

2023 ENERGY REPORT CARD ANTIGUA & BARBUDA





Introduction

This is the Energy Report Card (ERC) for 2023 for Antigua and Barbuda.

The ERC provides an overview of the energy sector performance, highlighting the following areas:

- Installed Conventional and Renewable Power Generation Capacity
- Annual Electricity Generation, from Conventional and Renewable Plants
- Other Electricity Sector Metrics, such as Losses, Consumption, and Tariffs
- Renewable Energy Targets
- Renewable Energy Resource Potential

The ERC also includes sectoral data and information on policies and regulations; workforce; training and capacity building; and related areas.

The data and information that are available in the ERC were mostly provided by the government ministries, agencies, and departments, that have responsibility for statistics and planning, in general, and the energy sector and electricity subsector including the electric utilities, in particular. The data and information collected was supplemented by desk-based research and, in instances, information was generated from calculations and analyses that were performed by the CCREEE.

Quality Assurance

The collection and treatment of data and information that is produced for the ERC is consistent with the International Recommendations for Energy Statistics (IRES), which provides a comprehensive methodological framework for the collection, compilation, and dissemination of energy statistics in all countries irrespective of the level of development of their statistical system. The ERC is produced in accordance with these performance standards that seek, as far as is possible, to ensure the quality (i.e., objectivity, utility, and integrity) of data and information that it disseminates to the public.

The CCREEE strives for transparency on the information and methods that are used within the production of the ERC, with a view to improve understanding on how the information should be treated and to facilitate reproducibility of the information. Nevertheless, the Centre recognizes that quality may be limited by the nature and source of the data and information disseminated.

Disclaimer

The ERC includes data and information that is contained in a variety of public sources and, though every effort is made to validate the accuracy and validity of the contents, reliance on the information herein is strictly at the user's risk.

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If a substantive error is detected after the ERC is disseminated, the CCREEE will make correction and issue an errata notice, or other notification as appropriate. Also, the information contained within the ERC may be revised, after initial dissemination to reflect more complete information or other significant changes in the underlying data. The ERC may, from time to time, include information that is preliminary and is expected to be revised, or information that is revised from previously disseminated versions. In such instances, those cases are clearly noted.

Requests for Correction

The CCREEE has established administrative mechanisms to allow persons to seek and obtain, where appropriate, legitimate correction(s) to information maintained and disseminated through the ERC. Any request for corrections should be sent to: energyreportcard@ccreee.org, under the subject: REQUEST FOR CORRECTION TO ERC 2023 FOR Barbados.

Acknowledgements

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Energy Sector Summary

Population (Projection)	102,195 [1]
GDP (USD)	\$1,706,376,773.42 [2]
GDP (USD) Per Capita	\$17,684.75 [2]
Gross National Income (GNI) Per Capital (USD)	\$ 20,200 [3]
Debt as % of GDP	71.8% [4]
Human Development Index	0.826 [5]
National Development Plan/Overall Country Development Strategy	Medium-Term Development Strategy 2016 to 2020 [6]
National Energy Policy	Antigua and Barbuda National Energy Policy (2011) [7]
Renewable Energy (RE) Policy	None ¹
Renewable Energy Target	100% in Power/Electricity Sector by 2030 100% in Transportation Sector by 2040 [8]
Energy Efficiency Target	10% reduction in overall energy intensity of the economy below a 2010 baseline by 2020. [9]

Total Installed Conventional Capacity (MW)	72.8 MW [13] ²
Total Installed RE (MW)	10.4MW [13] ²
Electricity System Losses (%)	13.5% [13] ²
Energy Use (kWh) Per Capita	2,988 kWh ²
National Repository for Energy Data	None
Climate Change Policy	Antigua and Barbuda Sustainable Energy Action Plan [10]
Nationally Determined (NDC) Summary [11]	<ul style="list-style-type: none"> Conditional absolute emissions reductions contribution below the 2008 base year of 705Gg CO₂e (2025) and 1,459Gg CO₂e (2030) respectively. Total economy wide BAU emissions projections of 1,881Gg CO₂e (2025) and 1,958Gg CO₂e (2030) respectively.

1 - There is no Renewable Energy Policy in place, however the country follows the Antigua and Barbuda: Renewable Energy Roadmap.
 2 - The information presented reflects the most recent year—2022—for which complete and verified energy data are available.



Energy Sector Summary

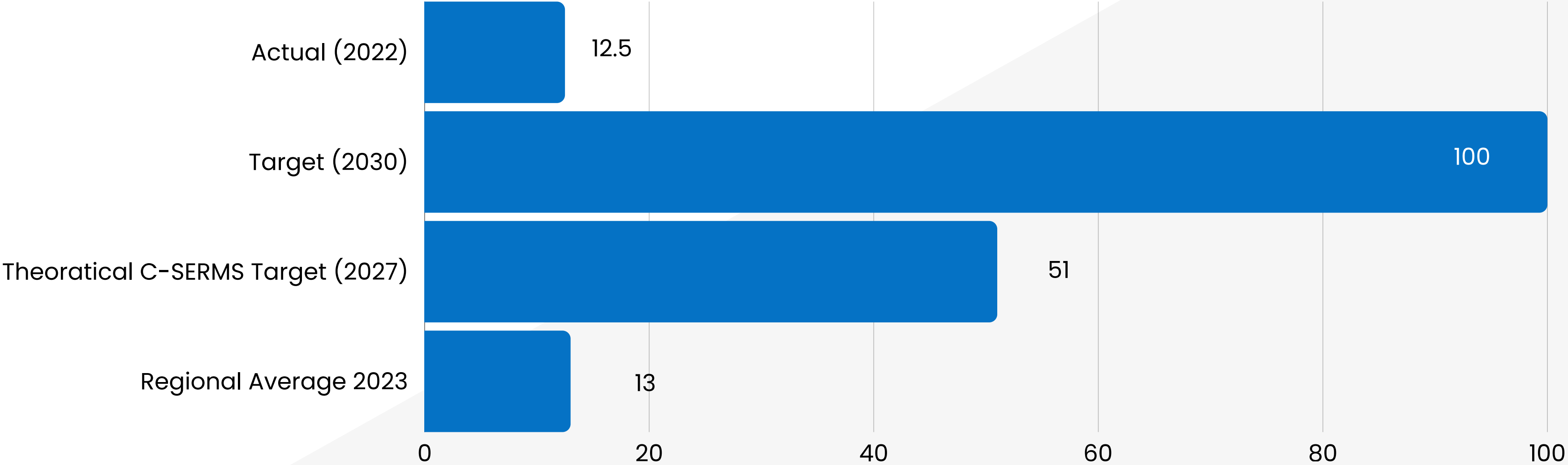
Energy Performance Standards/Appliance Labelling [12]

- 1. National Energy Efficiency Building Code [2018 CARCOM Energy Efficiency Building Code] Effective April 30, 2021
- 2. IEC ABNS 60969:2016 Self-ballasted compact fluorescent lamps for general lighting services – Performance requirements (2nd Edition) (IEC 60969:2016 IDT)
- 3. IEC ABNS 62612:2013 Self-ballasted LED lamps for general lighting with supply voltages >50V – Performance requirements (IEC 62612: 2013 IDT)
- 4. IEC ABNS 62552 -1:2015 Household refrigerating appliances- characteristics and test methods – Part 1: General requirements (IEC 62552-1: 2015 IDT)
- 5. IEC ABNS 62552 -2: 2015 Household refrigerating appliances- characteristics and test methods – Part 2: Performance requirements (IEC 62552-2: 2015 IDT)
- 6. IEC ABNS 62552-3:2015 Household refrigerating appliances- Characteristics and test methods – Part 3: Energy consumption and volume
- 7. ABNS CRS 57: 2018 Energy labelling – Refrigerating appliances– Requirements (CRS 57: 2018 IDT)
- 8. ABNS CRS 58:2018 Energy labelling – Compact fluorescent lamps and light emitting diode lamps– Requirements (CRS 58: 2018 IDT)
- 9. ABNS CRS 59: 2019 Energy labelling – Air conditioners – Requirements (CRS 59: 2019 IDT)



Energy Sector Performance [13] [14]³

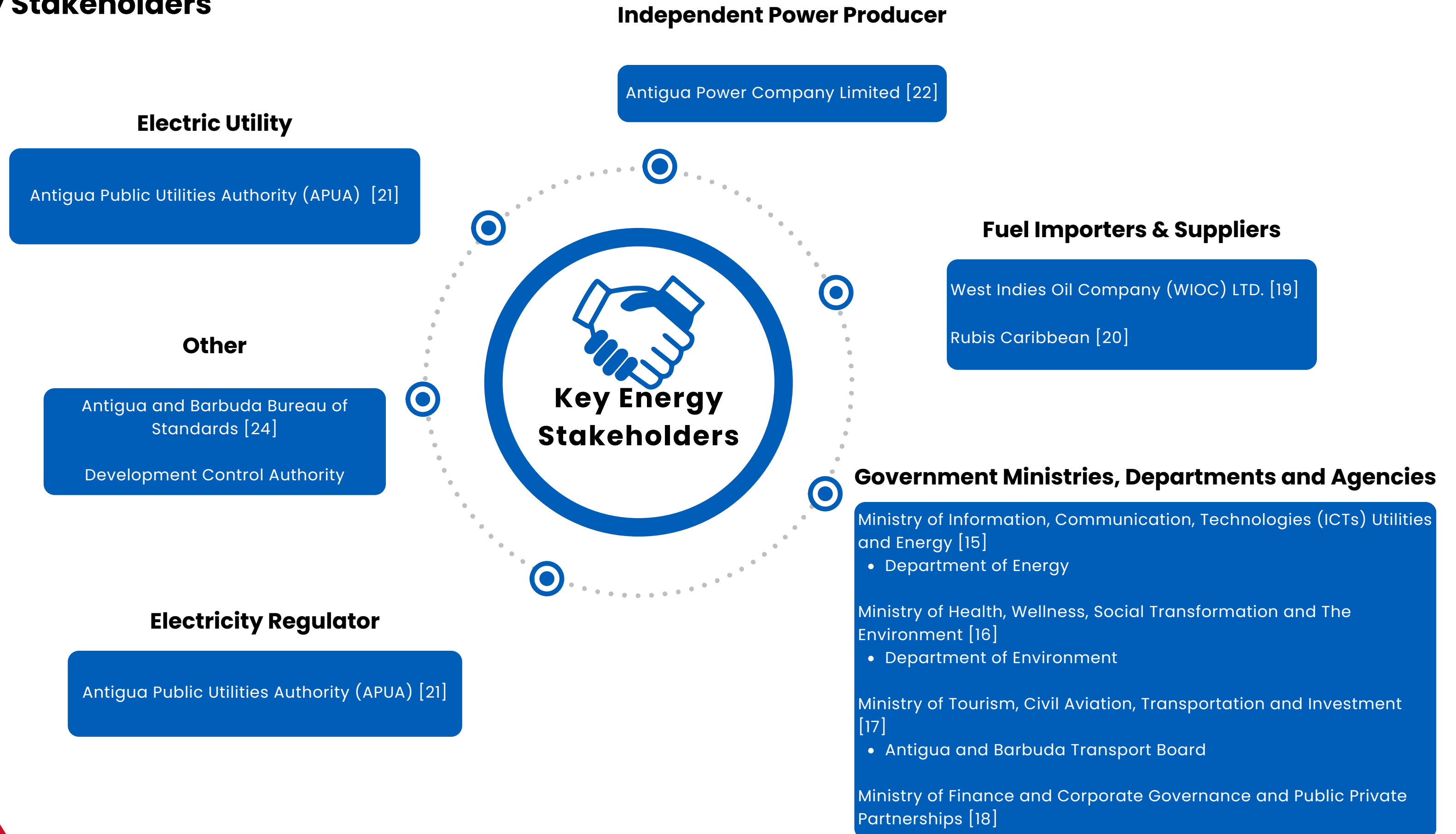
Renewable Energy Capacity Against Targets



3 - The information presented reflects the most recent year—2022—for which complete and verified energy data are available.



Key Energy Stakeholders





Policy, Legal and Regulatory (PLR) Framework

	Year	Status
Energy Policy [9]	2011	Update Being Prepared
Energy Action Plan [10]	2013	in Force
RE Target [11]	2012	In Force
EE Target [11]	2019	In Force
Electricity Regulator [24]	1973	In Force
Net Billing/Net Metering [25]	2017	In Force
Interconnection Policy/Standards [26]	2011	In Force
Feed-In-Tariff		Draft in Progress
Integrated Resource and Resilience Plan		Not Established
RE/EE Act [27]	2015	In Force



Policy, Legal and Regulatory (PLR) Framework

Policies Relevant to the Energy Sector

Year	Name	Status	Description
2011	National Energy Policy [9]	In Force	<p>Antigua and Barbuda aims to radically change the way it sources, distributes and uses energy with:</p> <ul style="list-style-type: none">• Energy Cost Reduction through targeted efficiency and conservation measures designed to reduce the overall energy intensity of the economy by 10% below a 2010 baseline within 10 years.• Diversification of Energy Sources through reformed market framework and mandated targets to achieve 15% renewable energy in the electricity supply by 2030.• Electricity Reliability Improvement through regulatory reform designed to protect consumer interest and improve the quality of electricity supply.• Environmental Protection through the establishment of laws and regulations which ensure that environmental considerations are an integral part of the energy permit process and in the planning and execution of energy related projects. <p>Stimulate new Economic Opportunities through incentives and market mechanisms to create an enabling environment for private investment in renewable energy and energy efficiency measures, including support for education and training.</p>
2013	Antigua and Barbuda Sustainable Energy Action Plan [10]	In Force	<p>Defines strategies to address barriers to:</p> <ul style="list-style-type: none">• Institutional and regulatory framework• Energy Conservation and Energy Efficiency• Renewable Energy Development• Education and Awareness
2015	Medium Term Strategic Development Plan of Antigua and Barbuda (2016-2020) [29]	In Force	<p>Flagship priorities of the Plan include reducing the cost of energy and improving Energy Security. Efforts will focus on improving energy efficiency through:</p> <ul style="list-style-type: none">• significantly increasing the use of renewable energy,• improving the business structure for the generation and distribution of energy,• incentivising the use of more efficient and more environmentally friendly technology and energy sources, <p>and enhancing the tariff framework and the framework for public sector regulation.</p>



Policy, Legal and Regulatory (PLR) Framework

Policies Relevant to the Energy Sector

Year	Name	Status	Description
2021	2018 CARICOM Regional Energy Efficiency Building Code (Adopted) [30]	In Force	This model code regulates minimum energy conservation requirements for new buildings and was developed by the CARICOM Regional Organization for Standards and Quality (CROSQ) and the CARICOM to meet the specific needs of nations in the Caribbean and other countries with tropical climates
2021	Antigua and Barbuda: Renewable Energy Roadmap [8]	In Force	The RE Roadmap assessed 5 scenarios for the energy sector: 1. Optimal system - Least-cost based on net present cost. This is considering solar, wind, and storage, and not considering hydrogen 2. Optimal system + EVs 3. 100% RE (no hydrogen) 4. 100% RE (with hydrogen) - Includes hydrogen electrolyser, storage and fuel cell for power-to-hydrogen and hydrogen-to-power. 5) 100% RE (with hydrogen + EVs)



Policy, Legal and Regulatory (PLR) Framework

Legislation Relevant to the Energy Sector

Year	Name	Status	Description
1947	The Vehicles Road Traffic Act (Amended 1989) [31]	In Force	The Act outlines the duties of the Commissioner of Inland Revenue, control of the importation, registration and licensing of vehicles, the road usage for all users and the licensing of drivers.
1949	The Petroleum Act [32]	In Force	The Act seeks to provide legal, governance, regulatory framework for the importation, storage and licence to sell petroleum.
1995	The Transport Board Act [33] (Amended 2020) [34]	In Force	Establishes the management in ground transportation and provides guidance to manage, maintain and organize the use of Government vehicles in an efficient and economical manner.
1963	The Petroleum Industry (Encouragement) Act [35] [36]	In Force	Facilitates the agreement made between the West Indies Oil Company and the Government of Antigua and Barbuda, allowing the West Indies Oil Company the right to process and bunker petroleum in Antigua.
2001	The Public Utilities Act (Amended 1993 and 2004) [37]	In Force	<ul style="list-style-type: none">• Incorporation of the Public Utilities Authority giving the right to supply electricity.• The 1993 amendment states that the Authority may, on application, and on such terms and conditions as it thinks fit, grant a licence to any person to generate and supply electricity. <p>In the 2004 amendment, the tariffs charged by the Authority for public utilities supplied or provided by it to its customers shall be such as may be determined from time to time by the Authority after consultation with such persons or groups of persons representing the public and private sectors and with the approval of the Minister.</p>
2007	Renewable Energy Act [27]	In Force	An Act to establish the legal, economic, and institutional basis to promote the use of renewable energy resources and other related matters including net-billing, feed-in-tariff and Energy Wheeling.



Policy, Legal and Regulatory (PLR) Framework

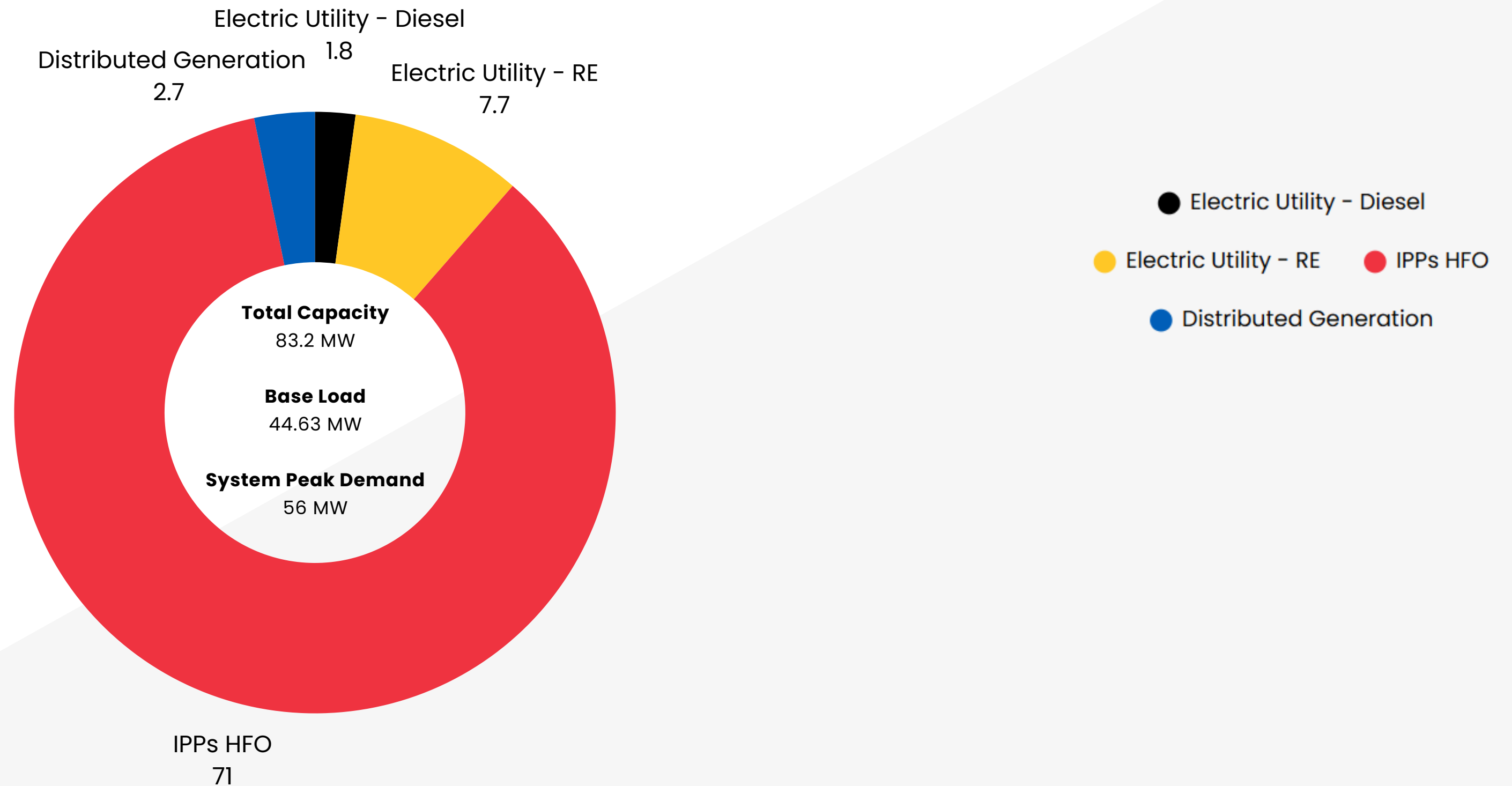
Legislation Relevant to the Energy Sector

Year	Name	Status	Description
2004	Environmental Protection and Management Act [39]	In Force	An Act to provide for sustainable environmental protection and management of natural resources, to allocate administrative responsibility for the management of environmental matters, to give effect to Antigua and Barbuda’s treaty obligations concerning the environment, and to provide the framework financial mechanism to satisfy the requirements of the Act and for other related matters.



Electricity and Energy Efficiency [13] [14]⁴

Installed Capacity (MW)

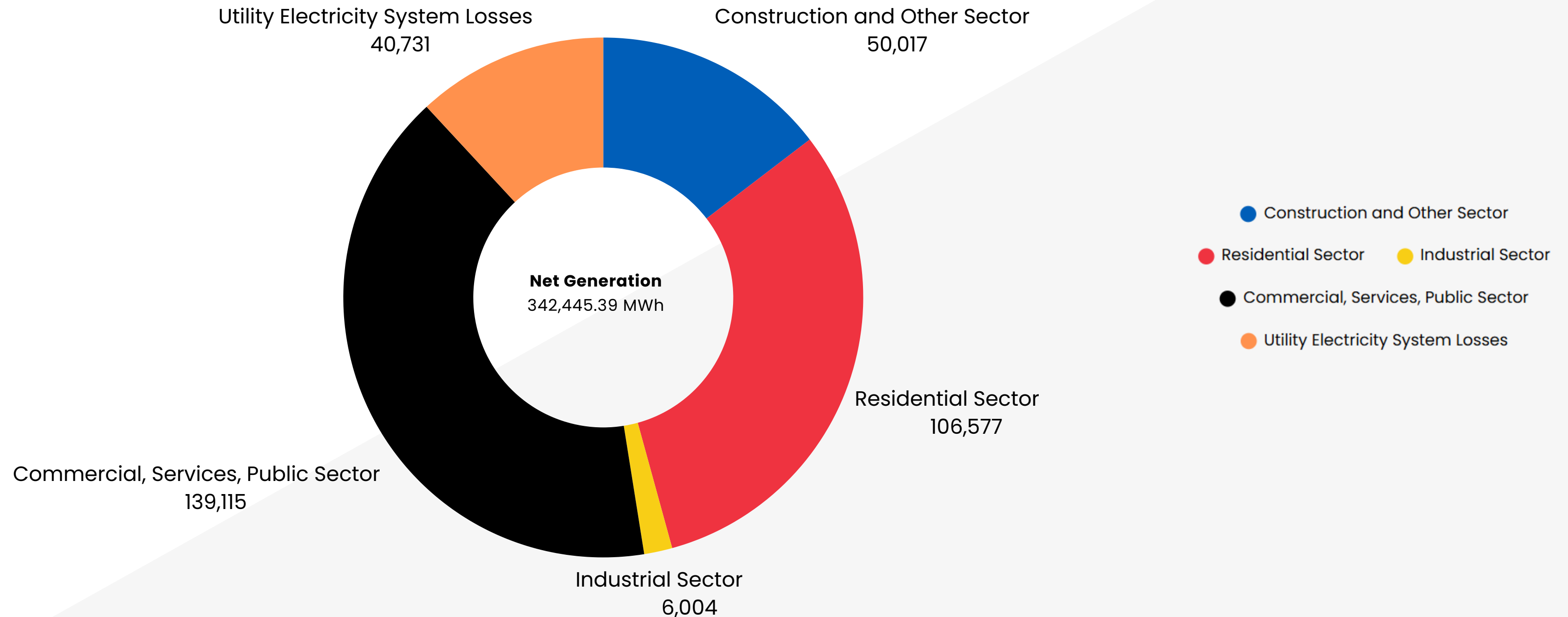


4 - The information presented reflects the most recent year—2022—for which complete and verified energy data is available.



Electricity and Energy Efficiency [13] [14] ⁵

Energy Generation (MWh)

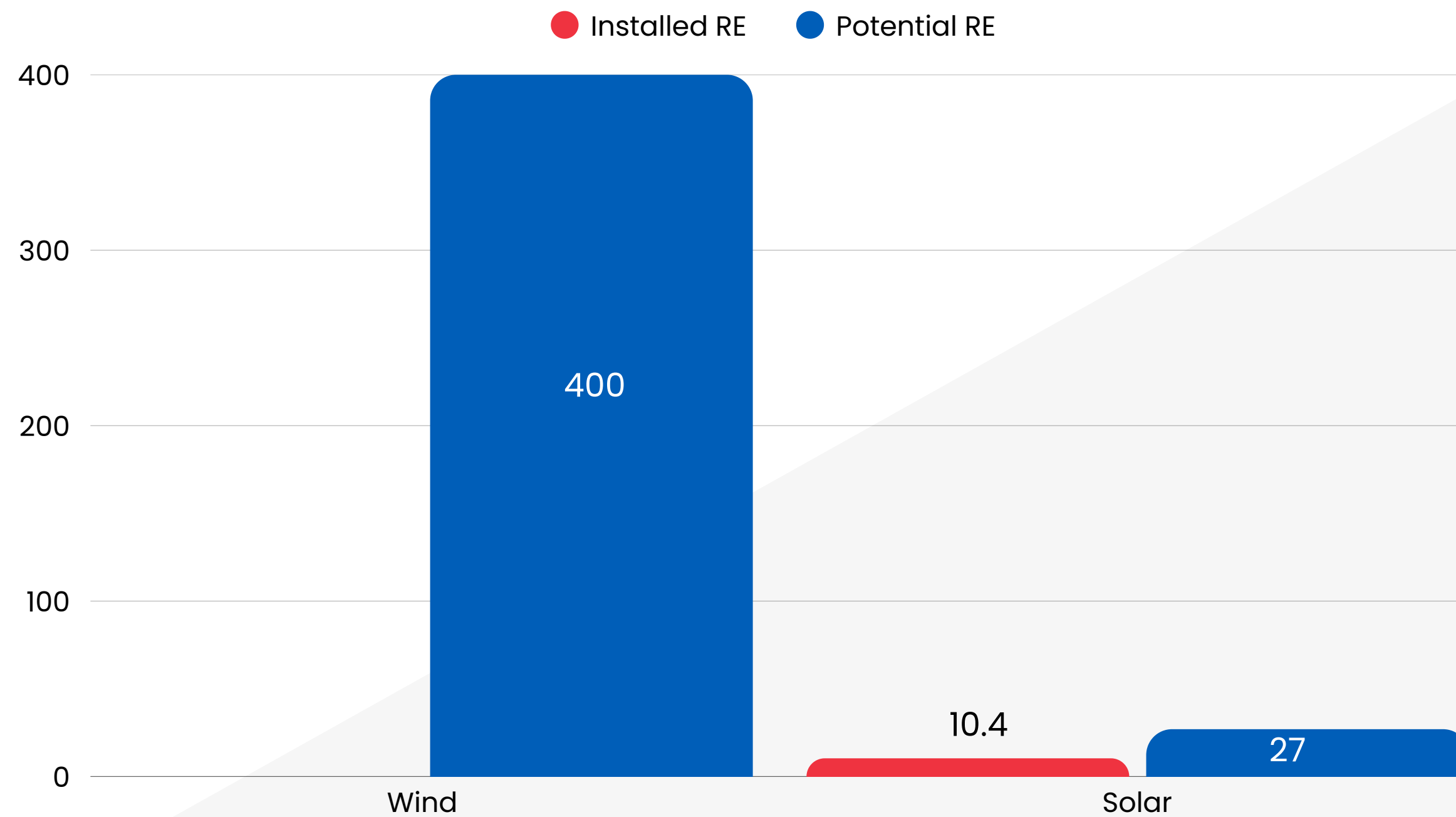


5 - The information presented reflects the most recent year—2022—for which complete and verified energy data is available.



Electricity and Energy Efficiency [13] [14] ⁶

Renewable Energy Resources



Electricity Tariffs [13]

Rate Class	(US\$/kWh)
Residential	\$ 0.51
Commercial	\$ 0.52
Industrial/Large Power	\$0.53
Street Lighting	\$ 0.53

6 - The information presented reflects the most recent year—2022—for which complete and verified energy data is available.



Projects in the Pipeline

Renewable Energy Projects

Renewable Energy Source	Project Name	System Size (kW)	Implementing Partner	Total Estimated Cost	Funding Source
Solar Photo-Voltaic [40] [41]	Sustainable Pathways - Protected Areas and Renewable Energy (SPARE)	696	Department of Environment	\$7,980,000.00 - Co-financing \$2,639,726.00 - GEF Project Grant \$ 10,619,726 - Total	Co-financing and GEF Project Grant
	Enhancing Direct Access in the Eastern Caribbean- Antigua	650	Department of Environment	\$ 900,000.00	Green Climate Fund (GCF)
	GCF Build Resilience to hurricanes in the building sector in Antigua and Barbuda	1500	Department of Environment	46,164,630.00 (Total) 32,706,595 (GCF Grant) 4,899,665 (Co-financing Grant) 508,370 (Co-financing In-kind)	Green Climate Fund (GCF)
	Grid-Interactive Solar PV Systems for Schools and Clinics (GISS)	132.95	Department of Environment	\$ 825,000.00	Italian Government
	Adaptation Fund Innovation Grant	16	Department of Environment	\$ 250,000.00	Adaptation Fund
	Caribbean Development Bank Projects	142.22	Department of Environment	\$ 1,078,000.00	Caribbean Development Bank Sustainable Energy Facility (SEF)
	An Integrated Approach to Physical Adaptation and Community Resilience in the Antigua And Barbuda's Northwest Mckinnon's Watershed	900	Department of Environment	\$ 1,078,000.00	Adaptation Fund



Projects in the Pipeline

Renewable Energy Projects

Renewable Energy Source	Project Name	System Size (kW)	Implementing Partner	Total Estimated Cost	Funding Source
Wind Energy [40] [41]	Sustainable Pathways – Protected Areas and Renewable Energy (SPARE)	4125	Department of Environment	13,900,417.00	UNEP, GEF, IRENA/ADFD
Solar and Wind Hybrid [40] [41]	Transformation and Resilience Building of the Water Sector – Phase 2	650	Department of Environment	\$ 15,000,000.00	IRENA/(Abu Dhabi Fund for Development)ADFD Facility

Transportation Projects

Project Name	Vehicles or Charging Infrastructure	Implementing Partner	Total Estimated Cost (USD)	Funding Source
Sustainable Low-Emissions Island Mobility (SLIM) [40] [41]	11 Electric vehicles, 2 charging station	Department of Environment and the United Nations Environment Programme	\$ 12,964,315	Global Environment Fund (GEF)
Electric Bus Pilot Phase 1 [40] [41]	11 Electric vehicles, 2 charging station	Department of Environment		Italian Government

Programmes

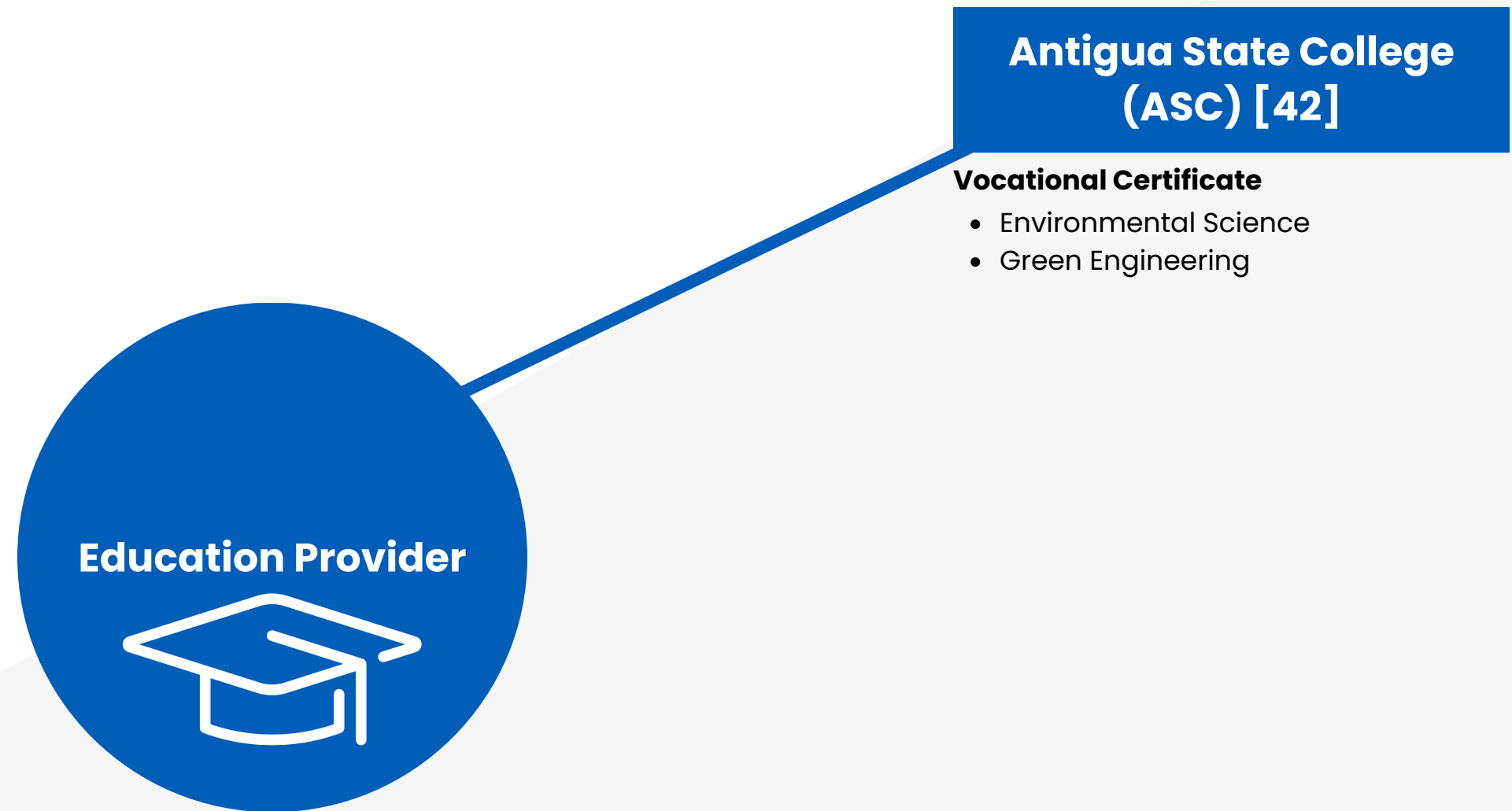
There were no Programmes reported for 2023.

Energy Efficiency Projects

There were no Energy Efficiency Projects reported for 2023.



Tertiary Programmes Offered





Climate Change Framework

Climate Change Policy	Antigua and Barbuda Sustainable Energy Action Plan [10]
Nationally Determined Contributions Summary	1. 86% renewable energy generation from local resources in the electricity sector by 2030. 2. 100% of all new vehicle sales to be electric vehicles by 2030. 3. Explore potential for emissions reductions in the waste sector by 2025. 4. Explore potential for emissions reductions in the Agriculture, Forestry and Other Land Use (AFOLU) sector by 2030
Emission Reduction Target	A mitigation target of; <ul style="list-style-type: none"> • 86% renewable energy generation in the electricity sector • 100% of all new vehicle sales to be electric vehicles by 2030 [11]
Priority Sectors for NDC [11]	<ul style="list-style-type: none"> • Energy Sector • Industrial Processes and Products Use • Agriculture, Forestry and Other Land Use • Waste • Electricity • Transportation
National Communications (NC) to the UNFCCC	Antigua and Barbuda's Initial National Communication on Climate Change (2001) [43]
	Antigua and Barbuda's Second National Communication on Climate Change (2009) [44]
	Antigua and Barbuda's Third National Communication on Climate Change Under the United Nations Framework Convention on Climate Change (2015) [45]



Climate Change Framework

Summary of Antigua and Barbuda GHG Emissions and Removals (Gg) for 2015 [49]

Sources	Emissions (Gg)				
	Carbon Dioxide (CO ₂)	Methane (CH ₄)	Nitrous Oxide (N ₂ O)	HFCs	NMVOCs
Total National Emission and Removals	844.25	1.52	0.049	6.051	0.035
Energy	648.75	0.026	0.005	0	0
Industrial Processes and Product Use	3.14	0	0.002	6.051	0.035
Agriculture, Forestry, and Other Land Use	191.53	0.629	0	0	0
Waste	0.83	0.8624	0.042	0	



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