

2023 ENERGY REPORT CARD ST. VINCENT &





# CREEE CARIBBEAN CENTRE FOR RENEWABLE ENERGY & ENERGY EFFICIENCY CA

## Introduction

This is the Energy Report Card (ERC) for 2023 for St. Vincent and the Grenadines.

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.

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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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#### **Requests for Correction**

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#### Acknowledgements

The CCREEE acknowledges the contributions of the Ministry of Urban Development, Energy, Airports, Seaports, Grenadines Affairs and Local Government St. Vincent and the Grenadines and thanks Ms. Melissa De Freitas Energy Officer, in the Energy Unit of the Ministry, for her supervision of the intern, Myles Hamilton who supported the preparation of the ERC.





# **Energy Sector Summary**

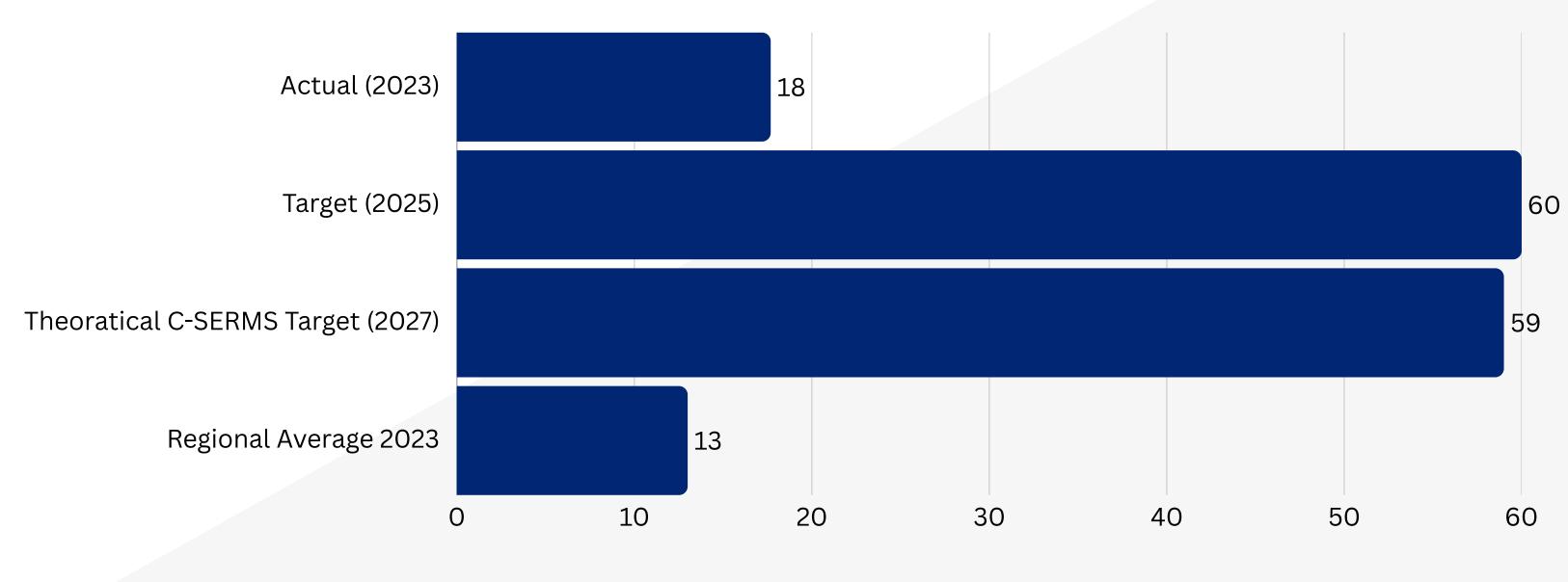
Population (Estimation)	110,541 [1]		
GDP (USD)	\$ 979,050,452.51 [2]		
GDP (USD) Per Capita	\$ 7,910.88 [2]		
Gross National Income (GNI) Per Capita (USD)	\$ 10,300 [3]		
Debt as % of GDP	88.1% [2] [4]		
Human Development Index	0.772 [5]		
National Development Plan/Overall Country Development Strategy	National Economic and Social Development Plan 2013-2025 (2013) [6]		
National Energy Policy	National Energy Policy (2009) [7]		
Renewable Energy (RE) Policy	None		
Renewable Energy Target	60% by 2025 [7]		
Energy Efficiency Target	None		
Total Installed Conventional Capacity (MW)	47.48 MW [11]		
Total Installed RE (MW)	10.20 MW [11]		
Electricity System Losses (%)	6.82% [11]		
Energy Use (kWh) Per Capita	1,347 kWh		

National Repository for Energy Data	SVG Energy Unit[12]			
Energy Performance Standards/Appliance Labelling	<ul> <li>SVGNS 74:2020: Energy Labelling-Refrigerating Appliances         Requirements</li> <li>SVGNS 75:2020: Energy Labelling-Compact Fluorescent Lamps and Light Emitting Diode Lamps-Requirements</li> <li>SVGNS 76:2020: Energy Labelling-Air-Conditioners-Requirements</li> <li>SVGNS 77:2020: Standard for Labelling of Refrigerant Containers</li> <li>SVGNS 92:2023: Sustainable Tourism—Energy Management and Efficiency Requirement</li> </ul>			
Climate Change Policy	National Climate Change Policy of Saint Vincent and the Grenadines (2019) [9]			
Nationally Determined (NDC) Summary [10]	An unconditional, economy-wide reduction in greenhouse gas (GHG) emissions of 22% compared to its business as usual (BAU) scenario by 2025.			





### Renewable Energy Capacity Against Targets



RE as % of Installed Capacity





#### Government Ministries, Departments and Agencies

Ministry of Urban Development, Energy, Airports, Seaports, Grenadines Affairs and Local Government [14]

• Energy Unit [15]

Ministry of Transport, Works, Land and Surveys, and Physical Planning [16]

• Electrical Inspectorate Division [17]

Ministry of Tourism, Civil Aviation, Sustainable Development and Culture [15]

• Sustainable Development Unit [18]

Ministry of Finance, Economic Planning and Information Technology [19]

#### **Fuel Importers & Suppliers**

RUBIS Caribbean [20]

SOL EC Limited [20]

PetroCaribe SVG Limited [20]



#### **Independent Power Producer**

Mustique Company Limited (Mustique)
[21]

CCA Limited (Canouan) [21]

Palm Island Resort [21]

#### **Electricity Regulator**

None 1

#### **Electric Utility**

St. Vincent and the Grenadines Electricity Services
Limited (VINLEC) [21]





# Policy, Legal and Regulatory (PLR) Framework

	Year	Status
Energy Policy [7]	2009	Update Being Prepared
Energy Action Plan [22]	2010	Update Being Prepared
RE Target	2010	Update Being Prepared
EE Target	2010	Update Being Prepared
lectricity Regulator [23] <sup>2</sup>		Not Established
let Billing/Net Metering [23]	2019	In Force
nterconnection Policy/Standards [24] 3	2019	Draft
eed-In-Tariff	2019	Draft
ntegrated Resource and Resilience Plan <sup>4</sup>		Not Established
RE/EE Act <sup>5</sup>		Not Established

<sup>2 -</sup> Cabinet of the Government of St. Vincent and the Grenadines and VINLEC self-regulates.

<sup>3 -</sup>There is currently no 'official' interconnection policy. VINLEC, the utility, -allows interconnection based on their own internal policies. The new updated Energy Policy and Action Plan currently being updated will address interconnections.

<sup>4-</sup>St. Vincent and the Grenadines does not have an Integrated Resource and Resilience Plan (IRRP). An Integrated Resource Plan (IRP) was implemented in 2017. [25]

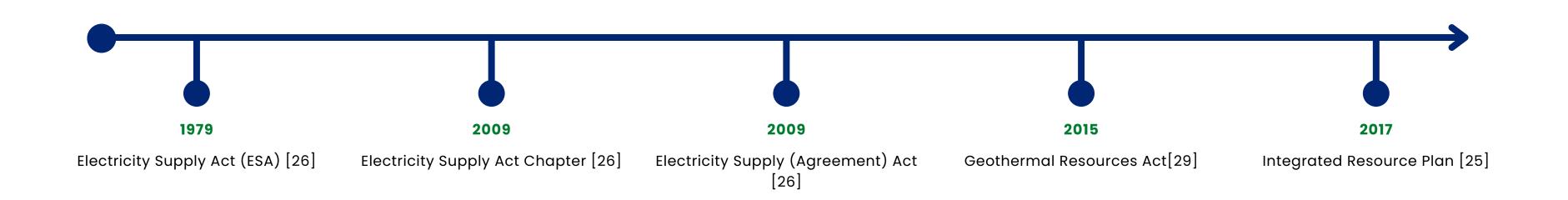
<sup>5 -</sup> St. Vincent and the Grenadines does not have an RE/EE Act for the broader energy sector. There is in place, however, the Geothermal Resources Act (2015) which governs the treatment and use of the country's geothermal resources.





## Policy, Legal and Regulatory (PLR) Framework

<u>Key Achievements: PLR Framework Timeline for Electricity Sub-Sector</u>







# Policy, Legal and Regulatory (PLR) Framework Policies Relevant to the Energy Sector

Year	Name	Status	Description
2009	National Energy Policy [7]	In Force	The main aims are to strengthen the national economy by reducing the dependence on imported fossil fuels through increased exploitation of indigenous resources and improvement of energy efficiency and conservation of energy use
2010	Energy Action Plan for St. Vincent and the Grenadines [22]	In Force	The primary goal of the Energy Action Plan is the incorporation of renewable energy into electricity generation mix in Saint Vincent and the Grenadines to achieve the targets outlined in the National Energy Policy
2013	National Economic and Social Development Plan 2013-2025 [6]	In Force	The Plan offers a vision for improving the quality of life for all Vincentians and is anchored in the achievement of the following over-arching goals:  • High and sustained levels of economic growth  • Reduced unemployment and poverty levels o Improved physical infrastructure and environmental sustainability o High levels of human and social development  • A peaceful, safe, and secure nation  • A technologically advanced work-force  • A deep sense of national pride and cultural renaissance o Regional integration  • Enhanced global solidarity
2017	Integrated Resource Plan [25]	Draft	An IRP was completed by the Government of St Vincent and the Grenadines, through the Energy Unit in collaboration with the Rocky Mountain Institute (RMI), Clinton Climate Initiative and VINLEC in 2017. The results of this project were presented in the St. Vincent and the Grenadines National Electricity Transition Strategy Report.
2017	Electric Vehicle Policy <sup>6</sup>	Draft	
2017	St. Vincent and the Grenadines National Physical Development Plan 2021-2041 [27]	Draft	

3 -Document not available for detailed review.





# Policy, Legal and Regulatory (PLR) Framework

### Legislation Relevant to the Energy Sector

Year	Name Status		ear Name Status		Description
1973	Electricity Supply Act Amended 2009 [26]	In Force	The Electricity Supply Act of 1973 (ESA) grants VINLEC a universal license for generating, transmitting, and distributing electricity, with no other entity allowed to do so without a sub-license from VINLEC.		
2009	Environmental Management Act [28]	In Force	The Act provides the guidelines for environmental management and establishes the Department of the Environment and the National Environmental Commission.		
2015	Geothermal Resources Development Act [29]	In Force	The Act governs geothermal exploration and formally establishes the National Energy Committee and provides for the development and use of geothermal resources and related matters.		

## Renewable Energy and Energy Efficiency Fiscal Incentives

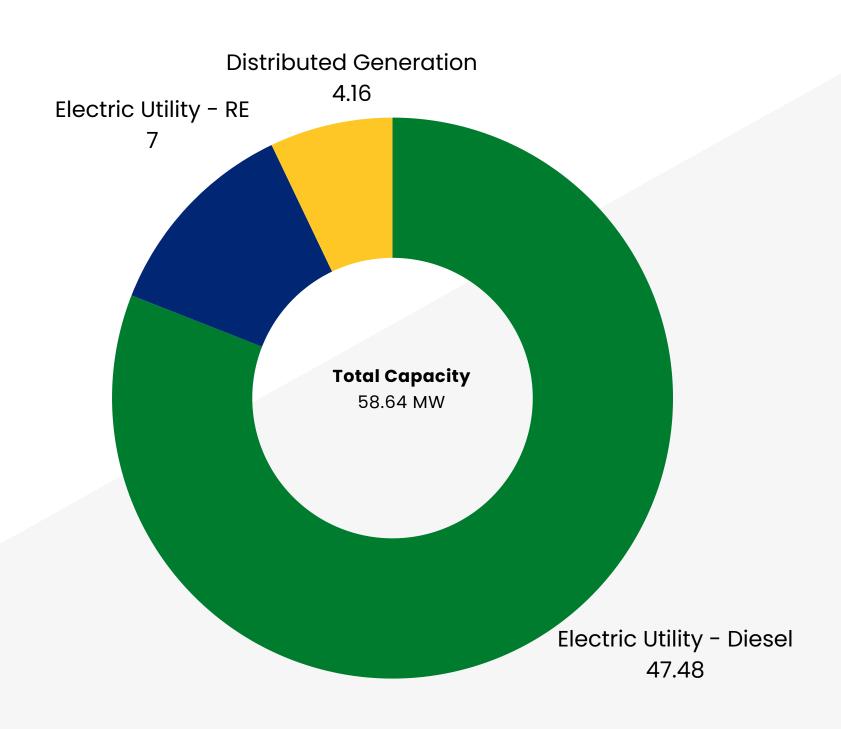
Year	Name	Status	Description
1991	Customs (Controls and Management) Act (Amended 2007) [30]	In Force	The Customs Act provides guidelines for operations at the air and seaports.
1994	Fiscal Incentives Act [31]	In Force	The Fiscal Incentives Act grants incentives to a company based on the sale of approved products.  The Act also allows for import duty waivers on approved items
2007	Information and Communication Technology Services Investment Incentives Act [38]	In Force	The Information and Communication Technology Services Investment Incentives Act, offers a 100% import duty exemption on solar panels to encourage the adoption of renewable energy technologies. However, solar systems with battery storage are not permitted to connect to the national grid. This incentive aims to promote sustainable energy use while maintaining grid stability.





Installed Capacity (MW)





Electric Utility - Diesel

Electric Utility - RE

Distributed Generation

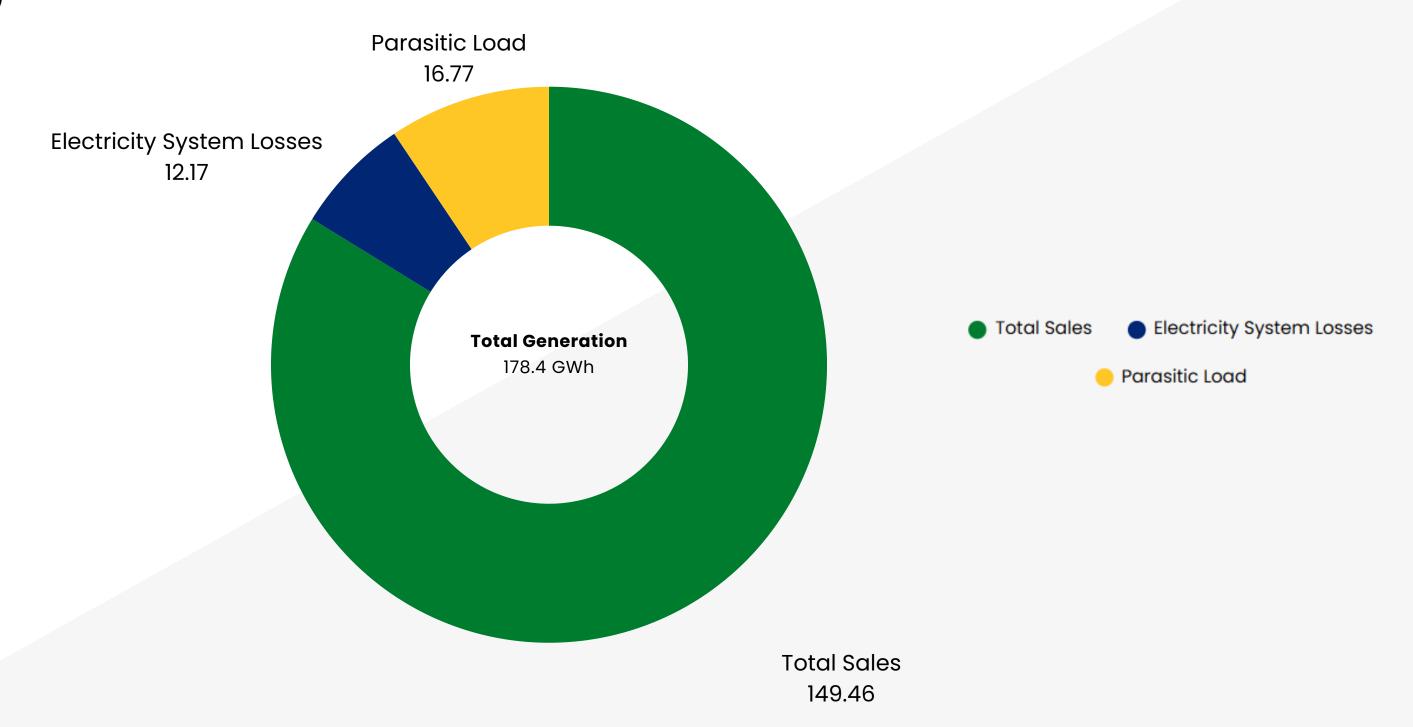
<sup>4 -</sup> The data presented represents a compilation of data from the islands of St. Vincent, Bequia, Union Island, Mayreau and Canouan.





# Electricity and Energy Efficiency [11] [13]

Energy Generation (GWh)

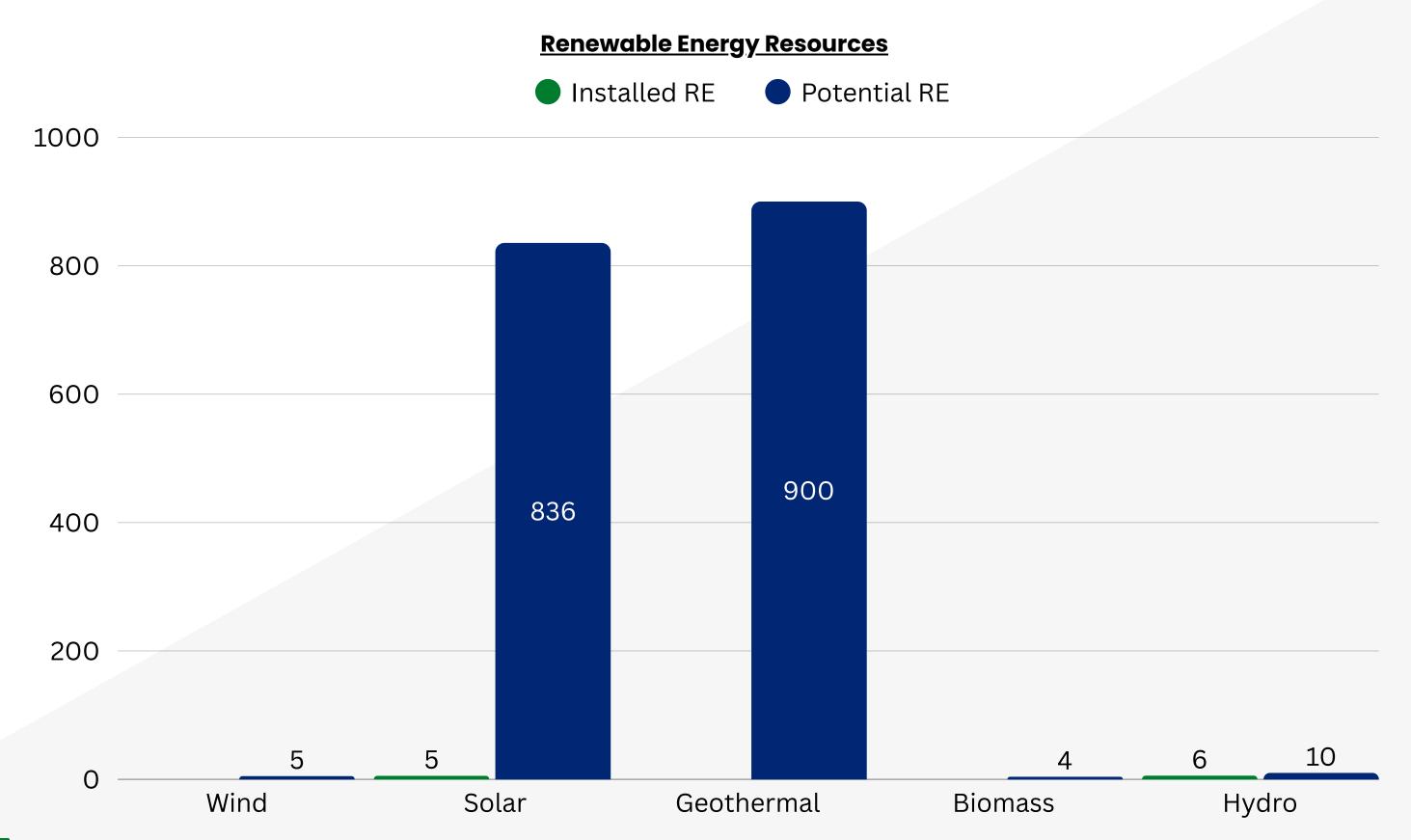


<sup>4 -</sup> The data presented represents a compilation of data from SKELEC and NEVLEC.





# Electricity and Energy Efficiency [11] [13]









Rate Class	kWh	Rate (US\$/kWh		
	0	US\$ 1.84 <sup>8</sup>		
Residential	50 kWh or less	US\$ 0.37		
	More than 50 kWh	US\$ 0.40		
	0 to 17 kWh	US\$ 5.54 <sup>9</sup>		
Commoraid	18 to 150,000 kWh	US\$ 0.42		
Commercial	More than 150,000, less than 200,000 kWh	US\$ 0.41		
	More than 200,000 kWh	US\$ 0.40		
	150,000 kWh or less	US\$ 0.38		
Industrial	More than 150,000, less than 200,000 kWh	US\$ 0.37		
	More than 200,000 kWh	US\$ 0.36		
Street Lights	All Units	US\$ 0.43		

<sup>7 -</sup> The electricity tariffs include the average fuel charge of US\$ 0.22 per kWh.
8 - Rate per month
9 - Rate per month







# **Projects in the Pipeline**

#### **<u>Programmes</u>**

Programme Name	Implementing Partner	Funding Awards	Funding Source		
Sustainable Energy for the Eastern Caribbean (SEEC): Solar PV Plant and Energy Efficiency Project [34] <sup>10</sup>	VINLEC Government of St. Vincent and the Grenadines	US\$ 4 million	Caribbean Development Bank European Union – Caribbean Climate Investment Facility Department for International Development		
Grenadines Transition Project [34]	VINLEC Government of St. Vincent and the Grenadines	US\$ 10 million	Abu Dhabi Fund for Development (ADFD)		
Geothermal Development Project [34] 11	Government of St. Vincent and the Grenadines				
Solar for Critical Infrastructure Initiative [34] 12	Government of St. Vincent and the Grenadines				
Legislative and Policy Review for the Energy Sector [34] 12	Government of St. Vincent and the Grenadines				

<sup>10 -</sup> This programme has been completed.

<sup>11 -</sup> This project is under revision at the time of data collection.

<sup>12-</sup> At the time of data collection, these projects were proposals for consideration





Energy Efficiency	Programme Name	Old/Existing Infrastructure	Consumption	Expected Change in Technology	Relative Difference in Operating Consumption/Costs
Street Lighting	Sustainable Energy for the Eastern Caribbean (SEEC): Solar PV Plant and Energy Efficiency Project [34]	8120 lamps	3232 MWh / 2.1% of the National Consumption	Changed from HPS to LED fixtures	Each 8 W LED bulb replaces a 60 W Incandescent or a 15 W CFL bulb (Estimated.)
Public Building	Sustainable Energy for the Eastern Caribbean (SEEC): Solar PV Plant and Energy Efficiency Project [34]				





# **Projects in the Pipeline**

## <u>Renewable Energy Projects</u>

Renewable Energy Source	Project Name Project Name		System Size (kW)	Implementing Partner	Total Estimated Cost	Funding Source
Solar Photo-Voltaic [34]	AIA Solar Farm	Sustainable Energy for the Eastern Caribbean (SEEC): Solar PV Plant and Energy Efficiency Project	500	Government of St. Vincent and the Grenadines	US\$ 1,500,000	Caribbean Development Bank European Union – Caribbean Climate Investment Facility Department for International Development
	Solar PV and Energy Efficiency Retrofit in Public Buildings	Sustainable Energy for the Eastern Caribbean (SEEC): Solar PV Plant and Energy Efficiency Project	150	Government of St. Vincent and the Grenadines		Caribbean Development Bank European Union – Caribbean Climate Investment Facility Department for International Development
	Bequia Microgrid Project	Grenadines Transition Project	3,000 kW / 7 MWh battery storage	Government of St. Vincent and the Grenadines	US\$ 18,000	Abu Dhabi Fund for Development (ADFD)
Geothermal [34]	Geothermal [34]  St. Vincent Geotherma  Development Project		10,000	VINLEC Government of St. Vincent and the Grenadines	US\$ 93,000	Caribbean Development Bank Saudi Fund for Development





## **Tertiary Programmes Offered**

St. Vincent and the Grenadines Community
College [35]

#### **Vocational Certificate**

• Electrical Installations - CVQ Level 1



# St. Vincent and the Grenadines Community College [43]

#### **Associate Degree**

- Electrical Engineering Technology
- Green Engineering (Caribbean Advance Proficiency Examination)
- Environmental Science (Caribbean Advance Proficiency Examination)





# Climate Change Framework

Climate Change Policy	National Climate Change Policy of Saint Vincent and the Grenadines (2019) [9]				
Nationally Determined Contributions Summary	An unconditional, economy-wide reduction in greenhouse gas (GHG) emissions of 22% compared to its business as usual (BAU) scenario by 2025.				
Emission Reduction Target					
Priority Sectors for NDC [10]	<ul> <li>Energy (including domestic transport)</li> <li>Industrial processes and product use</li> <li>Agriculture</li> <li>Land use, land use change and forestry</li> <li>Waste</li> </ul>				
National Communications (NC) to the UNFCCC	Initial National Communication on Climate Change St. Vincent and the Grenadines (2000) [37]				
	Second National Communication on Climate Change Saint Vincent and the Grenadines (2015) [38]				







### Summary of St. Vincent and the Grenadines' GHG Emissions and Removals (Gg) for 2004 [38]

	Emissions (Gg)	Removals (Gg)		Emissions (Gg)				
Sources	Carbon Dioxide (CO )	Carbon Dioxide (CO²)	Methane (CH <sup>4</sup> )	Nitrous Oxide (N <sub>2</sub> O)	Nitrogen Dioxide (NO2)	Carbon Monoxide (CO)	NMVOCs	Sulfur dioxide (SO)
Energy	217.377		0.04	0.002	1.346	7.903	1.41	0.456
Industrial Processes	NO		NO	NO	NO	NO	3.812	NO
Solvent and Other Product Use				0.005			0.965	
Agriculture			0.243	0.179	0			
Land-Use Change & Forestry	0	-34.731	0.022	0	0.005	0.188		
Waste	0.037		2.896	0.007				
International Bunkers - Aviation	0.723		0	0	156.20	0.003	0.001	0





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