's

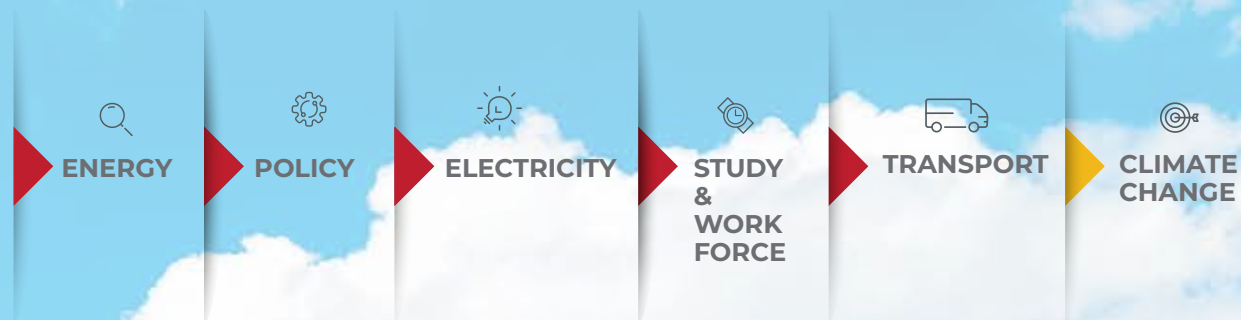
QUANTITY (BOE)



- Gasoline
- Diesel
- Turbo Fuel
- HFO Bunker and ADO

THERE WERE ALSO 29 ELECTRIC VEHICLES

CLIMATE CHANGE FRAMEWORK



SUSTAINABLE ENERGY ACTION PLAN (2013) ^[7]

NATIONAL DETERMINED CONTRIBUTIONS:

[14]

Conditional Mitigation Targets

1. By 2020, establish efficiency standards for the importation of all vehicles and appliances.
2. By 2020, finalize the technical studies with the intention to construct and operationalize a waste to energy (WTE) plant by 2025
3. By 2030, achieve an energy matrix with 50 MW of electricity from renewable sources both on and off-grid in the public and private sectors
4. By 2030, all remaining wetlands and watershed areas with carbon sequestration potential are protected as carbon sinks.

Unconditional Targets

1. Enhance the established enabling legal, policy and institutional environment for a low carbon emission development pathway to achieve poverty reduction and sustainable development.
2. By 2020, update the Building Code to meet projected impacts of climate change.

EMISSIONS REDUCTION TARGET:

Reduction of 25% from
1990 levels by 2020

[38]

PRIORITY SECTORS FOR NDCs ^[38]

Energy, Industrial Processes and Products Use, Agriculture, Forestry & other Land Use, and Waste

NATIONAL COMMUNICATIONS (NC) TO THE UNFCCC:

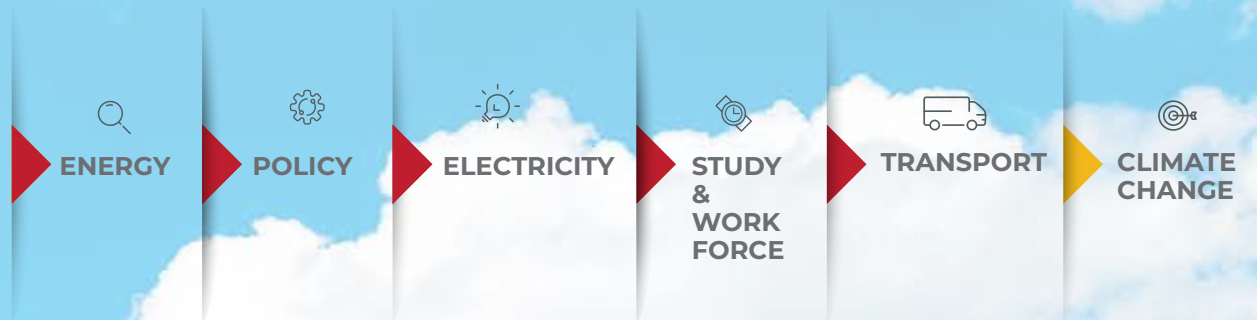
Antigua and Barbuda's Initial National Communication (2001) ^[39]

Antigua and Barbuda's Second National Communication (2009) ^[40]

Antigua and Barbuda's Third National Communication (2015) ^[41]

Antigua and Barbuda's Fourth National Communication
(In Progress - 2020)

CLIMATE CHANGE FRAMEWORK



SUMMARY OF ANTIGUA AND BARBUDA GHG EMISSIONS AND REMOVALS (Gg) FOR 2015 ^[41]

EMISSIONS (Gg CO₂ EQUIVALENT)

CATEGORIES	NET CO ₂	CH ₄	N ₂ O	NMVOCS
TOTAL NATIONAL EMISSION AND REMOVALS	844.30	1.520	6.05	0.035
ENERGY	648.80	0.0260	0	0
INDUSTRIAL PROCESSES AND PRODUCT USE	3.144	0	6.05	0.035
AGRICULTURE, FORESTRY, AND OTHER LAND USE	191.50	0.629	0	0
WASTE	0.8330	0.860	0	0

Gg represents giga grams*

REFERENCES

 ENERGY

 POLICY

 ELECTRICITY

 STUDY
&
WORK
FORCE

 TRANSPORT

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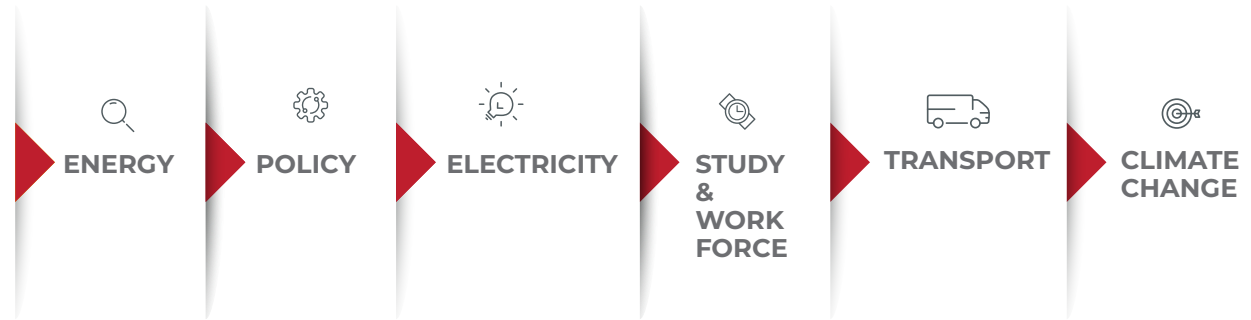
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