St. Vincent and the Grenadines

GCF Country Programme

MINISTRY OF FINANCE, ECONOMIC PLANNING, SUSTAINABLE DEVELOPMENT AND INFORMATION TECHNOLOGY

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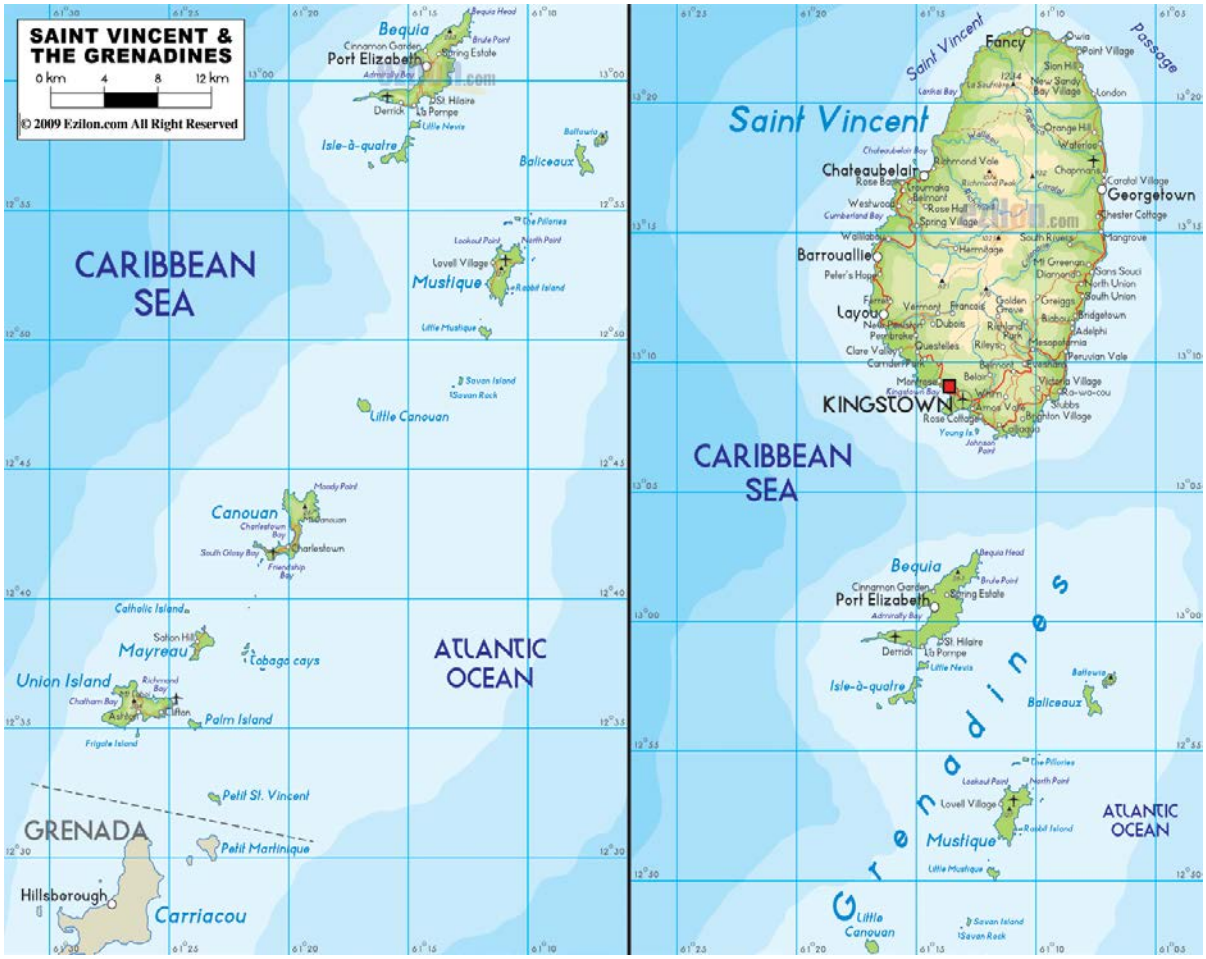
List of Acronyms

AE	Accredited Entity
ALBA	Bolivarian Alliance for the Americas
BAU	Business as Usual
BNTF	The Basic Needs Trust Fund
CARDI	Caribbean Agricultural Research and Development Institute
CARICOM	Caribbean Community Market
CCA	Climate change adaptation
CCCCC	Caribbean Community Climate Change Centre
CDB	Caribbean Development Bank
CELAC	Community of Latin American and Caribbean States
CIF	Climate Investment Funds
CTF	Clean Technology Fund
CWSA	The Central Water and Sewage Authority
CYEN	Caribbean Youth Environment Network
DAE	Direct Access Entity
ECCB	Eastern Caribbean Central Bank
EE	Energy efficiency
EPSDD	Economic Planning and Sustainable Development Division
FAO	Food and Agricultural Organization of the United Nations
FIP	Forest Investment Fund
FP	Focal Point
GCF	Green Climate Fund
GDP	Gross Domestic Product
GEF	Global Environment Fund
GHG	Greenhouse Gas
GoSVG	Government of Saint Vincent and the Grenadines
NAP	National Adaptation Plan
IFC	International Finance Corporation
INDC	Intended Nationally Determined Contribution
IPCC	Intergovernmental Panel on Climate Change
IRENA	International Renewable Energy Agency
J-CCCP	Japan-Caribbean Climate Change Partnership
LDC	Least Developed Countries
LULUCF	Land Use, Land Use Change and Forestry
MFEPSDIT	Ministry of Finance, Economic Planning, Sustainable Development and Information Technology
M&E	Monitoring and Evaluation
NAMA	Nationally Appropriate Mitigation Action
NAP	National Adaptation Plan
NCCC	National Climate Change Committee
NCCP	National Climate Change Policy
NDA	Nationally Designated Authority
NDC	Nationally Determined Contributions
NEMO	National Emergency Management Organization
NPA	National Parks, Rivers and Beaches Authority
OECS	Organization of Eastern Caribbean States
PPCR	Pilot Program for Climate Resilience
PPP	Public-Private Partnership
PV	Photovoltaic

RE	Renewable energy
SDU	Sustainable Development Unit
SNC	Second National Communication to the UNFCCC
SREP	Scaling-up of Renewable Energy Program
SVG	Saint Vincent and the Grenadines
WB	The World Bank
SIDS	Small Island Development States
SVG	Saint Vincent and the Grenadines
SVGPA	St. Vincent and the Grenadines Port Authority
VINLEC	St. Vincent Electricity Services Ltd
WINFA	Windward Islands Farmers Association

1. Country Profile

Saint Vincent ant the Grenadines is a sovereign state within the Commonwealth Realm and the official language is English. It is part of the Organisation of Eastern Caribbean States (OECS), the Caribbean Community (CARICOM), the Commonwealth of Nations, the Bolivarian Alliance for the Americas (ALBA) and the Community of Latin American and Caribbean States (CELAC). Saint Vincent and the Grenadines consists of 32 islands with Saint Vincent being the largest island. The capital of Saint Vincent and the Grenadines is Kingstown. Kingstown is also the largest city, located on the main island Saint Vincent, and contains the country's main port. Saint Vincent and the Grenadines has a population of 110,049 in 2017 (Statistical Office, 2019), and Kingstown has a population of 35,000. Only nine (9) of the 32 islands are inhabited.



The following Table 1 summarizes the country's main climate change characteristics and some of the main climate change actors.

Table 1. General information of Saint Vincent and the Grenadines.

Geographical location	South Eastern Caribbean. The main island Saint Vincent is located at 13° 15'N, 61° 12', whilst the other islands, called the Grenadines, stretch a distance of 72 kilometers to the southwest. There are eight inhabited islands in the Grenadines: Young Island, Bequia, Mustique, Union, Canouan, Mayreau, Palm Island, and Petit St. Vincent.
Land area	Saint Vincent and the Grenadines is an archipelagic state comprising 32 islets and cays. Saint Vincent, is the largest of the islands with a size of 344.5 km^2. The Grenadines, which extends 1.6 km to the southwest of the mainland, Saint Vincent, covers a land area of approximately 44 km^2.
Population	Saint Vincent and the Grenadines has a population of around 110,000 inhabitants, of which 100,000 reside in in Saint Vincent and 10,000 reside in the Grenadines) (Statistical Office, 2017). However, only eight islands of the Grenadines are inhabited: Young Island, Bequia, Mustique, Canouan, Mayreau, Union Island, Palm Island, and Petit St. Vincent. The other islets, rocks and cays that make up Saint Vincent and the Grenadines are mostly uninhabited, volcanic, rugged in terrain and difficult to access in many areas.
Types of climate	Saint Vincent and the Grenadines enjoys a tropical climate with an annual mean temperature of 27°C. On the main island, Saint Vincent, rainfall occurs in a concentric pattern with annual rainfall ranging from 1,700 mm in coastal areas and increasing inward to the central mountain range to about 7,000 mm. However, most of the rainfall occurs on the windward (eastern) side of the central mountain range due to orographic uplift. Saint Vincent receives on average 219 cm of rainfall per year, making it one of the wetter islands of the Eastern Caribbean while that for the Grenadines is estimated at 100 cm. The main island experiences two distinct rainfall periods, the wet season and the dry season. The wet season occurs from June to November, coinciding with the region's hurricane season; lower rainfall is experienced during the dry season which begins in December and ends in May. The island receives about 70 percent of its total annual rainfall during the rainy season (June to November). This season coincides with the period of highest tropical storm activity in the Caribbean which peaks from September to November where it receives 40 per cent of the total rainfall.
GHG emissions profile (2004)	The greenhouse gas emissions (GHG) emissions profile is: Energy (road transport) 27.4%, energy (diesel combustion) 24%, waste 14%, agriculture 13.2%, industrial processes 12.3%, energy (residential) 2.8%, waste water handling 1.5% (SNC, 2015).
Key emitter sectors	The main emitter sectors are: Energy (domestic transport and electricity generation), waste, agriculture, land use, land use change and forestry, waste (SNC, 2015).
Key climate risks	The key climate risks are: Droughts, unevenly distributed rainfall, natural disasters (hurricanes, floods), storm surge inundation, heat waves, landslides (triggered by exposed soil resulting from fires which occur during the dry season) (SNC, 2015).
Vulnerable sectors	Agriculture, coastal zones infrastructure, water resources, health, tourism (as an effect on climate change impacts on energy, health, agriculture, social development, housing and the environment)
NDA/FP	Ministry of Finance, Economic Planning, Sustainable Development and Information Technology

National/Regional AEs	National Accredited Entities: None. Regional Accredited Entities: • Caribbean Development Bank (CBD) • Caribbean Community Climate Change Centre (CCCCC)
International AEs	With office in Barbados: • United Nations Development Programme (UNDP) • Food and Agriculture Organization of the United Nations (FAO) • The World Bank (WB)
Potential AEs nominated	Not yet determined (as of August, 2019)

Source: Own elaboration based on Second National Communication to the UNFCCC (2015) and other sources.

1.1. Climate change profile[1]

Climate scenarios

Climate scenarios in the SNC (2015) correspond to the Special Report Emission Scenarios (SRES). These projections of rainfall and temperature for Saint Vincent and the Grenadines through the end of the century are obtained, from a consensus of an ensemble of 15 Global Circulation Model (GCMs), Regional Climate Model (RCM) and downscaling techniques. The models were run using the SRES that represent future change under three GHG emission scenarios: AIBI (medium emissions), A2 (high emissions) and B1 (lower emissions).

Temperature. The mean temperature is expected to increase by 0.15° C per decade over the next century. Under the A2 scenario (high emissions), GCMs project maximum temperature changes of up to 4° C by the end of the century, with median annual increase of up to 1.0° C by the 2030s,1.8 °C by the 2060s, and 2° C by the 2090s. Projection for seasonal changes also showed a similar warming trend throughout the century. By the end of the century, under the highest emission scenario, GCMs project the greatest seasonal warming will occur in December, January and February while the months of June to November showed the fastest average rates of decadal change. The frequency of hot days and nights is also expected to increase by 75 percent and 66 percent by the 2060s, increasing up to 99 percent by the end of the century. Cold days and nights show marked decrease, almost reaching nonexistence by the 2060s.

Rainfall. Most models point to a drying throughout the year with negative median values range from 10 percent to 22 percent annually by 2090s. The maximum possible changes indicate up to 24 percent less annual rainfall by 2030s, 41 percent by 2060s and 58 percent by 2090s. The results from the models also suggest drying in the wet season from June to November, with the greatest seasonal change seen in the summer months (7.1 percent per decade). Decreased rainfall in the rainy season will significantly affect water availability for Saint Vincent and the Grenadines whose water source currently is from

[1] This section is based for most of its part on sections 4.2 and 4.3 of the Second National Communication (2015), available at https://unfccc.int/resource/docs/natc/vctnc2.pdf.

surface streams. The dry months early in the year are less severely affected in the median, but still show similar downward trends. Moreover, the proportion of total rainfall occurring in heavy events shows the greatest change in March, April and May, with a decrease of up to 30 percent under A2. Most scenarios, however, indicate a slight decrease in maximum 1-day rainfall, but up to 7 mm decrease in maximum 5-day rainfall by the end of the century.

Hurricanes. According to predictions from the IPCC, the future hurricanes of the north tropical Atlantic will likely become more intense, with higher peak wind speeds and heavier near-storm precipitation. Similar to projections for hurricanes, the IPCC's projections were relied on to estimate sea level rise. Changes in the Caribbean are expected to be near the global mean of 0.5 m to 0.6 m in the range of 2018 to 2100 when compared to 1986 to 2005 (under RCP 4.5 scenario). All models show continued ENSO inter-annual variability.

Sea level rise. Ocean expansion (due to warming) and the inflow of water from melting glaciers have raised the global sea level over the last decade. Large deviations among the limited set of models addressing the issue, however, make future estimates of sea level change uncertain, including those for the Caribbean. Similar to projections for hurricanes, it is the IPCC's projections which are relied upon to estimate sea level rise. Whereas it is not presently possible to project sea level rise for Saint Vincent and the Grenadines, changes in the Caribbean are expected to be near the global mean. Under the A1B scenario, sea level rise within the Caribbean is expected to be between 0.17 m and 0.24 m by 2050 (IPCC 2007). For comparison, global sea level rise is expected to average 0.35 m (0.21 to 0.48 m) under the same scenario by the end of the century (relative to the period 1980-1999). It is important to note, however, that changes in ocean density and circulation will ensure that the distribution of sea level rise will not be uniform across the region.

Temperatures and ENSO**.** All models show continued ENSO interannual variability in the future. However, there is no consistent indication of discernible changes in projected ENSO amplitude and frequency in the 21st century (IPCC 2007). According to the aforementioned projections, one can expect a drier, hotter Saint Vincent and the Grenadines with less natural coastal defense structures (mangroves, coral reefs, sand dunes) to buffer more intense and more frequent storm systems.

Vulnerability profile

Saint Vincent and the Grenadines is challenged by a number of **climate change associated risks,** including: sea-level rise and coastal inundation, increased impacts from hurricanes, reduction of biodiversity, ocean acidification and coral bleaching; and adverse changes in weather patterns such as change in intensity and frequency of floods and droughts. In recent years, the country has experienced three severe rain events, resulting in destruction to property, livelihoods and public infrastructure. As recently as December 24th 2013, severe torrential rains resulted in the death of 12 persons, the temporary displacement of some 750 persons, and damage and loss to several sectors of the economy.

According to the SNC (2015), the following sectors are susceptible to climate changes impacts: Agriculture, coastal zones infrastructure, water resources, health, tourism (as an

effect on climate change impacts on energy, health, agriculture, social development, housing and the environment).

The **agriculture** sector in Saint Vincent is especially sensitive to extended periods of drought, unevenly distributed rainfall and natural disasters when coupled with existing practices such as mono-cropping and poor soil and water management. Three extreme climatic events over a span of three years (2009 – 2011 inclusive) highlighted the vulnerability in this sector. In 2009 there was a water shortage resulting from drought conditions. Many residents in Georgetown practise agriculture and farmers suffered losses from reduced crop production that year. As a consequence, food prices rose and produce had to be imported from other islands to supplement the limited supply in Saint Vincent. In 2010 hurricane Tomas resulted in losses totalling EC $35 million, mainly to banana and plantain production. During April 2011 heavy rainfall caused rivers to overflow and landslides in the north-eastern section of Saint Vincent in a major agricultural area. This occurred while the sector was still recovering from damages caused by hurricane Tomas in the previous year.

The **coastal zone** is also threatened by climate change since more than 90 per cent of the critical infrastructural development lies on a narrow coastal belt less than eight metres above sea level. Any disruption in this zone, such as storm damage or shoreline inundation, would therefore be catastrophic to the economy and social dynamics. Moreover, most of the marine support structures—mangroves and reefs—have been severely affected by higher than normal sea surface temperatures and droughts followed by massive storm surges.

Coastal areas already face pressure from natural forces (wind, waves, tides and currents) and human activities (beach sand removal and inappropriate construction of shoreline structures). The impacts of climate change, in particular SLR, will magnify these pressures and accelerate coastal erosion. The areas at greatest risk in Saint Vincent and the Grenadines are Belmont Walkway, Canash Beach, Indian Bay, Johnson Point and Villa Beach, which are home to notable resorts, ports and an airport that lies at less than 6 metres above sea level and will therefore be affected.

Results from the sea level rise modelling work conducted in 2011 indicate that one metre of sea level rise places 10% of the major tourism properties at risk, along with 1% of road networks, 50% of airports and 67% of seaports. Engineered structures and natural environments (e.g. mangroves) can protect against some of these impacts to coastal regions, but the dynamics of erosion processes will demand some adaptation of coastal infrastructure and settlements. The infrastructures located on the narrow coastal belt include the island's main communication and emergency response structures—roads, airports, telecommunications, financial institutions and technical support centres. Additionally, many of the coastal protection ecosystems such as dunes, mangroves and reefs have been removed or are degraded, which exacerbate the vulnerability of coastal infrastructure to storm and hurricane activity (particularly wind and storm surges).

Like other sectors, the **health sector** is affected by a change in climate. It must handle the burden of climate-sensitive diseases or other related conditions resulting from climate change, such as temperature-related morbidity and mortality, since some causes of death are exacerbated by heat. Moreover, too little or too much water can facilitate the spread of water- and vector-borne diseases such as malaria, dengue and

leptospirosis. Leptospirosis has shown an upward trend in the past 12 years. Noteworthy is that during the years 2002, 2004, 2005 and 2007, when there were tropical storms or hurricanes which resulted in flooding, the rates of infection were high. Also, medicines can be harmed by higher temperatures, losing their chemical properties. Vector-borne diseases may increase due to increased precipitation and temperatures in Saint Vincent and the Grenadines. Dengue is specifically mentioned but malaria cases have also been reported. Data obtained from the Ministry of Health reported one imported case of malaria in 2008 and another in 2010. In 2007, the Caribbean Environmental Health Institute also stated that there are serious issues related to availability of water, health and sanitation in the context of vector control.

The **water sector** is also subject to the negative effects of climate change since the country depends heavily on rainfall to supply its network of rivers and for water harvesting. Watersheds have also been affected by land degradation due to "squatting, mono-cropping with poor agricultural techniques, global weather patterns (changes in rainfall distribution, drought and elevated atmospheric temperatures), deforestation and excessive use of agrochemicals" (INDC, 2015). Climate models suggest that the country will experience drying throughout the year, even during the wet season. Further reduced rainfall would severely impact the water supply of rivers and streams in Saint Vincent and is of particular concern for the Grenadine Islands, which have a very high dependence on rainwater for freshwater supply. Climate models also predict an increase in the intensity of rainfall and a distribution of rainfall over fewer rain days, which means that the country is vulnerable not only to droughts, but also to the secondary effects of torrential rains such as landslides and the contamination of water supplies.

SVG is shifting its economy towards **tourism**. This industry interacts with, and is supported by, other sectors such as energy, health, agriculture, social development, housing and the environment. The cumulative impacts on these sectors thus combine to impact tourism. With this in mind, the estimated impact of climate change on the tourism products of SIDS and by extension SVG is expected to be strongly negative. Expected increases in the frequency or magnitude of certain weather and climate extremes (e.g. heat waves, droughts, floods, tropical cyclones) as a result of climate change will affect the tourism industry through increased infrastructure damage, additional emergency preparedness requirements, higher operating expenses (e.g. insurance, backup water and power systems and evacuations) and business interruptions (INDC, 2015). Climate change also fuels coral bleaching. In SVG, the coral reefs are already dissipating. This has consequences for dive tourism, as well as the fisheries sector. Some species of fish are declining, while there are increases in other species of fish.

Vulnerable social groups like women, indigenous peoples, minorities, the elderly. Second National communication does not provide any specific information on women, indigenous peoples (caribs), minorities or the elderly. According to the draft document of the National Adaptation Plan, gender issues are not acknowledged as a significant challenge in SVG.

Key emitter sectors and mitigation challenges

According to the Second National Communication on Climate Change (SNC) (2015), the greenhouse gas emissions (GHG) emissions profile is: Energy (road transport) 27.4%, energy (diesel combustion) 24%, waste 14%, agriculture 13.2%, industrial processes 12.3%,

energy (residential) 2.8%, waste water handling 1.5%. That is, the key emitter sectors are: Energy (domestic transport and electricity generation), waste, agriculture, land use, land use change and forestry, waste.

The main mitigation challenge is the reduction of energy related emissions, as the energy sector accounted for approximately 68% of total GHG emissions in 2010 with projected further growth through to 2025 (INDC, 2015). Within the sector, approximately 47% of emissions can be attributed to energy generation and approximately 53% from transport (INDC, 2015).

The main consumers of this electricity are the domestic sector (49 percent), commercial sector (43 percent), industry (6 percent) and street lighting (2 percent). According to the National Electricity Transition Strategy (2017), the expected growth in electricity usage of on average 2 percent per year on Saint Vincent Island. The Grenadines' energy usages are expected to grow at 2.4 percent for Bequia, 0.8 percent for Canouan, 3.0 percent for Mayreau, and 1.2 percent for Union Island per year on average.

Energy (Electricity Generation)

Approximately 81 percent of the electrical energy generated in Saint Vincent comes from fossil fuel and 21 percent from renewable energy. For the Grenadines, until 2017, nearly 100% of the electricity came from diesel generation.

Diesel based power plants. The electricity company, St. Vincent Electricity Services Ltd (VINLEC), upgraded of the diesel plants to meet demand. In 2007, the Lowmans Bay Power Plant, VINLEC commissioned, with a capacity of 17.4 Mega Watts (MW), providing the majority of all power generated on the mainland.

Hydroelectricity**.** Saint Vincent and the Grenadines has a long history of utilizing renewable energy to generate electricity that started with the commissioning of its first hydroelectric station in 1952. With the expansion that has taken place in this area, the company now operates three. (3) hydroelectric stations (South Rivers, Cumberland and Richmond) that now provide nearly 20% of the electricity generated on mainland Saint Vincent (Rocky Mountain Institute, 2017). However, VINLEC, has reported reductions in its hydro-electricity supply during the dry season due to reduced stream flow.

Solar. According to the National Electricity Transition Strategy (2017), the total solar photovoltaic (PV) installed capacity in Saint Vincent was 0.9 MW, corresponding to 1 percent of total energy needs. The installed solar capacity has been driven by both VINLEC and customer development of solar. By 2017, approximately. A 0.5 MW solar farm was installed at the Argyles Airport, which began operating in 2018. Following the National Electricity Transition Strategy, additional solar PV and battery storage are currently in the process of being installed in the Grenadines and/or is planned in Saint Vincent.

Geothermal. With the support of the joint Facility between the International Renewable Energy Agency (IRENA) and the Abu Dhabi Fund for Development (ADFD), a USD $15 million, 10–15 MW geothermal project is being developed as a public–private partnership between the Government of Saint Vincent and the Grenadines, Light & Power Holdings and Reykjavik Geothermal. The project will contribute to achieving the country's Energy Action Plan target to increase the amount of renewable energy to 60% of the energy mix by 2020. Once operational, the plant will bring the share of renewable energy sources to

approximately 73% of total national power generation, well in excess of the country's Energy Action Plan target. The ADFD has provided a concessional loan of USD 15 million for this project. Co-financing is being provided by equity partners and several sources of public funding including the Government of Saint Vincent and the Grenadines and donor agencies. Civil works are already underway and well drilling works will begin in mid-2019, with confirmation of the resource before the end of 2019. The project is expected to be completed by 2023.

Energy efficiency. The target is to reduce national electricity consumption by 15% compared to a BAU scenario by 2025.[2] Planned measures include the retrofitting of street lighting nationally, a new building code and an energy labelling scheme for appliances, as well as reduce emissions from waste going to landfill.

Land Use, Land Use Change and Forestry (LULUCF). By 2019, good quality data on forestry inventory does not exist, and it is in the process of being addressed. Once the forestry inventory is compiled, policies and actions (Forestry Policy / Forestry Sector Plan) will be developed for the sector.

Transport. Air and land-based transport have the fastest growing demand for energy in SVG and contribute to GHG emissions through the heavy reliance on fossil fuel energy sources, including gasoline, diesel, avgas (used domestically) and lubricants. GHG emissions in the transport sector are expected to rise 88% from approximately 137,000 tons in 2010 to 257,000 tons in 2025 (SNC, 2015). There are approximately 680 miles of motorable road way and over 12,000 motor vehicles. In addition, this sector uses a large amount of fossil fuel. In 2002, of the 100 kilotons of fossil fuel imported, approximately 40 percent was used by motor vehicles while the rest went to service light aircrafts, small boats, the food industry (cooking) and the electricity company. The importation of used vehicles is a major concern, given their lower fuel operating efficiencies. New policies to reduce the import duty paid on low emission vehicles are in the process of being introduced to encourage their use. It is estimated that this will result in avoided emissions of approximately 10% over the next 10 years. Improved public transportation needs international finance. International support for a Nationally Appropriate Mitigation Action (NAMA) will be sought for the transport sector.

Sea transport. As a multi-island State, maritime transport and ship registry are significant activities for SVG, which depends largely on sea transport for the intra-state movement of people and cargo as well as for international trade. There is heavy reliance on fossil fuel energy sources for maritime transport, including gasoline, diesel and lubricants, which contributes increasingly to GHG emissions as 'the main trends in the Caribbean maritime sector are the increasing vessel sizes and consolidation among shipping lines.' (CDB, 2016). SVG's maritime infrastructure, including fleets, shipping lanes and ports, are also likely to be adversely impacted by climate change due to sea level rise, hurricanes, storm surge and rough seas. There are five marine terminals in the country including the main deep-water port at Kingstown. The terminal in Kingstown is comprised of a 274.3m

[2] St. Vincent and the Grenadines Energy Action Plan (2010). The proposed date to achieve the target (2020) has been revised in the INDC (2015) to 2025 to allow more time for the implementation of policies.

long deep-water pier, an 800 feet long cruise ship terminal, a 76.2m long schooner facility and a 76.2m pier that serves the ferries which service the Grenadines. There is a container port at Campden Park with a storage capacity of 540 containers. There are also several smaller ports and jetties scattered around the country.

Industry. In 1999 the government proposed the provision of factory space and or land and ancillary services for lease or sale to private entrepreneurs. These sites are the Campden Park Industrial Estate and the Diamond Industrial Estate. Rice and wheat imported from Guyana and Canada respectively are milled and packaged at a small plant at the Campden Park Estate while arrowroot rhizomes are processed into starch at Owia on the north eastern side of the island.

Tourism. Saint Vincent and the Grenadines tourism industry is seen as the major economic earner because of the downfall of the agricultural industry. The industry has proven to be a significant driver of economic activity, foreign exchange earner and employment creator. The government plans to position Saint Vincent and the Grenadines as a diverse, globally competitive destination through effective planning, management and sustainable use of the cultural and natural resources of the country, while facilitating the preservation of the local heritage. As the fastest growing economic sector in SVG, tourism contributes significantly to GHG emissions through land use change and coastal development for hotels and tourism-related activities and infrastructure, high energy use for electricity and transport by air, land and sea, and waste generation. It is projected that GHG emissions from tourism and the commercial sector will increase by 201% from approximately 48,000 tons in 2010 to 144,000 tons in 2025 (SNC, 2015). The majority of this increase will be due to increasing electricity demand, including for air conditioning, lighting, cooking and refrigeration.

Agriculture. Agricultural land (cultivated land plus permanent meadows and pastures) was about 10,000 hectares in 2018, 26 percent of the total area in the country (FAO, 2015; FAO, 2019). Cultivated land, arable land and area under permanent crops was about 21 percent of the total area, with about 3,000 hectares under permanent crops and 5,000 hectares under temporary crops and other uses. There has been a decrease in the amount of agricultural land over the last 20 years from a peak use of 13,000 hectares in 1988, mainly due to the collapse of the banana industry. A national land management plan to control the rate of conversion of lands zoned for agriculture being converted to land for housing now appears to be necessary if Saint Vincent is to maintain, and even increase, its current level of food production. Failure to institute zoning laws could result in significant loss of agriculture lands and the consequent inability of the country to feed itself. Livestock - largely sheep, goats, cattle and pigs - are raised by farmers in small family holdings. With the growing number of fast food outlets, the demand for poultry and poultry products is increasing. Most of the products from the livestock industry are consumed locally.

1.2. Development Profile[3]

Saint Vincent and the Grenadines is classified as a Small Island Developing State (SIDS) and as an upper middle-income country. The economy depends primarily on services. The country's 110,000 inhabitants live on 9 of the 32 islands and cays. Forty six percent of the population now lives in urban areas, reflecting in part the steady decline in the rural population since 1980. The travel and tourism sector alone accounted for 48 percent of total exports in 2017. Agriculture and fishing also remain important sources of jobs and incomes.

Like many SIDS, SVG suffers from issues associated with high debt, low growth and vulnerability to natural disasters (World Bank, 2019). Growth picked up moderately in 2018, to 2.3 percent (Table 1), due to growth in construction, fishing, manufacturing, and tourism related services, with higher tourist arrivals following the opening of the new airport. Activity in the construction sector due to private sector activities, including ongoing works at the Glossy Bay Marina on Canouan, the US$90.1m Geothermal project to deliver 10-15MW of base load power, and the US$65m Black Sand Resort Project at Mt Wynne and Peter's Hope. Fish landings increased by 45.1 percent, while the value of those landing rose by 55.6 percent, supported by growth in the price per pound for most species of fish. Accompanying the increases in landings, export volumes grew by 121.0 percent, likely resulting from enhanced marketing drives in the US and adequate support provided by the Argyle International Airport.

Growth had been slow throughout 2017 as tourist arrivals remained flat and airport construction ended. Closure of the largest mainland hotel in late 2016 took a toll on the tourism sector well into 2017, with stay over tourist arrivals falling in the first three quarters of the year by 3.9 percent. Tourism picked up late in the third quarter of 2017 with the opening of the new airport, new flight connections, and tourist diversion from other Caribbean islands following the September 2017 hurricanes, and this increase in arrivals continued into 2018.

Table 2. Saint Vincent and the Grenadines' economic indicators (2015-2018)

Indicators	2015	2016	2017	2018*
GDP (US$ million)	754.8	770.6	785.8	811.1
GDP growth (%)	0.8	0.8	0.7	2.3
GDP (US$ million) (PPP)	1,246	1,256	1,265	--
GDP per capita (US$)	6,889	7,026	7,157	7,386
GDP per capita (US$) (PPP)	11,300	11,400	11,500	--
Debt service (% of total revenue)	27.6	27.0	30.0	30.0
Current account balance (% of GDP)	-14.9	-15.8	-14.1	n.a.
Total Exports	126.5	116.1	114.2	n.a.
Total Imports	900.9	903.9	890.9	n.a.
Foreign Direct Investment	155.6	413.3	405.6	n.a.
Human Development Index (HDI) rank	97	99	99	n.a.
Human Development Index (HDI) (scale from 0 to 1)	0.72	0.721	0.723	n.a.
Ease of doing business (rank out of 190 countries)				130
Ease of doing business (score)				56.35

[3] This section is based on the latest analysis of the World Bank (2019) under the First Fiscal Reform and Resilience Development Policy Credit and the SVG Economic and Social Review (January to September 2018) by the Economic Planning and Social Development Unit, MoFEPSDIT.

* Based on data up to September
Source: St Vincent and the Grenadines Economic and Social Review, January to September 2018. Economic Planning and Social Development Unit, MoFEPSDIT; CIA World Factbook; World Bank, 2019. Doing Business 2019, St. Vincent and the Grenadines.

Agriculture continued its recovery, supported by ongoing donor - funded initiatives to enhance output in crops and livestock (though the agriculture, fisheries and forestry sector in total represents only 7.8 percent of GDP). Manufacturing output, which represents just over 5.0 percent of GDP, has been flat. The services sector, which accounts for nearly 75 percent of total GDP, grew by 0.7 percent in 2017 and approximately 2.0 percent in 2018.

In an environment of low growth, unemployment has remained persistently high. The unemployment rate is estimated at 20 percent, reflecting few employment opportunities provided by large companies but also labor skills mismatches. The authorities continue efforts to address the skills problem by improving labor market policies, including vocational education and training, apprenticeships, and job counseling. Unemployment among females and youth exceed the estimated national unemployment rate. Wholesale and retail trade, agriculture, and construction, the three largest industries, accounted for 36 percent of total employment and employed most of the unskilled labor. The public sector absorbs most skilled labor. Public employees accounted for 27 percent of the labor force, of which 72 percent were skilled workers.

Poverty has declined over the past two decades but remains a cause for concern. Just over 30 percent of the population fell under the national poverty line in 2008. Inequality dropped markedly over the same period, with the Gini coefficient falling from 0.56 to 0.40. The reduction in poverty and inequality can largely be attributed to improved delivery and access to health care services, increased access to education, and increased female labor participation rates. High unemployment rates create challenges for poverty reduction. The frequent and persistent shocks suffered by the economy and households, coupled with a lack of macroeconomic tools to smooth economic cycles, is a barrier to poverty reduction. Building fiscal and climate resilience, as supported by this series, is anticipated to lessen the impact of such shocks on poor households, frequently those that are the hardest hit by natural disasters, and over time reduce poverty and increase equality.

SVG has registered large but moderating current account deficits, with a large portion of them being financed by Foreign Direct Investment (FDI). The current account deficit in 2017 was 14.1 percent of GDP and projected at 15.9 percent for 2018, an improvement from levels exceeding 25 and 30 percent of GDP in the years preceding 2014. The current account deficit narrowed as exports of agricultural products to regional markets increased and imports of capital goods declined with the completion of the new international airport. Nonetheless, SVG remains highly import dependent. The vast majority of food, fuel, consumer and capital goods are imported and, as a small island state, it is difficult to meaningfully reduce these imports. On the export of goods, 73 percent are food and beverages, largely wheat flour (SVG has a mill and exports refined flour to other Caribbean islands), beer, and some tropical fruits and vegetables, including arrowroot and bananas. The balance, 25 percent of exports, are light-manufactured products. Tourism receipts exceed 25 percent of GDP in a typical year and make a substantial contribution to financing the current account deficit. Completion of the new

airport has generated increased tourist arrivals from late 2017 onward, particularly from Canada via its now direct Toronto flight. Remittances, at about 4 percent of GDP, help finance the large trade imbalance. Net FDI totaled 12.5 percent of GDP in 2018, financing a large portion of the current account deficit, though given the small size of the economy it can fluctuate significantly.

SVG is a member of the Eastern Caribbean Currency Union (ECCU), and monetary policy and bank supervision are managed by the Eastern Caribbean Central Bank (ECCB). The ECCB focuses on price stability as a precondition for achieving sustainable growth and high employment. This policy has been successful in maintaining a low inflation rate and stable currency to support growth and investment. The ECCB has maintained a fixed exchange rate peg of EC$2.7 to US$1.0 since July 1976. Inflation has been kept under 3.0 percent over the past decade. Average inflation in 2017 was 2.2 percent and 2.4 percent in 2018. The domestic banking system remains stable, with capital and liquidity ratios comfortably above regulatory requirements.

The fiscal deficit has been reduced and importantly the primary budget surplus sustained over recent years, though fiscal reforms remain critical for sustainability. The overall fiscal balance improved from a deficit of 6.2 percent of GDP in 2013 to a surplus of 1.1 percent in 2016. Despite the introduction of several revenue mobilization measures, the Government incurred a fiscal deficit of 0.5 percent of GDP in 2017 (including grants) and 2.0 percent in 2018. The primary balance followed a similar path, though has been in surplus over the period, with a 1.9 percent of GDP surplus in 2017 and 0.6 percent in 2018. The fiscal position is somewhat volatile due to the economy's size and the impact of one - off fiscal measures in a small economy. In 2018 the revenues declined because of a reduction in corporate and personal income tax rates, and the primary surplus was lower than in 2017. Despite occasional fluctuations, maintaining a primary surplus is a key government priority to continue to reduce public debt. The primary surplus is forecast to remain at approximately 1.0 percent of GDP annually over the medium-term.

Continued fiscal reform is necessary to build fiscal buffers to face future shocks and to ensure public debt remains on a downward trajectory. Although SVG had the highest tax revenue to GDP ratio in the ECCU, further domestic revenue mobilization measures were taken. These included a doubling of the airport service charge to EC$100 per departure; increasing the VAT rate by an additional 1 percentage point, from 15 to 16 percent in the general system and from 10 to 11 percent on tourist related accommodations, imposing a US$3.00 per night tourist accommodation levy, and increasing taxes on imported vehicles. The VAT registration threshold on businesses was raised to EC$300,000 from EC$120,000 to increase the focus and oversight on large taxpayers. The license fee for non - resident landholdings was raised from 6.0 percent to 7.5 percent on properties exceeding EC$100,000. Expenditures have remained relatively stable in recent years, but rose in 2017 due to one - off transactions, including expenses on the new airport, but decreased by 1.0 percent of GDP in 2018. Public sector wages totaled 12.8 percent of GDP in 2018 and 46.0 percent of fiscal revenues, which together with transfers and subsidies total 67.8 percent of public expenditures.

Debt has fallen to 73.0 percent of GDP in 2018 since its peak in 2016, prior to which it had been driven by airport construction and post-disaster reconstruction. Public financing of the Argyle International Airport contributed to the growth of public sector debt to 82.9

percent of GDP in 2016 from 75.9 percent in 2013. Estimates in the 2018 budget noted that financing needs emanating from natural disasters, including the 2016 floods, contributed 15 percent of GDP to the national debt. In addition to fiscal consolidation and resultant continuing primary fiscal surpluses, Venezuela's debt forgiveness of SVG's PetroCaribe debt in 2017 and 2018 further reduced debt to 73.1 percent of GDP by the end of 2018. This still exceeds the ECCU 2030 target of 60 percent of GDP but puts SVG on a clear trajectory toward that objective. External public debt was 47.4 percent of GDP at end of 2017 and 44.5 percent at end of 2018, about 40 percent of which was contracted at variable rates, raising risks. Bonds and treasury bills account for around 58 percent of domestic public debt, and overdrafts, arrears and accounts payable constitute 20 percent. Current debt levels put pressure on the Government to maintain primary fiscal surpluses, while at the same time, implement growth - enhancing reforms, invest in productive and high-return infrastructure, and build buffers to natural disasters and other shocks. Efforts are being undertaken by the Government, as noted previously, to consolidate the fiscal position and maintain primary budget surpluses, including through reforms supported through this series.

1.3. Climate change response

1.3.1. National frameworks

At the national level, the policy framework is set by the National Economic and Social Development Plan (NESDP), which outlines national development priorities and guides public and private sector actions and resource allocation from 2013 to 2025. Goal 4 of the NESDP calls for 'Improving Physical Infrastructure, Preserving the Environment and Building Resilience to Climate Change'. The NESDP further provides a foundation for sustainable development in SVG through its other strategic goals including: re-engineering economic growth; enabling increased human and social development; promoting good governance and increasing the effectiveness of public administration; and building national pride, identity and culture.

The NESDP 2013-2025 envisages the continued development and strengthening of national institutions and the improvement of technical and administrative capacity to deal with the threats, in order to capitalize on the opportunities presented. The vision set for Saint Vincent and the Grenadines, and the proposed development strategies for the country will, if carefully pursued, lead to balanced, comprehensive and sustainable development. Under Objective 4.10 "to reduce the adverse impacts of climate change", the plan suggests a number of strategic interventions to support sustainable development. These include: i) Increase public awareness with regard to climate change issues; ii) Build resilience to minimize damage to settlement and infrastructure; iii) Minimize damage to beach and shoreline integrity and marine ecosystems; iv) Minimize the negative impact of climate change on agriculture and human health; v) Develop appropriate legislative and regulatory framework, for proper environmental management, and institutional systems for responding and mitigating effects of climate change. With these interventions, the following outcomes should be achieved: i) Increased awareness and responsiveness of the public in mitigating effects of climate change; ii) Improved protection of the coastal and forested environment; iii) Increased

use of technology to minimize the effects of climate change on agriculture and human health; iv) A legislative framework in place to build climate resilience.

SVG has also developed a number of plans and strategies to specifically build climate resilience at the national level and meet its commitments under the regional and international agreements described above. As a signatory to the UNFCCC, SVG developed its Nationally Determined Contribution (NDC) in 2015. The NDC also outlines priority areas for action to reduce vulnerability and adapt to climate change, including agriculture, forestry, fisheries, coastal zone, health, tourism and water resources. An updated NDC is currently being prepared for 2020 as part of SVG's obligations under the UNFCCC and its Paris Agreement. SVG has also prepared its National Adaptation Plan (NAP) and is in the process of developing sectoral adaptation plans for the agriculture (crops, livestock and fisheries) and water sectors and a National Appropriate Mitigation Action (NAMA) for the transport sector.

Intended Nationally Determined Contributions (INDCs) (2015). In the Nationally Determined Contributions (NDC, 2015), Saint Vincent and the Grenadines intends to achieve an unconditional, economy-wide reduction in greenhouse gas (GHG) emissions of 22 percent compared to its business as usual (BAU) scenario by 2025.

National Climate Change Policy (2019). The National Climate Change Policy of Saint Vincent and the Grenadines (SVG) provides overarching guidance for building resilience and mainstreaming climate change into the national development agenda for low carbon and sustainable growth. It lays out an institutional framework for an integrated and coordinated response that engages all stakeholders for climate change adaptation and mitigation, and seeks to enable harmonization across sectoral policies and plans. The Policy includes an overview of the national circumstances and context, including observed and future climate change trends and impacts, and the policy framework to be taken into account in climate change planning and decision-making. It identifies priorities for action for the period 2018-2030 including specific objectives for adaptation, mitigation and cross-cutting areas. These cross-cutting areas include information management, research and monitoring, integration of disaster risk management and national security, inter-sectoral coordination, investment and economic planning and stakeholder capacity building and engagement. The Policy also outlines the institutional arrangements for coordination and implementation to address adaptation, mitigation and the cross-cutting areas as well as mechanisms for financing and monitoring and evaluation (M&E).

National Adaptation Plans (NAP) (2018-2030) (2018). The NAP is designed to support the creation of conditions to ensure implementation of priority climate actions by key stakeholders. The adherence to the NAP's pillars ensures that it is centered on addressing the primary national adaptation needs of the country as well as the most vulnerable Vincentian to climate change. The expectation is that the priority actions articulated in the NAP will be integrated into the portfolio of the Climate Change Adaptation (CCA) actions for key sectors (agriculture, water, forestry, tourism, health and public infrastructure), aligned with the National Economic and Social Development Plan (NESDP) and sectoral strategies and plans. With international support, the Government of SVG has undertaken the almost simultaneous preparation of its overarching NAP, and of its sectoral NAPs for Agriculture and Water.

Water resources. Saint Vincent and the Grenadines has not devised a national water policy or water management plan, but it does have a draft roadmap toward Integrated Water Resources Management (IWRM) planning for Union Island, Saint Vincent and the other Grenadines (INDC, 2015). Importantly, the country is making efforts that contribute to adaptation at the community and household level.

The 2019 *National Adaptation Plan for the Water Sector (Water NAP)* (2019) complements the NAP. The development of a Water Sector NAP recognizes that the water sector is one of the most vulnerable to climate change. The Water Sector NAP will guide the integration of adaptive measures to reduce vulnerability to potential risks associated to climate change. It also provides an opportunity to modernize the sector with the introduction of new technologies that will increase productivity, improve resource efficiency, sustain livelihoods and improve rural welfare.

Nationally Appropriate Mitigation Actions (NAMA). A transport NAMA that seeks to reduce GHG emissions in the transport sector in 10% by 2025, consistent with the unconditional target defined in the INDC. The transport NAMA interventions The NAMA includes: i) Improvement of fuel efficiency in the transport sector in SVG; ii) Introduction of hybrid and electric vehicles in SVG; and iii) Improved public and private transportation system.

SVG has also participated in regional initiatives which address elements of climate change and disaster risk reduction such as: the Caribbean Planning for Adaptation to Climate Change Project, Mainstreaming and Adaptation to Climate Change Project, the Special Programme on Adaptation to Climate Change Project and the current OECS Regional Disaster Vulnerability Reduction Project and Pilot Project on Climate Resilience. Additionally, the Government of SVG has received financing from the Green Climate Fund (GCF) toward improving the readiness of SVG to access climate financing, including strengthening the capacity of the National Designated Authority and developing a country strategic framework for engagement with the GCF.

According to the SNC (2015), a number of actions have been undertaken nationally to address the issue of climate change. This was done by integrating climate change consideration into policies and legal instruments which governs a number of sectors. These sectors fall under the jurisdiction of several government and quasi-government agencies for whom climate change consideration was not a part of their regular routine. The policies and legal instruments include:

- Environmental Management Strategy and Action Plan 2004-2006
- National Energy Policy (Sustainable Energy), March 2009
- Energy Action Plan, January 2010
- Draft Environmental Management Bill
- National Disaster Plan, 2005
- National Emergency and Disaster Management Act, 2006
- Comprehensive National Disaster Management Plan
- Forest management policy documents
- Biodiversity-related policy documents
- Land degradation-related documents

A complete list of the existing national legislation and policies that are relevant to climate change are noted below in Table 3.

Disaster Risk Management. Saint Vincent and the Grenadines is a member of the Caribbean Disaster Emergency Management Agency (CDEMA), an inter-regional support network of independent emergency units that responds to disasters wherever they occur in the region (INDC, 2015). The National Emergency Management Organisation (NEMO) falls under the ambit of the Prime Minister's Office.

As part of the *National Environmental Management Strategy and Action Plan*, it includes Principle 9 to prevent and manage the causes and impacts of disaster. Two strategies, with specific activities, have been designed to help NEMO achieve this part of the environmental management plan. Strategy 29 is to "establish, at the community and national levels, appropriate and relevant integrated frameworks to prevent, prepare for, respond to, recover from and mitigate the causes and impacts of natural phenomena on the environment and to prevent man-made disasters."

Table 3. National legislation, policies and plans for SVG relevant to climate change

Legislation	Policies and Plans
• Central Water and Sewerage Authority Act, 1992 • Environmental Health Services Act, No 14, 1991 • Environmental Impact Assessment Regulations (2009) • Environmental Management Act (2009) • Environmental Services Act No. 15 of 1991 • Fisheries Act, 1986 and Fisheries Regulations, 1987 • Housing and Land Development Corporation Act, 1976 • Marine Parks Act, 1991 and Marine Parks Regulations, 1998 • Maritime Areas Act No. 15 of 1993 • Montreal Protocol Act, 2003 • Montreal Protocol (Substances that Deplete the Ozone Layer) (Control) Regulations, 2005 • National Emergency and Disaster Management Act, 2006 • National Parks Act, 2002 and National Parks (Amendment) Act, 2010 • Public Health Act, 1977 • Saint Vincent and the Grenadines National Trust Act, 1969 and Amendment Act, 2007 • Shipping Act No. 11 of 2004 • Solid Waste Regulations, No. 11 of 2005 • St. Vincent and the Grenadines Forest Resource Conservation Act, 1992 • Tobago Cays Marine Parks Act, 1999 • Town and Country Planning Act, No. 45 of 1992 • Waste Management Act and Regulations, No. 31 of 2000 • Wildlife Protection Act, 1991	• Comprehensive Disaster Management Policy 2014 • Draft Marine Tourism Policy 2005 • Draft National Forest Policy 1994 • Draft National Land Policy 2014 • Draft National Physical Development Plan 2001-2021 • Draft National Water Safety Plan 2013 • Fisheries and Aquaculture Policy 2017 • Food and Nutrition Security Policy and Action Plan 2014 • Maritime Action Plan 2005 • National Adaptation Plan 2018-2030 • National Biodiversity Strategy and Action Plan (NBSAP) 2015-2020 • National Economic and Social Development Plan (NESDP) 2013-2025 • National Energy Policy 2009 and National Energy Action Plan 2010 • National Environmental Management Strategy and Action Plan 2004-2006 • National Forest Resources Conservation Plan 1994-2003 • National Ocean Policy and Strategic Action Plan 2018 • National Parks and Protected Areas Policy 2010 • National Parks and Protected Areas System Plan 2009-2014 • National Tourism Policy 2003 • Policy Framework and Strategic Plan for Agricultural Development 2012-2018 • National Tourism Sector Strategic Plan 2002-2006 • St. Vincent and the Grenadines Building Regulations 2005 and Building Guidelines • National Disaster Plan 2005 • Strategic Plan for Health 2007-2012

Source: National Adaptation Plan (2019).

Climate related initiatives developed at national, sub-national and local level.

Renewable energy and energy efficiency**.** As described in previous sections, there has been various initiatives to promote renewable energy and energy efficiency in SVG. The Energy Unit project website, include various projects:

- The geothermal development project, that has supported the development of geothermal electricity generation.
- The ongoing GEF funded UNDP project "Promoting Access to Clean Energy Services in St. Vincent and the Grenadines" approved in 2013;
- Solar PV Demonstration and Scale-Up Project funded by ESMAP (World Bank)
- The GEF funded "Energy for Sustainable Development in the Caribbean" (ESD-Caraibes) to establish and implement measures for promoting sustainable development within the buildings sector in St. Vincent and the Grenadines.
- Building resilience to climate change in islands through the Energy Sector, funded by the Swedish Energy Agency (SEA), to build resilience to climate change in islands through the energy sector, in particular, the role of renewable energy, energy efficiency and conservation.

Agriculture. The Government has demonstrated its commitment to agricultural diversification through its policies and programmes. These efforts include the following:

- Government support for small-scale farmers in production technologies, agri-business management, good agricultural practices and pest and disease control; policy initiatives to address climate change issues, environmental protection, risk mitigation and fisheries development; and a national plan for dealing with food security.
- An innovative project which transforms abandoned land into a model for sustainable living and farming systems in Saint Vincent. As part of the project, young people in local primary and secondary schools are taught organic agriculture, environmental art and creative land use.
- The implementation of the National Forest Resources Conservation Plan (1994–2003) and Integrated Forest Management and Development Programme to address issues of rapid deforestation, limited involvement of communities in forest resource management, weak institutional capacity, lack of an approved forestry policy framework, fragmented environmental management and limited awareness of the importance of forests to national development.
- Enhancing the adaptive capacity of rural economies and natural resources to climate change through the management and protection of land-based natural resources and agricultural production systems.

Coastal areas. SVG has started to promote itself as a dive destination and has signed on to the Caribbean Challenge Initiative (CCI) with the pledge to protect 20 per cent of its near-shore marine and coastal resources by 2020. Other initiatives include:

- Participating in the Improving the Management of Coastal Resources and the Conservation of the Marine Biodiversity in the Caribbean Region project which is seeking to address marine resource management and strengthen stakeholders' capacity through a common institutional framework for managing marine protected areas (MPA) in the Caribbean Region.
- Formulating coastal zone policies through the activities of the PPCR.

- Reducing the risks induced by climate change for the population through coastal protection by means of various specific initiatives, including:
    - the Sans Souci Coastal Defence Project;
    - the project entitled At the Water's Edge (AWE): Coastal Resilience in Grenada and Saint Vincent and the Grenadines (2011–2016); and
    - the project entitled Coastal Protection for Climate Change Adaptation in the Small Island States in the Caribbean 2014–2018.

The Fisheries Division is proposing a coastline protection project which would provide synergy with the Sans Souci Coastal Defence Project in terms of halting beach and cliff erosion, stabilizing the shoreline and restoring the beach and near-shore reef. Additional benefits are to attract and provide habitat for fish, lobster and other marine life. This project will also benefit from the FEWER project related to EWS for the sector and receive Fish Aggregating Devices (FAD), which have been found to be very effective.

Water resources. The Government led initiatives include:

- The construction of a reverse osmosis plant in Bequia;
- Rooftop rainwater harvesting systems, which have been installed through several projects:
    - At six sites: Sandy Bay Government School, Georgetown Community Centre, Park Hill Primary School, Langley Park Government School, Richland Park Government School and Liberty Lodge Boys Training Centre. The beneficiary schools are also used as hurricane shelters.
    - For households in selected communities in Saint Vincent to secure and provide potable drinking water when there is water scarcity or shortage.

Disaster Risk Management. The initiatives include:

- The Regional Disaster Vulnerability Reduction (RDVRP) Project 2011–2018, estimated to cost US$20.92 million, is addressing policy, data management, infrastructure and capacity issues in the areas of climate change adaptation and disaster risk management. It seeks to measurably decrease the vulnerability of people and the national economy of Saint Vincent and the Grenadines to climate change and natural hazards.
- PPCR mainly addresses infrastructural support in response to climate change and sea level rise.

Meteorological services have been benefiting from various projects related to CCA:

- Under the World Bank funded RDVRP, meteorological services were the beneficiary of training for two meteorological forecasters and four mid-level meteorological technicians (two specializing in instruments and two in climatology). Instruments were installed at the new airport at Argyle, including a Stevenson Screen (a house for thermometers, a sunshine recorder, an anemometer, an evaporation pan and its components, and a manual rain gauge). Under this project another staff member is expected to commence training in meteorological forecasting.
- The Severe Weather Forecasting Demonstration Project (SWFDP) is organised by the WMO and is being carried out in partnership with Météo-France and the CIMH. SWFDP would enable the service to issue alerts, advisories and severe

weather warnings for non-tropical cycle events with guidance from the Regional Specialized Meteorological Center of Météo-France in Martinique. Hurricane-related forecasts and products will be provided, as usual, by the National Hurricane Centre in Miami. A web platform was completed in 2018, with accompanying training. SWFDP implementation in the Eastern Caribbean was funded by the Government of Canada.

- PPCR is being executed by the UWI MORI. Meteorological services are involved in Components 2 and 4 of PPCR. Component 2 mainly covers the upgrading of automatic weather stations and the building of capacity in forecasting products. The FEWER project falls under Component 4 of the project. FEWER aims to reduce the risks to fishermen associated with climate change and variability by developing early warning and emergency response.
- CariCOF falls under the Programme for the Building Regional Climate Capacity in the Caribbean (BRCCC) Project. Climate outlooks for the Caribbean are prepared by the CIMH located in Barbados with contributions from regional meteorological services. These forecasts include drought, temperature, wet days and wet spells, and coral bleaching. The forecasts are done for three and six months, are updated monthly and are delivered to a wide range of regional and national stakeholders for decision-making.

Health. Whilst there is no explicit action towards adapting the health sector to climate change, the Millennium Development Goals, the Essential Public Health Functions and the Caribbean Cooperation in Health, Phase III, and other initiatives provide a good basis for adaptation.

Regional initiatives. Saint Vincent and the Grenadines have participated in other regional initiatives/action that addresses climate change. These include:

Climate Change and the Caribbean: A Regional Framework for Achieving Development Resilient to Climate Change (2009-2015)**.** Prepared by the CCCCCC at the request of the Caribbean Community Common Market (CARICOM) Heads of Government in consultation with technical officers from countries. It was done to lay the ground for a regional society and economy that is resilient to climate changell (CCCCC, 2009).

Caribbean Planning for Adaptation to Climate Change Project (CPACC)**.** The goal of this project was to build capacity in the Caribbean region for the adaptation to climate change impacts, particularly sea level rise. Under this project, support was received to complete its INDC to the UNFCCC.

Adaptation to Climate Change in the Caribbean (ACCC) (2001-2004)**.** This project, funded by the Canadian International Development Agency (CIDA) through the Canadian Climate Change Development Fund (CCCDF). It built on the work done by the CPACC project and served as a bridge between that project and the Mainstreaming Adaptation to Climate Change (MACC) Projects (CIDA, 2005). The ACCC project consisted of nine components intended to sustain activities initiated under CPACC and address issues of adaptation and capacity building not undertaken by CPACC.

Mainstreaming Adaptation to Climate Change (MACC) Project (2004-2008). Project was funded by the Global Environment Facility (GEF) and implemented in the English-speaking CARICOM countries. This project with its five components intended to build capacity in the Small Island and low-lying coastal states of the Caribbean as well as build

their resilience to climate change risks through the identification and implementation of feasible adaptation measures.

Special Programme on Adaptation to Climate Change (SPACC) Project (2008-2012). This project was funded by the GEF, with participating islands: Saint Vincent and the Grenadines, St Lucia and Dominica. In Saint Vincent and the Grenadines one pilot project was implemented in Paget Farm, Bequia which aimed at exploring an integrated, sustainable solution to address the issue of limited water resources in that community. The community relied exclusively on rain water harvesting as the source of potable domestic water. The project provided the combination of a renewable, carbon-free energy generation source (photovoltaic system), with a reverse osmosis desalination plant. The 70-kW photovoltaic system was installed on the roof of the hangar at the Bequia Airport and connected to the national electricity grid, which then powers the desalination plant.

The Pilot Programme for Climate Resilience (PPCR) (2011-2019). The PPCR is the largest project in Saint Vincent and Grenadines specifically designed to address climate risk and resilience. The PPCR proposes to enhance climate risk management through the following broad strategies:

- Strengthen community resilience to cope with climate hazards;
- Increase institutional capacity to undertake climate risk management;
- Strengthen knowledge and awareness;
- Prepare comprehensive hazard maps for public institutions and communities;
- Design and implement gender-sensitive disaster risk management initiatives; and
- Collaborate with communities at all levels of climate and disaster risk management.

The PPCR has four main components:

1. *Climate vulnerability risk assessment and risk reduction*. This component is being piloted in Union Island, the Arnos Vale Watershed and the Georgetown Watershed, and a range of data relative to other components has been collected.

2. *Data collection, analysis and information management*. There are three key aspects to this component: the acquisition and installation of telemetric weather stations and software; coastal zone impact modelling; and the development of a harmonized platform for data analysis and data management.

3. *Comprehensive framework for strengthening of the existing policy, legal and institutional framework to address climate change*. This component seeks to strengthen the existing policy, legal and institutional framework. It will commence with comprehensive review of current policies, plans and legislative frameworks to improve SPRC implementation in Saint Vincent and the Grenadines. It will also involve finalising various policies, drafting a disaster management plan and preparing and finalising an Environmental Management Act and environmental impact assessment regulations.

4. *Design and implementation of a public education and capacity-building programme*. This component will provide for a range of initiatives in support of public and private sector capacity-building. These include a three-year national public education programme to build community-based climate risk reduction and resilience measures, provide a national curriculum for schools on climate change and disaster risk reduction, plan and develop an early warning system for Saint Vincent

and the Grenadines, provide technical training, and extend the school risk assessment to cover all constituencies in the country.

Japan-Caribbean Climate Change Partnership (J-CCCP) (2016-2019). The Japan-Caribbean Climate Change Partnership (J-CCCP) is a regional climate change initiative pioneered in eight Caribbean territories including Belize, Suriname and St. Vincent and the Grenadines. The initiative is designed to strengthen the capacity of countries in the Caribbean to invest in climate change mitigation and adaptation technologies. The initiative is implemented by the United Nations Development Programme (UNDP) with financial and technical support from the Government of Japan. The J-CCCP is also supporting SVG in advancing the process of low-emission, risk-resilient development by improving energy security and integrating medium- to long- term planning for adaptation to climate change. In the pursuit of this objective, the initiative supports policy innovation through the development of a number of NAMAs and NAPs that will help guide Caribbean countries towards a green, low-emission and climate-resilient development pathway. The initiative also supports the implementation of current low-emission technology that advances climate risk management, including demonstrations in the target countries. The programme strengthens institutional and technical capacities in selected countries for the iterative development of comprehensive NAMAs and NAPs that are country-driven and based on existing national and sub-national development priorities, strategies and processes. Outcomes include:

1. Nationally Appropriate Mitigation Actions (NAMAs) and Nation Adaptation Plans (NAPs) to promote alternative low-emission and climate-resilient technologies;
2. Adoption and implementation of mitigation and adaptation technologies;
3. Strengthened knowledge networks through shared South-South and North-South experiences.

In SVG, the project is expected to focus on development of Nationally Appropriate Mitigation Actions (NAMA) for the transport sector, development of a National Adaptation Plan (NAP), the adaptation strategy and investment plan for the agriculture sector (crop cultivation, livestock and fisheries), in addition to implementation of mitigation and adaptation technologies.

The J-CCCP began preparatory work for development of the NAMA and the NAP including exploring synergies with stakeholders and the World-Bank supported **Regional Disaster Vulnerability Reduction Project (RDVRP)**. There is currently no formal coordination mechanism related to climate change in SVG (Steering committees are established on a project by project basis and each of these committees has a similar membership). J-CCCP therefore set out to address development of a national climate change coordination mechanism as part of the NAP development process.

The J-CCCP funds the implementation of mitigation and adaptation technologies. To date five projects have been approved (and several pending approval) which cover over forty (40) sites. Mitigation and adaptation technologies to be implemented include: rehabilitation of an irrigation system in Langley park for the benefit of 75 farmers; installation of solar water pumps and water harvesting methods in 8 demonstration plots in agricultural districts; development of two (2) bio-gas systems on livestock farms; establishment of 800 ft of footpath in Fair Hall and Barrouallie to increase community resilience to reduce water runoff and installation of greenhouses and water harvesting

systems in three rural secondary schools. Adaptation projects will also include provision of water storage tanks to 50 households in Mayreau, repairing the tank at the school and installation of a 10,000-gallon catchment tank (community storage system).

OECS/GCCA Project on Climate Change Adaptation and Sustainable Land Management "iLand Resilience" (http://ilandresilience.org/). This EU-funded project's objective is to improve the region's natural resource-based resilience to the impacts of climate change through effective and sustainable land management frameworks and practices and through specific adaptation pilot projects focused on physical infrastructure and ecosystems. In Saint Vincent the project provided beach profiling equipment to the National Parks, Beaches and Rivers Authority (NPBRA), soil testing kits to the Soil Conservation Unit of the Ministry of Agriculture, and surveying equipment to the Lands and Surveys Department of the Ministry of Housing thus improving capacity for local monitoring and data collection. The second phase of the project addresses development of local area plans, review of Environmental Impact Assessment Guidelines, watershed management activities in two locations (Cumberland and Perseverance) and short to medium term GIS training.

USAID support. Complementary to that, the U.S. Government is providing in-country support to NAP implementation in the East Caribbean region through the NAP Global Network (NAP GN). The Programme of Support for the East Caribbean is a three-year programme designed to address the needs and priorities of the region in terms of adaptation implementation, contributing to paving the way towards a more resilient future. As part of the US In-Country NAP Support Programme for SVG, the NAP GN also supported the elaboration of a financing strategy for SVG's NAP and the development of the sectoral adaptation strategy and associated five to ten-year investment plan for the water sector.

Key national institutional partners active in climate change

As of mid-2019, the structure and functionality of the CCA coordination mechanisms in SVG remain limited. Coordination is paramount, especially for adaptation, because of the cross-sectoral nature of CCA. The existence of a functioning mechanism for dialogue and coordination amongst the relevant stakeholders is a keystone of the success of the strategy, and is lacking. As a result of the number of stakeholders involved on climate change, there is a need for coordinating the framework to transcend across sectors.

There is no coordination mechanism on climate change between the MFEPSDIT and other ministries. The climate change related projects are all managed within the MFEPSDIT, and do not require coordination with other ministries except for the Ministry of Finance, as all financial matters and budget decisions have to obtain approvals and get processed in that Ministry.

The National Climate Change Policy (2019) foresees the need that a National Climate Change Committee (NCC) should be established as an advisory body that enables implementation of the National Climate Change Policy (NCCP). The NCCC will be chaired by the Director of Planning in the MFEPSDIT as the line ministry that serves as SVG's climate change focal point, including for the UNFCCC, GCF and GEF. The NCCC will have a broad composition including representatives from the key implementing agencies for climate change adaptation and mitigation in SVG, including within the Ministry of Agriculture, Forestry, Fisheries and Rural Transformation, MFEPSDIT, Ministry of

Health, Ministry of Housing, Informal Settlements, Lands and Survey and Physical Planning, Ministry of National Security, Air and Sea Port Development, Ministry of Tourism, Sports and Culture and Ministry of Transport, Works, Urban Development and Local Government, and relevant representatives from civil society, private sector and academia and research institutions. The NCCC's secretariat will be the Economic Planning and Sustainable Development Division (EPSDD) in the MFEPSDIT, which holds responsibility for cross-sectoral coordination, information gathering and mobilization of stakeholders for climate change response in SVG, including monitoring, reporting and verification (MRV) of climate change and UNFCCC national communications and biennial update reports.

For the implementation of the NCCP, and to facilitate inter-sectoral coordination, Climate Change Focal Points will be appointed from the relevant GoSVG ministries and agencies to serve on the NCCC and facilitate implementation of the National Climate Change Policy. These focal points will have defined roles and responsibilities for addressing the impacts of climate change in each priority sector. This will include supporting the NCCC to monitor implementation of sectoral vulnerability and risk assessments and adaptation and mitigation measures, and mobilize climate financing.

The key institutions, actors and stakeholders associated to climate change and that were consulted for the development of the GCF Country Programme are listed in Table 4. Table 5 below provides the roles and responsibilities of some of those government institutions consulted. Additionally, and relevant for adaptation, Table 6 summarizes the roles and responsibilities of the broad categories of actors in adaptation and CC more broadly.

Table 4. Key institutions and actors in climate change in Saint Vincent and the Grenadines.

Public Sector	Private sector corporations	
o The Central Water and Sewerage Authority (CWSA) o St. Vincent Electricity Services Ltd (VINLEC) o National Emergency Management organization (NEMO) o International Airport Authority o Port Authority o Maritime Administration o Tourism Authority o Ministry of Agriculture, Industry, Forestry, Fisheries and Rural Transformation o Ministry of Transport o Micro Finance Business Institute	o Massy (important conglomerate) o WinFresh o ECGC (Flour and rice producers) o Eastern Caribbean Group and Co. o Saint Vincent Cocoa Company o Flow and Digicel (Telecommunications Companies)	
Business Associations	**NGOs**	**Financial Institutions**
o Chamber of Industry and Commerce o Hotel and Tourism Association o Inter-American Institute for Cooperation on Agriculture (IICA) o CARDI o CRFM – Caribbean Regional Fishing Mechanism	o Richmond Val Academy o Sustainable Grenadines Inc o Women in Agriculture o National Women's Council o Red Cross o National Youth Environmental Network o Rotary Club	o Bank of SVG o Credit Union Bank o Nova Scotia Bank o RBTT (Royal Bank of Canada) o First Caribbean o Courts Saint Vincent Saint Vincent Insurance

Source: Own elaboration.

Table 5. Selected description of Institutions related to climate change

Organization Name	Role and Responsibilities
Central Water and Sewerage Authority (CWSA)	The CWSA in SVG is the official provider of water services and responsible for solid waste management. Key player in addressing water related vulnerabilities (http://www.cwsasvg.com/)
Ministry of Agriculture, Forestry, Fisheries, and Rural Transformation, Industry and Labour	National administration in charge of the formulation and implementation of government's policies and plans concerning Fisheries, Forestry and Agriculture management. Entity in charge of reforestation and community-based adaptation in its fields of action http://agriculture.gov.vc/agriculture/index.php
Ministry of Finance, and Economic Planning, Sustainable Development and Information Technology (MFESDIT)	National administration in charge of the formulation and implementation of government's policies and plans concerning fiscal and financial policies. Entity responsible for the mobilization of external resources for socio-economic development, coordination of external assistance inflows and facilitate overall planning, as well as addressing environmental issues, climate change projects and complying with decisions made under the UNFCCC and Kyoto Protocol http://www.planning.gov.vc/planning/
Ministry of Health, Wellness and the Environment (MHWE)	National administration in charge of the formulation and implementation of government's policies and plans concerning all official health policies. http://health.gov.vc/health
Ministry of Housing Informal Human Settlements, Lands & Surveys, and Physical Planning	National administration in charge of the formulation and implementation of government's policies and plans concerning planning and building approvals, preparation of GIS hazard maps, Housing development and the Upgrading of Informal Communities. (http://housing.gov.vc/housing/)
Ministry of National Mobilization, Social Development, Family, Gender Affairs, Persons with Disabilities and Youth	National administration in charge of the formulation and implementation of government's policies and plans concerning social empowerment, social protection and justice, social development Youth and Sports. Entity responsible of working on the unprivileged sectors and vulnerable communities. http://mobilization.gov.vc/mobilization/
Ministry of Tourism, Sports and Culture	National administration in charge of the formulation and implementation of government's policies and plans concerning tourism planning, sports programs, management and sustainable use of natural resources http://www.tourism.gov.vc/tourism/
Ministry of Transport, and Works, Urban Development, and Local Government	National administration in charge of the formulation and implementation of government's policies and plans concerning traffic systems, land transportation, construction and maintaining public assets, energy, coastal defenses. (http://transport.gov.vc/transport/)
National Emergency Management Organization (NEMO) In Ministry of National Security, Air and Sea Port Development	The NEMO is a department of the Ministry of National Security, Air and Sea Port Development. Its main function is to ensure the coordination of activities related to disaster management and that the population in SVG is able to prepare, cope and recover with natural disasters. http://www.security.gov.vc/security/index.php?option=com_content&view=article&id=12&Itemid=5
National Parks, Rivers and Beaches Authority (NPA)	The NPA is a government body in charge of the protection of SVG's natural patrimony through Protected Areas systems http://nationalparks.gov.vc/nationalparks/
Richmond Vale Academy	The Richmond Vale Academy is a non-profit organization that provides courses relating to poverty reduction and environmental protection http://richmondvale.org/
St. Vincent and the Grenadines Meteorological Office	The MET Office is the national entity in charge of providing meteorological services, weather forecast and warning transmission
St. Vincent and the Grenadines Port Authority (SVGPA)	National authority in charge of port facilities and services http://www.svgpa.com/Home
St. Vincent and the Grenadines Tourism Authority	The Tourism Authority is the body of the Ministry of Tourism, Sports and Culture responsible for promoting the country's touristic activities and regulating the quality of local tourism service providers
St. Vincent Electricity Services Ltd (VINLEC)	VINLEC is a state-owned entity in charge of delivering the electricity supply service in SVG (http://vinlec.com/)

Source: NAP Global Network, 2018. Development of a Domestic NAP Financing Strategy for Saint Vincent and the Grenadines.

Table 6. Roles and responsibilities of the various actors concerning climate change adaptation in SVG.

Actor	Roles	Responsibilities
Cabinet	Climate champion	• Adopt and promote good CC practices
Parliament	Political orientation	• Creation of the mandate for CC • Approval of the institutional framework • Endorsement of the NAP • Definition of annual domestic CC budgets • Appointment of the coordination entity and of the members of the NCCC • Facilitation of the participation of civil society, private sector and academia
SDU	• Strategic orientation • Coordination • Information • Support • Implementation • NFP UNFCCC • OPF GEF • MRV	• Appointed by the Cabinet • Chairs the NCCC • Provides: o Strategic orientation o Cross-sectoral coordination o Information gathering, management and dissemination o Mobilization and management of CC support o MRV of CC action in accordance with its mandate
Dir. Plan. MFEPSDIT	Focal Point of the GCF	• Mobilization of GCF resources • Issuance of no-objection letters for the GCF
NCCC – decision	Advisory	• Advisory on the definition of policies, regulations and technical standards considering CC • Promotion of the coordinated implementation of activities to reduce the impacts of CC by incorporating it
NCCC – technical	Technical Advisory	• Identification of gaps and needs and of technically sound adaptation actions • Promotion of the coordinated implementation of activities to reduce the impacts of CC by incorporating it • Definition of the guidelines to further mainstream CC into sectoral planning instruments • Collaborates with the private sector, civil society and academia advising on the technical aspects • Validate media contents related to CC
Meteorological Services	Climatic data, EWS	• Collection and management of weather data • Information of the EWS • Elaboration of climate projections with regional partners • Provision of climate services to farmers and fishers
NEMO	EWS	• Management of the EWS
Departments /Units	Implementation	• Design and implementation of CC actions • Mobilization of support
Public, Civil Society and Private Sector	Implementation	• Implement CC adaptation and mitigation activities at the community level • Empowerment of local communities in relation to CC • Mobilization of support • Monitor the implementation of the NAP as independent observers
Academia	Research	• Development and implementation of the CC research plan • Mobilization of support • Monitor the implementation of the NAP as independent observers
Cooperation partners	Support	• Provision of support (finance, technology and capacity building) • Sharing of experiences
Media	Communication	• Convey CC messages • Coordinate with other actors, promote good practices • Monitor the implementation of the NAP as independent observers

Source: Own elaboration based on the National Adaptation Plan of Saint Vincent and the Grenadines (2019) and other sources.

Existing monitoring systems and predictive climate tools

As described before, several projects have supported the monitoring systems. The Regional Disaster Vulnerability Reduction (RDVRP) Project, is addressing policy data management, infrastructure and capacity issues in the areas of climate change adaptation and disaster risk management. The Meteorological services benefited by training for two meteorological forecasters and four mid-level meteorological technicians. Instruments were installed at the new airport at Argyle, including a Stevenson Screen. Under the ACP-EU Natural Disaster Risk Reduction Program (www.charim.net), several hazard and vulnerability maps have been produced, including flood hazards, landslide inventory and susceptibility assessment,

For the National Adaptation Plan (2019), the MRV of processes and outputs related specifically to the NAP will be done by the SDU, which is also responsible for UNFCCC reporting. Monitoring of the NAP and, broadly, of the implementation of CC policies and strategies shall also supported by the media, private sector, civil society and academia.

Under the National Climate Change Policy (2019), monitoring, evaluation and review will be an integral part to ensure effective policy implementation. In order to achieve this, the NCCC and EPSDD will be responsible for the following activities, in collaboration with all other relevant stakeholders to:

- Ensure that monitoring of implementation of the National Climate Change Policy, Strategy and Implementation Plan is continuous and informs adaptive management by implementing agencies and organizations;
- Conduct annual reviews of the Implementation Plan and a comprehensive review of the National Climate Change Policy every five years, with effective engagement of stakeholders in the process;
- Revise or develop a new Implementation Plan following five-year review of the Policy as needed;
- Ensure that the review of the implementation of the National Climate Change Policy is linked to and integrated with other national, regional and international monitoring and reporting requirements.

The priorities outlined in the NDC are included in Table 7. It is worth noting that although the GHG emission reduction targets are unconditional (no external financial support is needed), in practice, some of the major reduction in emissions from electricity generation has been financed with international support. For example, the Caribbean Development Bank (CDB) is financing the geothermal energy-drilling (USD 27 million), and the Abu Dhabi Fund for Development (ADFD) has financed the solar projects in the islands of Mayreau and Union Island. The country is seeking additional financing to implement solar projects in the islands of St. Vincent and Bequia, and the financing of the transport NAMA.

Table 7. Summary of INDC/NDC targets (2015).

Summary of INDC/NDC targets		Estimated resources required (USD)
Conditional	Adaptation: Not available	
	Mitigation: Not available	
Unconditional	Mitigation: by 2025 achieve an unconditional, economy-wide reduction in GHG emissions of 22% compared to its business as usual (BAU) scenario.	Not available

Source: Own elaboration based on the NDC (2015).

1.3.2. Regional engagement

As a member of the Caribbean Community (CARICOM), SVG is committed to the CARICOM Liliendaal Declaration on Climate Change and Development, the Regional Framework for Achieving Development Resilient to a Changing Climate and its Implementation Plan (2011-2021) and the Comprehensive Disaster Management Strategy 2014-2024. The Regional Framework, which is spearheaded by the Caribbean Community Climate Change Centre (CCCCC), reflects the region's strategic direction for climate change response. It outlines four key objectives including: mainstreaming climate change adaptation into the sustainable development agendas of CARICOM states; promoting actions to reduce greenhouse gas emissions through energy efficiency and conservation and renewable energy sources; encouraging action to reduce the vulnerability of natural and human systems in CARICOM countries to the impacts of climate change; and promoting the sustainable management of standing forests in CARICOM countries. The Comprehensive Disaster Management Strategy, which is led by the Caribbean Disaster and Emergency Management Agency (CDEMA), outlines the regional response for operationalizing the Sendai Framework for Disaster Risk Reduction.

SVG is also a member of the Organization of Eastern Caribbean States (OECS). At this sub-regional level, the OECS Commission and member states, including SVG, have been working towards a comprehensive resilience framework. This framework includes the St. George's Declaration of Principles of Environmental Sustainability in the OECS and the supporting OECS Environmental Management Strategy. Principle 8 of the St. George's Declaration addresses the causes and impacts of climate change, and a number of other topics related to energy efficiency, renewable energy and disaster risk reduction are included in its outcomes and targets. An Eastern Caribbean Regional Climate Change Implementation Plan is currently under development with the objectives of delivering large scale emission reductions; accelerating green growth in the region; delivering development co-benefits; and improving resilience to climate change impacts.

1.3.3. Access to finance

According to the NAP Financing Strategy (NAP Global Network, 2018), the range of institutions involved in CCA financing is not complex in SVG, , NEMO the administration in charge of DRR, with Ministry of Finance, and Economic Planning, Sustainable Development and Information Technology, the National Focal Point Agency for the UNFCCC being the key institution for CCA projects and complying with the Convention's objectives. In the case of mitigation, the main actors include VINLEC for investments in renewable energy and energy efficiency, and the Ministry of Agriculture (including Forestry Services).

To implement the NAP, Ministry of Health, Wellness, and the Environment is required to cooperate with Ministry of Finance, and Economic Planning, Sustainable Development and Information Technology (MFEPSDIT) and NEMO to integrate all the aspects related to CCA and DRR in the budget cycle. In the case of VINLEC, it coordinates its planned investments (e.g. geothermal, solar) with the MFEPSDIT. There is regular communication within the institutional architecture to properly combine efforts and mobilize resources. However, the mobilization of combined resources and coordination to effectively address CCA policies remains a problem due to differences in accounting and other administrative systems.

While the roles of each actor are clearly identified, a maximum of cohesion amongst the stakeholders needs to be targeted to ensure that their individual efforts foster synergistic results. This dynamic could still be strengthened by improving institutional capacities and raising necessary resources for roles to be carried out effectively.

An important aspect of the function of institutions is the capacity of their human resource base. If human resources are not adequately trained, then the most carefully designed roles and responsibilities may not be taken on. Capacity constraints on DRR and CCA financing needs to be intense and specific to each Agency's roles, and there should be a policy endorsing the implementation of CCA responses based on the sector. In the MFEPSDIT's, efforts on climate change should be institutionalized as standard regulatory practice and the capacity development done to strengthen the human resources of the agency. As far as MFESDIT is concerned, certainly it would be useful to increase the human resources of the CC policy and planning section and possibly create a CCA National Secretariat. Climate change adaptation and mitigation activities need a strong involvement of Implementing Institutions. In view of financing needs for CCA and mitigation, involved institutions should be carefully instructed and assign specific staff specialized in addressing and financing those activities.

From the financial sector, credit Unions have expressed the needs of developing an insurance system and building knowledge on guarantee mechanisms and climate-related funding instruments are identified as priorities. According to the NAP Financing Strategy, the banking sector have expressed the need for the formation of a working group gathering SVG's Chamber of Industry & Commerce, banks, insurance companies and ministries to enhance and facilitate the discussion on climate finance. According to the Insurance Institute, the insurance sector must be further developed, in particular by expanding the scope of CCRIF and by making it mandatory to subscribe to insurance whenever possible.

Several potential sources of funding have been mentioned before and are summarized in Table 8:

Table 8. Sources of domestic and international financing in Saint Vincent and the Grenadines

Type of financing source	Description of financing sources
Domestic	National Budget, fiscal instruments, Ministry of Agriculture, Forestry, Fisheries, and Rural Transformation, Industry and Labour
	Ministry of Finance, and Economic Planning, Sustainable Development and Information Technology
	Other relevant SVG institutions and funds
International	International institutions and countries: World Bank, IFAD, UNDP, FAO, GM, UNESCO, GEF, NGOs, Netherlands, Japan, Italy, Canada, Denmark, EU, USA, other UN agencies, International Climate Initiative of Germany etc. Financing instruments and mechanism: GCF, Adaptation Fund, SCCF, CIF, United Kingdom Environmental Transition Fund, etc.

Source: NAP Global Network (2018).

Table 9 provides an overview of current access to finance for adaptation projects from international sources. Other projects related to agriculture, environment and sustainable land management have been facilitated in SVG by international agencies and other external financing sources. In 2017, about USD 22 million were invested for the Climate Change and Natural Disaster Reduction Initiatives through the Regional Disaster Vulnerability Reduction Project (RDVRP) (MFEPSDIT, 2017, as referred in the "Development of a Domestic NAP Financing" report (GoSVG, 2018)). For mitigation, the Caribbean Development Bank (CDB) secured USD 27 million in financing for the **geothermal energy-drilling** project through contributions from partners, including the Inter-American Development Bank (IDB), the United Kingdom's Department for International Development (DFID), the European Union's Caribbean Investment Facility (EU-CIF) and the Government of New Zealand. As part of the project, the St. Vincent Geothermal Company Limited (SVGCL) has received financing from the Caribbean Development Bank (CDB) in an amount of USD 9.5 million towards the cost of the St. Vincent Geothermal Drilling Project.

As of 2019, the GoSVG is seeking to finance the **solar** project in Bequia (USD 18.75 million for 2.4 MW solar; 550 kWh storage) and in St. Vincent Island (5MW). The Abu Dhabi Fund for Development (ADFD) has financed the solar projects in the islands of Mayreau (150 kW solar; 200 kWh storage) and Union Island (800 kW solar; 250 kWh storage). The Canouan solar project (1.5 MW solar; 350 kWh storage) has been financed by the Government.

It is also worth mentioning that the GoSVG has received financing from the Green Climate Fund (GCF) toward improving the readiness of SVG to access climate financing, including strengthening the capacity of the National Designated Authority and developing a country strategic framework for engagement with the GCF.

Table 9. Main climate change adaptation projects and sources of financing in Saint Vincent and the Grenadines

Program	Activities	Financing Agency	Implementing Agency
Regional Disaster Vulnerability Reduction Project (RDVRP)	The project is implemented in the context of the PPCR Program in SVG. This project is designed to enable SVG to close climate resilience capacity and knowledge gaps with Prevention and Adaptation Investments, Regional Platform for Hazard and Risk Evaluation and Application of Improved Decision Making, Natural Disaster Response Investments and Project Management and Implementation Support	Total: USD 61.52 million - PPCR (12 million USD); - Strategic Climate Fund (3 million USD); - World Bank / Climate Investment Fund (46.52 million USD) Source: GoSVG	Ministry of Finance and Economic Planning
The Climate Change Adaptation and Sustainable Land Management Project	The overall objective of the project is that each member states of the OECS implements the St George's declaration of Principles for Environmental Sustainability. The project has the five following expected results: • Improve the understanding of the regional situation in terms of institutional, technical and human capacity; • Enhance the legal and regulatory frameworks of Sustainable Land Management at the national and regional level; • Enhance the regional and national human and technical capacity in Sustainable Land Management; • Improve the public awareness on the risks, threats and opportunities caused by climate change effects; • Implement adaptation measures on physical infrastructures and ecosystems. In St. Vincent and the Grenadines, the improvement of watershed management has started in 2017 in Cumberland and Perseverance.	EUR 10.6 million including EUR7 million from the European Commission and EUR 0.6 million from the Cyprus government Source: GCCA	Organization of Eastern Caribbean States (OECS)

The Coastal Protection for Climate Change Adaptation in Small Island States in the Caribbean (CPCCA) Project	The CPCCA project started in 2014 and aims at reducing climate change risks in SIDS by protecting and reconstructing coastal areas' ecosystems The CPCCA project will promote coastal protection measures through two main components: • Investments for sustainable improvements of coastal ecosystems relevant for climate change adaptation • Assistance in the preparation and implementation of Local Adaptation Measures	KfW EUR 10.8 million Source: KfW	CCCCC through the CARICOM secretariat
In-Country National Adaptation Plan (NAP) Support Program in St. Vincent and the Grenadines	Development of a Domestic NAP Financing Strategy for Saint Vincent and the Grenadines	USAID	IISD, Sustainable Development Unit (MFESDIT)
Implementation of a National Adaptation Plan in St. Vincent and the Grenadines	Development and implementation of a NAP process in SVG to assess its vulnerabilities, mainstream climate change risks and address its adaptation issues	J-CCCP	UNDP

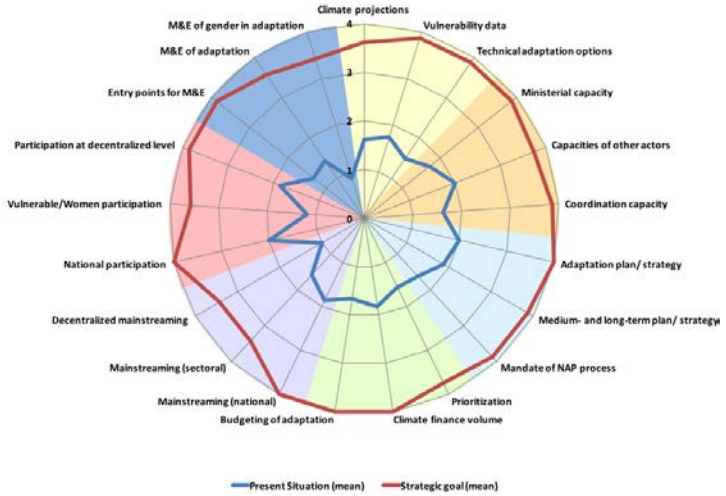
Source: NAP Global Network (2018).

1.4. Gaps and opportunities

During the development of the National Adaptation Plan (2019), the Stocktaking National Adaptation Planning (SNAP) tool was used to identify available and intended planning capacities in a country. It thus provides the country's baselines on which the NAP process was going to be initiated. The stocktaking analysis used seven factors to evaluate the baseline situation, including: i) Climate information; ii) Human and institutional capacities; iii) Long-term vision and mandate; iv) Implementation; v) Mainstreaming; vi) Participation and vii) Monitoring and Evaluation.

The SNAP Process in SVG resulted in the following outcomes shown in Figure 1. Monitoring and Evaluation (M&E) was identified as the most critical gap at this stage in the country's NAP process. A structured framework is still to be clearly defined or established, along with the requisite metrics for monitoring the NAP process. The sectoral plans themselves do not integrate climate change issues in a systematized way and hence M&E systems are not specifically looking towards climate change issues yet.

Figure 2. Result of the NAP stocktaking process in Saint Vincent and the Grenadines



Scale: 0=weak, 1=rather weak, 2=neither weak nor strong, 3=rather strong, 4=strong
Source: National Adaptation Plan (2019).

Based on the information from the NAP process, as well as national and sub-national consultations, the Government of SVG has developed a National Climate Change Policy, which has outlined priority areas and objectives, to tackle gaps and opportunities associated to capacity needs of existing actors across public and private sector, institutional strengthening and existing policy framework, technology needs and financing needs across mitigation and adaptation. The priority areas objectives and sub-objectives for both adaptation and mitigation include:

Adaptation

Agriculture (crops and livestock). The objective is to promote climate smart and sustainable crop and livestock agriculture for food security and resilient livelihoods. The sub-objectives, which are aligned with those identified in the Policy Framework and

Strategic Plan for Agricultural Development (2012-2018), NAP and NAP – Agriculture, include:

- To review and strengthen institutional, policy and legal frameworks for agricultural reform and for adaptation to changing climatic conditions, including updating the Agricultural Policy Framework and Strategic Plan 2012-2018 and the Agricultural Ordinance 1951.
- To develop a long-term research programme on climate change impacts and adaptation options focused on crops and livestock, including development of research facilities and technical resources for in situ seed-bank and tissue-culture centres for the preservation of plant genetic information as well as research on crop and livestock water requirements in a changing climate, and ensure data is integrated into the National Agricultural Marketing Information System (NAMIS).
- To build the capacity of farmers through education and awareness on climate change impacts, capturing and sharing local and traditional farming knowledge, training and access to micro-financing for agri-business development and implementing climate smart practices, and strengthening farmer organizations to effectively engage in decision-making and resource management.
- To improve early warning systems and response mechanisms for agricultural risk and disaster management, including via collection and use of meteorological data, expanded insurance schemes for farmers and food stores for disasters and disruptions to food supplies (imported and local).
- To implement appropriate soil and water management practices on farms to reduce impacts from extreme weather like droughts, floods and landslides, including low tillage, buffer zones and other techniques for soil and water conservation, improved rainwater harvesting for irrigation purposes and increasing the allocation of groundwater recharge areas across the islands to support irrigation programmes.
- To identify and test climate smart agricultural practices and technologies for scale up including:
    - Identification of crops that are productive under emerging climatic conditions and for which there is a ready market, and development of stress tolerant varieties and adaptive farming measures (e.g. mixed farming using a combination of tree crops and vegetable or root crops, hydroponics and aquaponics).
    - Identification of measures to help livestock cope with increased heat stress (e.g. provision of shade houses in pastures, enhanced nutrition and feeding programme and a programme to breed animals with a greater ability to withstand higher temperatures).
- To promote ecosystem-based approaches for adaptation and disaster risk reduction in the agriculture sector, including agroforestry and other integrated crop-livestock-forestry systems.
- To promote sustainable land management to protect key agricultural lands and supporting ecosystem services, such as soil and water protection, pollination and nutrient cycling, with the involvement of rural communities and the wider society.

Coastal and marine zone. The objective is to ensure the productivity and resilience of the coastal and marine zone through conservation, sustainable resource use and integrated adaptation and disaster risk reduction. The sub-objectives, which are aligned with the NAP, National Ocean Policy (2018) and National Biodiversity Strategy and Action Plan (2017), include:

- To update and enforce legislation and regulations related to the coastal and marine zone, including building codes and zoning, to enable adaptation, disaster risk reduction and sustainable physical development.

- To establish new institutional arrangements, such as a Coastal Zone Management Unit, for effective coordination and collaboration across the 29 government agencies with roles and responsibilities for coastal and marine zone management and development.
- To climate proof coastal infrastructure to prevent further damage and degradation using ecosystem-based solutions, including conservation and restoration of coral reefs, seagrass beds, mangroves, and littoral coastal vegetation that act as natural coastal defenses, and revetments and sea walls where necessary.
- To build technical and organizational capacity, including enhancing awareness, access to resources and action for effective coastal and marine resource management within government, civil society and the private sector.
- To establish and maintain coastal and marine systematic observation, research and information management systems, including mechanisms for monitoring changing sea levels, currents and sedimentation patterns, ocean acidification and influxes of sargassum and invasive species, to guide decision-making and development of coastal, shoreline and marine management plans.
- To adopt integrated, ecosystem-based approaches that take into account the range of uses of coastal and marine resources, including for biodiversity conservation and marine protected areas, fishing, diving and other recreational uses, yachting and shipping.
- To strengthen the system of protected areas, including coastal and marine ecosystems, for effective conservation and sustainable use and building resilience to multiple stressors.

Education. The objective is to build resilience to climate change and disasters in the education sector and ensure the health and safety of students and staff and continuity in operations. The sub-objectives**,** which are aligned with the NAP, NESDP and national Comprehensive Disaster Management Policy, include:

- To mainstream climate change adaptation and disaster risk reduction considerations into educational policies and plans, including development of education continuity plans to address increased risk of disruptions and damage.
- To advance knowledge, skills and education related to climate change, its impacts and potential responses through development of a curriculum for primary, secondary, vocational and tertiary level schools and demonstration projects.
- To enable a coordinated and effective response for climate change adaptation and disaster risk management in schools through awareness raising, training and drills on key vulnerabilities and relevant adaptation and disaster preparedness and response measures for administrators, teachers, students and other stakeholders in the education sector.
- To integrate climate proofing considerations in the construction of new infrastructure and retrofitting of existing infrastructure within the education sector, especially for school buildings earmarked as emergency shelters.

Energy. The objective is to enhance the resilience of the energy sector to climate change and disasters and promote energy security. The sub-objectives**,** which are aligned with those identified in the NAP, the National Energy Policy and Action Plan and NESDP, include:

- To assess the vulnerability of the energy supply and distribution infrastructure to climate change and related disasters and identify priority measures to reduce these vulnerabilities.
- To mainstream climate change adaptation and disaster risk reduction considerations into policies, legislation and regulations for the energy sector,

including updating the National Energy Policy (2009) and National Energy Action Plan (2010).

- To diversify energy sources and promote the use of renewable energy technologies to enable an affordable, decentralized and secure energy supply, including wind, solar photovoltaic, solar hot water and geothermal energy.
- To promote energy efficiency among key energy consumers, such as domestic households, industry, hotels, restaurants and public buildings, through adoption of standards and guidelines for energy efficiency, conduct of energy audits and provision of fiscal incentives to implement energy efficiency technologies and green building practices.
- To integrate climate proofing considerations into the construction of new infrastructure and retrofitting of existing infrastructure for energy supply and distribution.

Finance and banking. The objective is to ensure business continuity and build resilience to climate change and disasters in the financial and banking sector. The sub-objectives**,** which are aligned with the NAP and NESDP, include:

- To research and assess fiscal vulnerabilities and the costs and benefits of climate change impacts for financial and banking services and identify potential measures for adaptation and disaster risk reduction.
- To mainstream climate change adaptation and disaster risk reduction considerations into legislation, regulations, policies and plans for the financial and banking services.
- To enhance education and awareness among shareholders, suppliers, employees and other stakeholders about fiscal vulnerabilities and mobilize for adaptation actions.
- To provide innovative financial products and services to support climate smart practices and build resilience to climate change and disasters.
- To integrate climate proofing considerations into the construction of new infrastructure and retrofitting of existing infrastructure within the financial and banking sector, especially related to telecommunications and electricity supply as key supporting services.

Fisheries and aquaculture. The objective is to promote climate smart and sustainable management of fisheries and aquaculture for food security and resilient livelihoods and marine ecosystems. The sub-objectives**,** which are aligned with those identified in the Agriculture Policy Framework and Strategic Plan (2012-2018) and NAP, include**:**

- To review and strengthen the policy and legal framework for fisheries governance to mainstream climate change adaptation and disaster risk management, including revising the Fisheries Act of 1989 and regulations and updating and formalizing the draft Fisheries and Aquaculture Policy and Action Plan (2012).
- To develop a long-term research and monitoring programme on:
    - commercial fisheries, including climate change impacts and adaptation options related to ocean acidification, sargassum influxes and shifts in ocean currents, temperature and salinity regimes that affect fish distribution and migration; and
    - aquaculture, including seaweed farming and other forms of mariculture, with a focus on assessing and reducing impacts on freshwater resources and associated biodiversity and ecosystem services
- To build the capacity of fisherfolk and aquaculturists through education and awareness on climate change impacts, capturing and sharing local and traditional fishing knowledge, training and access to micro-financing for development of climate smart practices and alternative livelihoods, and

- strengthening fisherfolk organizations to effectively engage in decision-making and resource management.
- To improve early warning systems and response mechanisms for disaster risk management, including via safety at sea training, insurance schemes and social protection funds for fisherfolk.
- To identify and test climate smart practices and technologies, including climate smart FADs and associated management plans, to address reduction in fishing days and income generation due to extreme weather, rough seas and other climate change impacts.
- To promote sustainable management of fisheries and supporting ecosystems, including coral reefs, mangroves and seagrass, through ongoing stock assessments, species specific management and adoption of local fisheries management areas, marine protected areas and an ecosystem approach to fisheries for adaptation and disaster risk management in collaboration with coastal and fishing communities.

Forest and terrestrial resources. The objective is to ensure the health and productivity of forest and terrestrial ecosystems and build their resilience and ability to provide ecosystem services for adaptation and disaster risk reduction. The sub-objectives**,** which are aligned with the NAP and National Biodiversity Strategy and Action Plan, include:

- To review and strengthen the legal and policy framework for forest and sustainable land management, including via updating the Forest Resource Conservation Act of 1992 and National Forest Resources Conservation Plan (1994-2003) and developing a National Forest Policy to integrate adaptation and disaster risk reduction considerations.
- To build the capacity of forest managers and resource users for integrated and sustainable forest resource management, including training on integrated watershed management, 'ridge to reef' and other ecosystem-based approaches for adaptation and disaster risk reduction.
- To establish a baseline and a comprehensive research and monitoring programme to assess the status, health and climate change vulnerability of species, habitats and ecosystem services within
- forests and other terrestrial ecosystems to support adaptation as well as conservation and sustainable management.
- To strengthen and enhance the resilience of forest-based enterprises and livelihoods through education and awareness on climate change impacts and training and access to micro-finance for small business development and climate proofing their enterprises.
- To implement programmes of afforestation, reforestation and agroforestry to address forest loss and degradation, enhance the resilience of forests and related ecosystems and provide other co-benefits, including carbon sequestration (i.e. enhancing carbon sinks), environmentally sustainable harvesting of forest products and disaster risk reduction (i.e. through reduced erosion, flooding and landslides).
- To strengthen the system of protected areas, including forest and terrestrial ecosystems, for effective conservation and sustainable use and building resilience to multiple stressors.
- To promote sustainable land use planning and management, including via institutionalization of a land management mechanism and Land Use Policy and updating zoning laws and institutionalization.

Human health. The objective is to reduce vulnerability to the adverse impacts of climate variability and climate change on human health through improved preparedness and response. The sub-objectives**,** which are aligned with the NAP, include:

- To mainstream climate change and disaster risk reduction and management considerations into health sector planning and programmes, including development of a sectoral adaptation plan, with emphasis on vulnerable populations such as the disabled, elderly, pregnant women and youth.
- To develop and implement a health education and promotion campaign for both citizens and visitors, including a focus on climate change impacts on human health and preventative measures.
- To establish and maintain a climate-linked health early warning system so that citizens and visitors can take the necessary precautions in their day-to-day activities.
- To establish a robust vector control programme with surveillance for vector borne diseases that are climate sensitive, including dengue, chikungunya and zika, and strengthening of local vector-control units for effective disease prevention and response.
- To enhance existing water quality monitoring programmes to take into account floods, droughts and waste disposal and accidental leakage into water bodies, and surveillance and response mechanisms for water borne diseases.
- To introduce improved, climate resilient water and sewage treatment systems for residential and commercial use to reduce health risks from poor hygiene and sanitation.
- To conduct research to link the epidemiology of diseases with climate data and projections for SVG to enhance understanding of climate change impacts on human health.
- To improve access to health services via provision of community health services and mobile health clinics with trained staff and equipment to perform primary health care, including for asthma patients and persons suffering from heat stress.

Settlements, infrastructure and physical development. The objective is to promote sustainable physical development and green infrastructure to build resilience. The sub-objectives, which are aligned with those identified in the NAP and National Physical Development Plan: Methodological Framework Report (2013), include:

- To strengthen and harmonize policies, legislation and regulations concerning physical development and land use zoning to enable integrated adaptation and disaster risk reduction, sustainable land management and enhanced energy, food and water security, including development of a National Resilient Infrastructure Plan.
- To adopt a more robust process for planning and development controls to reduce risks of climate change impacts on new infrastructural projects, including through the effective use of environmental and social impact assessments (ESIAs) and revision and enforcement of building codes.
- To integrate green infrastructure and climate proofing considerations into the design of new physical infrastructure, particularly emergency response structures, and encourage businesses and home owners to retro-fit existing buildings and other infrastructure through fiscal incentives.
- To promote adoption of ecosystem-based management, including a “ridge-to-reef” approach, to reduce the impacts of coastal erosion, flooding and excessive run-off and siltation on coastal settlements and infrastructure.
- To conduct hazard and risk assessments in highly vulnerable locations (e.g. on low lying coasts and steep hillsides), including modelling and mapping to determine priorities for action to inform early warning systems and local adaptation and disaster plans.
- To enable relocation of settlements inland from vulnerable coastal areas, where deemed necessary, with the active involvement of the affected communities in planning and decision-making.

Tourism. The objective is to create a sustainable and thriving tourism sector and build ecological and socio-economic resilience to climate change in SVG. The sub-objectives, which are aligned with those identified in the NAP and NESDP, include:

- To enhance the institutional and regulatory framework for coordinated and effective management of the overall tourism product, including updating the Tourism Master Plan, building codes and standards to enable adaptation and disaster risk reduction and institutional strengthening of the National Parks, Rivers and Beaches Authority and SVG Tourism Authority.
- To conduct a comprehensive vulnerability assessment to identify the key climate change impacts and vulnerabilities and appropriate adaptation measures for the tourism sector and develop a sectoral adaptation plan.
- To diversify the tourism product across SVG through greater emphasis on agro-tourism, heritage tourism and eco-tourism in close collaboration with the private sector, including hotel, dive and tour operators.
- To climate proof tourism related assets and infrastructure (e.g. hotels, guesthouses and beaches) using revetments, sea walls and ecosystem-based solutions, including conservation and restoration of coral reefs, forests and mangroves that act as natural defenses.
- To promote the adoption of integrated water resource management strategies among hotel and tour operators, including rainwater harvesting, water efficient technologies and use of desalination and wastewater treatment plants powered by renewable energy, through education and awareness, concessions and other fiscal incentives.
- To promote renewable energy and energy efficiency within the tourism sector for enhanced energy security and co-benefits related to climate change mitigation, disaster risk reduction and environmental health.

Water. The objective is to ensure a safe, reliable and sustainable supply of water to the population of SVG and efficient use of water resources to build resilience. The sub-objectives, which are aligned with those identified in the NAP, NAP - Water Sector and draft Water Safety Plan for SVG, include:

- To strengthen the policy and legal framework for integrated water resources management and mainstreaming of climate change adaptation, including formal adoption of the National Water Policy and Water Safety Plan and updating relevant water resources legislation and standards for water infrastructure operations.
- To enhance institutional arrangements for water resources management via creation of a National Water Resources Management Agency to serve as an independent regulatory agency, with CWSA overseeing water supply and distribution systems.
- To formalize the national hydro-meteorological data management system and improve data collection and sharing within the existing system managed by CWSA in collaboration with the Meteorological Office.
- To emphasize demand side management for efficient water use, including through adjustments in water pricing, the development of water user groups and uptake of water conservation technologies through additional fiscal incentives.
- To improve water security through implementation of rainwater harvesting systems, wastewater recycling and exploration of groundwater resources and other technological innovations (e.g. solar powered Reverse Osmosis desalination plants) to provide additional water supplies, particularly for the agricultural and tourism sectors.
- To protect key water catchments and groundwater resources through upgrading and enforcing land use zoning and regulations for development and pollution and sewage management, promoting green infrastructure and watershed

management, including reforestation or afforestation, in collaboration with the agricultural and forestry sectors and rural communities.

- To enhance existing water quality monitoring programmes taking into account the range of water resources, including groundwater, residential and communal rainwater tanks and desalination plants, for improved pollution management, sanitation, hygiene and water safety.
- To enhance the water supply system through improved harnessing and distribution systems to accommodate competing uses, and promotion of renewable energy and energy efficiency to provide a decentralized and secure energy supply for water supply and distribution.
- To enhance disaster risk reduction and response mechanisms, including via insurance for key water infrastructure and development of disaster response plans for access to safe drinking water, hygiene and sanitation.

Waste management. The objective is to enable integrated waste management for a resilient, safe and healthy population and environment. The sub-objectives, which are aligned with those in the National Adaptation Plan and NESDP, include:

- To implement an integrated waste management regime which considers a 'reduce, reuse, recycle' approach.
- To build technical and organizational capacity, particularly in the Solid Waste Management Unit (SWMU) and service providers, for integrated waste management including new technologies and methods for waste reduction, recycling, landfilling and other forms of waste disposal.
- To climate proof sewage and solid waste treatment facilities, including through adoption of wastewater recycling, upgrading of drainage and storage for overflows and renewable energy technologies to provide decentralized power and reduce disruptions in a disaster event.
- To conduct research and pilot initiatives related to disaster waste management, including identifying temporary waste collection/disposal sites and removing and safely disposing of large amounts of debris post-disaster.
- To develop a strategy and response mechanism for hazardous waste management in a disaster event.

Mitigation

Energy. The objective is to promote the adoption of renewable energy and energy efficiency measures for low carbon and sustainable growth. The sub-objectives, which are aligned with those identified in SVG's NDC, National Energy Policy and Action Plan and the NESDP, include:

- To enhance the institutional arrangements for implementation and monitoring of climate change mitigation measures for energy production and supply, including through updating the National Energy Policy (2009) and National Energy Action Plan (2010) to reflect commitments in the NDC.
- To build capacity within the public and private sector for design and implementation of renewable energy and energy efficiency technologies for climate change mitigation and energy security, including via strengthening staff capacity and enhancing private sector engagement and investment.
- To promote the use of renewable energy and related low carbon technologies through:
    - Implementing a programme for the installation of grid-connected solar photovoltaic and wind power systems by independent power producers, including farmers, hotels and industrial plants.

  - Providing innovative financing mechanisms, including concessions and tax breaks, that encourage installation of solar hot water heaters in the commercial and residential sectors.
  - Demonstrating and testing the applicability of geothermal resources on St. Vincent for electricity generation.
  - Scaling up the installation of microgrid systems integrating solar photovoltaic, wind power and battery storage in the Grenadines islands.
- To enhance energy efficiency through:
  - Adopting standards and guidelines for the construction of energy efficient buildings
  - Promoting energy audits for key energy consumers, such as hotels, industrial plants and public buildings, to improve understanding of energy consumption patterns and inform the design of appropriate energy efficiency measures.
  - - Setting energy performance standards for importation and sales of major energy consuming equipment and appliances (used by residential and commercial sectors).
  - - Implementing education and awareness programmes to promote efficient energy use across all sectors of the economy.

Forests and carbon sinks. The objective is to enhance the role of forests and other natural ecosystems as carbon sinks in SVG through conservation and sustainable use. The sub-objectives, which are aligned with the NDC and National Biodiversity Strategy and Action Plan, include:

- To strengthen the institutional and legal framework governing ecosystem management with a view to promoting the conservation and sustainable use of key ecosystems, including tropical forests, coastal wetlands and mangroves, and seagrass beds, through participatory processes that engage government, civil society and private sector stakeholders.
- To explore the potential for carbon sequestration through expanding forests and terrestrial ecosystems, including coastal wetlands and mangroves, through afforestation, reforestation and ecosystem restoration and rehabilitation.
- To assess, identify, and promote economic opportunities for mutually reinforcing conservation strategies, including non-extractive resource activities and the development of markets for sustainable use of non-timber forest products and marine resources.

Maritime affairs. The objective is to enable a sustainable, low carbon maritime transport system through the adoption of energy efficiency and resilience building measures. The sub-objectives, which are aligned with those identified in SVG's NDC, National Energy Policy and Action Plan and the National Ocean Policy, include:

- To mainstream climate change considerations into maritime affairs, including via updating and implementing relevant policies, legislation and regulations such as the National Ocean Policy and the Shipping and Marine Pollution Bill, which incorporates the Annex VI regulations on preventing air pollution and GHG emissions from ships under the International Convention for the Prevention of Pollution from Ships (MARPOL).
- To reduce the fuel consumption of ships by providing guidance to shipping industry and public on fuel consumption rates for various boat models and best practices in managing fuel consumption, and incentivizing the use of more fuel-efficient technologies for ships.
- To upgrade maritime infrastructure through investment (e.g. via Climate Levy or other finance), preventive maintenance and establishing formal requirements for

infrastructure design to enhance service life and disaster resilience (e.g. survives storm surge from Category 5 hurricane).

Tourism. The objective is to promote low carbon and sustainable growth within the tourism sector in SVG through the adoption of renewable energy, energy efficiency and sustainable building practices. The sub-objectives, which are aligned with those identified in the NDC and NESDP, include:

- To integrate climate change mitigation considerations into the institutional and regulatory framework for the tourism sector, including updating the Tourism Master Plan and building codes and standards for tourism-related operations.
- To conduct a comprehensive assessment of greenhouse gas emissions and identify appropriate mitigation measures for the tourism sector.
- To increase the adoption of renewable energy and energy efficiency measures within the tourism sector for enhanced energy security and climate change mitigation, including deployment of small-scale solar, wind and hydroelectric power systems and desalination and waste treatment plants powered by renewable energy.
- To promote sustainable building practices among hotels and other tourism-based enterprises in constructing new building and facilities and retrofitting existing ones, including reducing construction waste, using environmentally-friendly materials and maintaining natural vegetation, through education and awareness, concessions and other fiscal incentives.

Transport. The objective is to enable a sustainable, low carbon transport system through the adoption of renewable energy, energy efficiency and resilience building measures. The sub-objectives, which are aligned with those identified in SVG's NDC, NAMA for Transport, and the National Energy Policy and Action Plan, include:

- To formally adopt and implement the NAMA for Transport for a coordinated and effective response to climate change mitigation.
- To reduce the fuel consumption of motor vehicles via providing guidance to public on fuel consumption rates for frequently imported car models, revising the car taxation system and incentivizing the use of more fuel-efficient technologies for motor vehicles.
- To scale up the use of hybrid and electric vehicles in SVG, and explore options for use of biofuels in vehicles based on a national production chain, as part of a low carbon transport system.
- To promote sustainable transport measures that increase ridership on public transport, improve road conditions and traffic management.
- To improve air and land-based transport infrastructure through investment (e.g. via Climate Levy or other finance), preventative maintenance and establishing formal requirements for new infrastructure design with respect to expected service life and disaster resilience requirements (e.g. survives 100-year flood, 7.0 seismic event).

Waste management. The reduce greenhouse gas emissions through sustainable waste management. The sub-objectives, which are aligned with those identified in SVG's NDC, the National Energy Policy and Action Plan and NESDP, include:

- To reduce GHG emissions, and other air pollution, through integrated waste management that uses a 'reduce, reuse, recycle' approach focused on:
    - Reduction in use of fossil-fuel derived plastics through banning Styrofoam and single use plastic and public education and awareness on alternatives to plastics.
    - Reduction in refrigerant gases (e.g. HFCs and HFCFCs) through adopting relevant controls and standards for phase out of these gases.

  - Promotion and development of recycling processes and facilities.
  - Exploration of alternate methods of landfilling and alternate uses for scrap materials (metals, used tires, etc.).
  - Promotion of wastewater recycling and renewable energy and energy efficient technologies for sewage and wastewater treatment plants.
- To implement a composting programme for the commercial sector to address GHG emissions, including operating a central composting facility and targeting the tourism, agriculture and other key sectors that produce and utilize organic waste.
- To conduct research and pilot initiatives related to waste-to-energy technologies that can be used on both a small scale (e.g. biodigesters to produce energy on farms) and large scale (e.g. biogas from landfill).

Cross-cutting areas

There are five cross-cutting areas which are critical to the achievement of the goal and directives of this Policy. Their execution will support the implementation of the objectives identified under both the priority areas for adaptation and mitigation.

Capacity building and engagement of stakeholders. The current issues and opportunities include Limited human, financial and technical resources have been noted as a critical issue across the various priority areas and sectors. Capacity building aimed at different levels, including the local, sectoral and national levels, is seen as a key need for mainstreaming climate change into the priority areas and for effective planning and implementation. Government agencies, particularly the EPSDD as the climate change focal point and agency coordinating the process for the Ministry of Finance, Economic Planning, Sustainable Development and Information Technology, needs to have the required staff capacities and resources to effectively understand, coordinate and implement climate change adaptation and mitigation measures. While civil society is implementing a number of on the ground projects related to CCA, challenges are noted in terms of organizational capacity, particularly related to legal and accounting expertise and sustainable financing. The private sector's capacity to engage in policy planning and implementation is also constrained by lack of human and technical resources.

Under the Climate Change Policy (2019), the objective is to build the capacity of all stakeholders, and adopt participatory and bottom up approaches, to effectively plan for and respond to climate change in SVG. The sub-objectives, which are aligned with those identified in the NAP, NDC and NESDP, include:

- To assess the human and technical resource capacity needs for climate change adaptation and mitigation across government agencies and key partners in civil society and the private sector and develop a capacity building programme to effectively respond to the identified needs.
- To develop and implement an integrated and sustained climate change education and awareness campaign, targeting schools, key resource users (e.g. farmers, fisherfolk, hotel and tour operators) and the wider public.
- To enhance mechanisms for participatory, inclusive and transparent planning and decision-making processes that engage government, civil society and the private sector in the climate change response, including at the national and local levels.
- To document and share best practices and innovations in engaging civil society and private sector in climate change adaptation and mitigation for scale up and

replication, including work by the Sustainable Grenadines and Mustique Company in coral reef and mangrove restoration, waste management and using solar powered desalination plants.
- To enable public-private partnerships to facilitate information sharing, training, financing and deployment of innovative technologies and practices to support climate change responses.

Information management, research and monitoring. A comprehensive system of research, monitoring and information management for climate change is needed to provide reliable data for decision-making and to foster experimentation and innovation. Currently, key baseline data on current conditions and comprehensive assessments of climate change trends, impacts and vulnerabilities are unavailable and, where data generation is taking place, there is limited dissemination of this information across sectors. There is no central repository for accessing or contributing available data and information, including by civil society or the private sector who may be interested in implementing and investing in climate change measures. An effective system to collect and report on data necessary to develop the GHG inventory is also lacking as well as decision support tools e.g. GIS which can help support vulnerability mapping, modelling and analysis for both adaptation and mitigation.

Under the Climate Change Policy (2019), the objective is to ensure a comprehensive system of information management, research and M&E to inform climate change decision-making. The sub-objectives, which are aligned with those identified in the NAP and NDC, include:

- To develop climate modelling and systematic observation, research and monitoring systems to determine climate change trends and patterns and inform assessments of current and potential impacts in SVG.
- To conduct vulnerability and capacity assessments to identify the key climate change impacts and vulnerabilities for each of the priority sectors and appropriate measures, including collection of local/indigenous knowledge and gender-disaggregated information.
- To establish a research and development programme for climate smart technologies and practices relevant for various sectors, including agriculture and fisheries, energy efficiency and renewable energy, preservation of historical sites, water and soil conservation and waste management.
- To enhance decision support tools for effective and integrated climate change planning and decision-making by government, civil society and the private sector, including geographic information systems (GIS) and other tools.
- To establish a national information management system for sharing climate change related data and information across sectors and various stakeholders to support effective decision-making implementation over the long term.

Intersectoral coordination. Ensuring effective coordination and information sharing to support a multi-sectoral, multi-stakeholder and integrative approach to address climate change and build resilience is critical. This will require robust and highly integrated institutions to coordinate and manage this process as well as the definition of key roles and responsibilities and clear communication of the same to all stakeholders. Currently, coordination is low and the governance structure to oversee climate change planning, implementation and financing among sectoral stakeholders needs to be strengthened. Coordination should also seek to factor in civil society and the private sector given the lack of a participatory mechanism to consistently engage these stakeholders in climate dialogue.

Under the Climate Change Policy (2019), the objective is to establish institutional mechanisms and sectoral linkages to enable information sharing, coordination and joint implementation for an effective response to climate change. The sub-objectives, which are aligned with those identified in the NAP and NDC, include:

- To operationalize a national coordinating mechanism, including a National Climate Change Committee (NCCC), comprised of the key implementing agencies for climate change adaptation and mitigation and relevant civil society and private sector representatives across the various sectors in St. Vincent and the Grenadines Islands.
- To increase the human resources and institutional capacity within the EPSDD in the Ministry of Finance, Economic Planning, Sustainable Development and Information Technology to effectively serve as the NCCC secretariat and enable a coordinated, multi-sectoral response to climate change.
- To designate climate change focal points in the relevant GoSVG ministries and agencies with clear roles and responsibilities for climate change, including supporting the NCCC to monitor implementation of sectoral vulnerability and risk assessments, measures for adaptation and mitigation, and mobilize climate financing.
- To create a database of all ongoing climate change programmes and projects in SVG to enhance coordination and avoid duplication of efforts, and integrate into a national information management system.
- To establish systems and procedures for mainstreaming climate change, including in budgeting and procurement systems and development planning in GoSVG ministries and agencies.
- To review and update the policy and legal framework to enable an integrated and multi-sectoral approach to climate change adaptation and mitigation across SVG.

Integration of disaster risk management and national security. Climate change has the potential to exacerbate natural disasters, such as droughts, floods, landslides, hurricanes and storm surges, through changing rainfall patterns, more extreme weather and sea level rise. The impacts on lives, infrastructure and livelihoods in SVG will be significant given the small size of the islands and economic dependence on climate-sensitive sectors like agriculture and tourism. National security impacts must also be taken into account, particularly migration, resettlement and threats to law and order triggered by climate related disasters and related issues of food, water and energy security. Increasing resilience to multiple hazards and disasters, including extreme climate events, will be critical to ensure the viability of the people and economy and require integrating disaster risk management and national security considerations into climate change responses. Increased investment in monitoring, forecasting and early warning systems for disaster risk reduction and in response plans and coordinating mechanisms post-disaster events.

Under the Climate Change Policy (2019), the objective is to ensure the health, safety and security of Vincentian residents and visitors through an integrated approach to climate change, disaster risk management and national security. The sub-objectives, which are aligned with those identified in SVG's Comprehensive Disaster Management Policy (2014), NAP and NDC, include:

- To enhance the institutional and legal framework for an integrated and coordinated approach to climate change, disaster risk management and national security, including:

  - Reviewing and updating SVG's Comprehensive Disaster Management Policy and current legislation to address existing and emerging disasters and national security concerns.
  - Strengthening institutional arrangements and networks for coordination across community to national levels, including the National Emergency Council, the Emergency Executive Committee, and District and Community Disaster Committees.
- To establish and maintain early warning systems for key hazards, including droughts, floods, heatwaves, hurricanes and storm surge that are climate related, to enable effective disaster preparedness and response, with a focus on vulnerable communities and sectors.
- To update risk and vulnerability assessments and maps for natural hazards on an ongoing basis, including droughts, floods, heatwaves, hurricanes and storm surge that are climate related, to support evidence-based decision making.
- To establish a national, standardized process for monitoring and reporting on the impacts of climate related hazards across sectors and identifying priority actions to avert, minimize and address loss and damage in SVG.
- To integrate relevant data, maps and vulnerability and impact assessment reports on natural hazards, including climate related hazards, into the national information management system to enable knowledge sharing and effective decision-making for disaster risk management and related security concerns.
- To promote comprehensive disaster management that addresses all aspects of disaster risk management in an integrated manner including risk reduction, preparedness, response, recovery and rehabilitation through investment in capacity building and implementation of best practices within government, civil society and the private sector.

Investment and fiscal planning. Limited funding is available through the Government to support the added responsibilities and measures needed to adapt to climate change or to explore key mitigation measures. The majority of the funding for climate change planning and implementation is sourced through multi-lateral donors such as the Green Climate Fund under the UNFCCC and the World Bank's Global Environmental Facility, through bi-lateral donors such as the European Union and North American governments, and through regional programmes with CCCCC and sub-regional programmes with the OECS. The ability to access and mobilize these donor funds in a timely manner, however, is a challenge. In many cases, loan conditions have proven to be counter-productive in the context of national-resource management because they fragment environment issues and initiatives (INC, 2000). Additional mechanisms for financing key investments in climate change adaptation and mitigation will need to be identified and developed, including public-private partnerships and fiscal measures, such as tax incentives.

Under the Climate Change Policy (2019), the objective is to reduce the economic impacts of climate change and leverage opportunities through effective planning and investment for low carbon, climate resilient development. The sub-objectives, which are aligned with those identified in the NAP, NDC and NESDP, include:

- To build capacity for assessment of the costs and benefits of climate change impacts for economic development and potential opportunities for investment and application of screening tools for development planning (e.g. the Caribbean Climate Online Risk and Adaptation Tool (CCORAL)), among GoSVG ministries and agencies.
- To mainstream climate change considerations into the annual development of budgets for all GoSVG ministries and reporting on annual performance by

Permanent Secretaries, including specific adaptation, mitigation and resilience building initiatives.

- To mobilize available climate finance, including new opportunities through the Green Climate Fund, for climate change project development and implementation with the involvement of government, civil society and private sector actors.
- To promote private sector actions and investment to support climate change adaptation and mitigation, including through use of fiscal measures such as concessions, subsidies and levies and public-private partnerships.
- To integrate a system for tracking investments in climate change adaptation and mitigation and their economic, environmental and social impacts into the national monitoring, evaluation and reporting on climate change.

2. Country Agenda and GCF Engagement

2.1 Institutional arrangements

The National Designated Authority (NDA)

The Ministry of Finance, Economic Planning, Sustainable Development and Information Technology serves as the NDA for GCF. Within the MFEPSDIT, the Economic Planning and Sustainable Development Division (EPSDD) is the GCF focal point within the MFEPSDIT. The NDA team includes two people and other personnel from other units within the MFEPSDIT who provide support as needed. There is no formal institutional setting at the Ministry with regards to Green Climate Fund (GCF) matters and there are no formal processes within the NDA for managing GCF projects or matters given the size of the team. Under the GCF Readiness Programme, funding has been provided to support the establishment of a coordination mechanism. The NDA team has a contact point, a GCF Regional Advisor based in Grenada, GCF Readiness Programme Officer responsible for the Caribbean region.

The National Climate Change Policy (2019), foresees the establishment of a National Climate Change Committee (NCCC), will be chaired by the Director of Planning in the MFEPSDIT as the line ministry that serves as SVG's climate change focal point, including for the UNFCCC, GCF and GEF. The NCCC's secretariat will be the EPSDD in the MFEPSDIT, which holds responsibility for cross-sectoral coordination, information gathering and mobilisation of stakeholders for climate change response in SVG. Once established, any future interactions between the Government of SVG and the GCF will be implemented through the NCCC and its Secretariat.

Overview of national climate change engagements with UNFCCC mechanism partners

The main engagement with UNFCCC mechanisms partners by the Government of SVG is with the Global Environment Fund (GEF). According to the GEF (2019), a total of seven national projects and 28 regional/global projects have been approved for SVG, for a total financing of USD 242 million (with USD 897 million cofinancing). The seven national projects account for USD 6.5 million, with a total co-financing of USD 100 million. Climate change related projects include:

- Promoting Access to Clean Energy Services in Saint Vincent and the Grenadines (National project 2014-Present, USD 1,726,484. United Nations Environment Programme (UNEP))
- Climate Change Enabling Activity (Additional Financing for Capacity Building in Priority Areas) (National project 2002-2005, USD 100,000; The World Bank)
- Enabling St. Vincent and Grenadines to Prepare its First National Communication in Response to its Commitments to UNFCCC (National project 1998-2002, USD 349,500; The World Bank)
- Climate Change Adaptation in the Eastern Caribbean Fisheries Sector (Regional project 2016-Present, USD 5,460,000; Food and Agriculture Organization (FAO))

- Sustainable Energy for the Eastern Caribbean (SEEC) Program (Regional project 2015-Present, USD 3,103,698; Inter-American Development Bank)
- Umbrella Programme for National Communication to the UNFCCC (Regional project 2013-Present, USD 7,210,000; United Nations Environment Programme (UNEP))
- Implementation of Pilot Adaptation Measures in coastal areas of Dominica, St. Lucia and St. Vincent & the Grenadines (Regional project 2006-2011, USD 2,100,000; The World Bank)
- Caribbean: Mainstreaming Adaptation to Climate Change (Regional project 2003-2009, USD 5,000,000; The World Bank)
- Caribbean Renewable Energy Development Programme (Regional project 2004-2011, USD 3,726,000; United Nations Environment Programme (UNEP))

Relationships with existing GCF Accredited Entities (AEs)

The relationships with existing GCF Accredited Entities are summarized in Table 10, including past and current projects by each agency and the level of engagement related to GCF. As of mid-2019, the main engagement with AEs has been with the Caribbean Community Climate Change Centre (CCCCC), the United Nations Development Programme (UNDP) and the Caribbean Development Bank (CDB). With the CCCCC, there has been engagement regarding the development of a full project proposal for adaptation and the support for a Second Readiness project. With UNDP, there was the development of a full project proposal in 2006 for solar production, but the project was not submitted to GCF. With the CDB, there has been preliminary talks to support the development of one of the prioritized projects under the GCF pipeline.

Table 10. Relationships with existing Accredited Entities and relevant partners

Entity/Partner Name	Area/s of focus	Engagement in country	Efforts to strengthen engagement with GCF
Caribbean Community Climate Change Centre (CCCCC)	Climate change adaptation, coastal areas	Since its inception in 2004, the CCCCC has supported Caribbean countries to tackles climate change. Active projects include: • USAID Climate Change Adaptation Program (CCAP) (2016-2020) Closed projects include: • Coastal Protection for Climate Change Adaptation in the Small Island States in the Caribbean (2014-2018). Funding by KfW. • Special Program on Adaptation to Climate Change (SPACC) (2007-2011) (GEF USD 2.1 million The World Bank) • The CARIBSAVE Climate Change Risk Atlas (CCCRA) (2009-2011) (Funded by UKAid and AusAID) • Review of the Economics of Climate Change (RECC/ECLACC) (2010–2011) (Joint work with ECLAC) • EU-GCCA (2011-2015) • Salt Water Reverse Osmosis (SWRO) Desalinization powered by a Photo Voltaic (PV) Renewable Energy System (Funded by Government of Italy)	• Support in the development of a concept note on water resource management. • Support in development of Second Readiness Programme.
United Nations Development Programme (UNDP)	Climate change adaptation, mitigation	Involvement in the following projects: • Japan-Caribbean Climate Change Partnership (J-CCCP) (closing in 2019)	• Preliminary talks to serve as AE for one of the selected adaptation projects • Support in the development of a project proposal for solar generation (2016)
Caribbean Development Bank (CDB)	Climate change adaptation, disaster	Active projects include: • Disaster Reduction Climate Change Adaptation (USD 11.2 million)	Preliminary talks to serve as AE for one of the selected mitigation projects

Entity/Partner Name	Area/s of focus	Engagement in country	Efforts to strengthen engagement with GCF
	prevention and preparedness, renewable energy	• Energy Efficiency Measures and Solar Photovoltaic Plant (USD 4.2 million) • Port Modernization Project - Kingstown, St. Vincent and The Grenadines (£ 2.4 million) • Technical and Vocational Education and Training Development (USD 7.3 million)	
The World Bank	Disaster risk reduction, fiscal reform and resilience,	Active projects include: • Regional Disaster Vulnerability Reduction Project (Additional Finance) (USD 35.6 million) • St. Vincent and the Grenadines RDVRP AF (USD 6.81 million) • First Fiscal Reform and Resilience Development Policy Credit (USD 30 million) • Human Development Service Delivery Project (USD 10.7 million) Past projects include: • Mainstreaming Adaptation to Climate Change (MACC) (2004-2007) • Special Program on Adaptation to Climate Change (SPACC) (2007-2011) (GEF USD 2.1 million)	No direct engagement regarding GCF
United Nations Environment Programme (UNEP)	Biodiversity, forestry, climate change adaptation, mitigation	Active projects include: • Promoting Access to Clean Energy Services in Saint Vincent and the Grenadines (GEF national project, 2014-Present, USD 1.7 million) • Umbrella Programme for National Communication to the UNFCCC (GEF Regional project 2013-Present, USD 7.2 million)	No direct engagement regarding GCF
Food and Agriculture Organization (FAO)	Food security, agriculture, fisheries, forestry, REDD	Active projects include: • Climate Change Adaptation in the Eastern Caribbean Fisheries Sector (GEF regional project, USD 5.5 million)	No direct engagement regarding GCF

Source: Own elaboration based on consultation of AE's project pipeline.

2.2 Roles and contributions of key stakeholders

For the development of the GCF Country Programme, as series of stakeholder consultations took place between 2018-2019. The main objective of these initial consultations, was to develop a project pipeline for GCF, including the development of a long list of projects, the ranking and the development of concept notes for three selected projects. An indicative list of relevant stakeholders was constructed with the NDA, including public sector entities, private sector corporates, financial institutions, NGOs, Think tanks and business associations. Table 4 presented the main institutions and actors that were consulted for the development of the Country Programme. Table 5 provided the roles and responsibilities of various of those government institutions and Table 6 summarizes the roles and responsibilities of some of those actors, related to climate change adaptation. Annex 3 provides the list of national stakeholders that participated in the consultation process.

The process of engagement with the different stakeholders was to hold one-on-one meetings with each of the identified stakeholders. At the end of the bilateral consultations meetings (Table 11), a validation workshop was held to showcase the results of the consultation process to all stakeholders, and to receive feedback to adjust or correct the consultation process outcomes (see Annex 2 for a detailed agenda of the bilateral consultations).

Table 11. Overview of consultation process for GCF project pipeline development

Stakeholder group	Date of consultation	Type or objective of consultation	Outcome
Ministry of Finance (NDA)	July 23, 2018	Development of project pipeline	Development of project pipeline and GCF concept notes
Ministry of Agriculture, Forestry & Fisheries	July 23, 2018	Development of project pipeline	Development of project pipeline and GCF concept notes
National Parks	July 23, 2018	Development of project pipeline	Development of project pipeline and GCF concept notes
Japan-Caribbean Climate Change Partnership (J-CCCP)	July 23, 2018	Development of project pipeline	Development of project pipeline and GCF concept notes
Ministry of Health, Wellness & the Environment	July 23, 2018	Development of project pipeline	Development of project pipeline and GCF concept notes
he Basic Needs Trust Fund (BNTF)	July 23, 2018	Development of project pipeline	Development of project pipeline and GCF concept notes
Ministry of Mobilization	July 23, 2018	Development of project pipeline	Development of project pipeline and GCF concept notes
The Central Water and Sewage Authority (CWSA)	July 24, 2018	Development of project pipeline	Development of project pipeline and GCF concept notes
St. Vincent Electricity Services Ltd (VINLEC)	July 24, 2018	Development of project pipeline	Development of project pipeline and GCF concept notes

Stakeholder group	Date of consultation	Type or objective of consultation	Outcome
Ministry of Housing	July 24, 2018	Development of project pipeline	Development of project pipeline and GCF concept notes
Argyle International Airport	July 25, 2018	Development of project pipeline	Development of project pipeline and GCF concept notes
Meteorological Service (MET Office)	July 25, 2018	Development of project pipeline	Development of project pipeline and GCF concept notes
National Emergency Management Organization (NEMO)	July 25, 2018	Development of project pipeline	Development of project pipeline and GCF concept notes
Port Authority, Maritime Agency	July 25, 2018	Development of project pipeline	Development of project pipeline and GCF concept notes
Ministry of Tourism (Tourism Authority)	July 25, 2018	Development of project pipeline	Development of project pipeline and GCF concept notes
Hotel & Tourism Association	July 25, 2018	Development of project pipeline	Development of project pipeline and GCF concept notes
Cooperatives (Windward Islands Farmers Association (WINFA))	July 26, 2018	Development of project pipeline	Development of project pipeline and GCF concept notes
Caribbean Agricultural Research and Development Institute (CARDI)	July 26, 2018	Development of project pipeline	Development of project pipeline and GCF concept notes
NGOs (Caribbean Youth Environment Network (CYEN), Richmond Vale)	July 26, 2018	Development of project pipeline	Development of project pipeline and GCF concept notes

Source: Own elaboration based on consultation process notes.

2.3 Identification of country priorities for the GCF

The national priorities for climate change adaptation and mitigation has been outlined in section 1.3 and 1.4, aligned with the National Climate Change Policy, the National Adaptation Plan (NAP), the sectoral NAPs for agriculture and water and the National Energy Policy. The key areas of engagement with the GCF in relation to the gaps, weaknesses and opportunities identified in Section 1.4 include:

- Agriculture (crops and livestock)
- Fisheries and aquaculture
- Forest, carbon sinks and terrestrial resources
- Coastal and marine zone
- Education
- Human Health
- Settlements, infrastructure and physical development
- Energy

- Water
- Waste management
- Transport
- Maritime affairs
- Tourism
- Finance and banking
- Investment and fiscal planning
- Capacity building and engagement of stakeholders
- Information management, research and monitoring
- Intersectoral coordination
- Integration of disaster risk management and national security

Baed on that input from the stakeholder consultation process in July 2018, that reflected the priorities for climate change adaptation and mitigation, the analysis of the current and previous initiatives, and taking into consideration the mitigation challenges, country vulnerabilities and country development priorities, a long list of potential projects for GCF was developed and presented for valiation to the Ministry of Finance, Economic Planning, Sustainable Development and Information Technology (MFEPSDIT) (Table 12).

Table 12. List of Potential Projects in Saint Vincent and the Grenadines.

Sector	Project	Climate Change Impact	Total Size (million USD)	Time (years)	Mechanism
Natural Resources (Forestry, Water)	Water and Natural Resource Management in St. Vincent Island (including flood monitoring)	Crosscutting (Adaptation & Mitigation)	40-50	10	Grant / Loan
Renewable Energy	Energy Security in SVG:	Mitigation	27	5	
	• Grenadine Solar Transition	Mitigation	13.5	5	Loan / Grant
	• Geothermal Transmission and Distribution	Mitigation	9-12	5	Loan / Grant
	• Residential Solar Transition in St. Vincent	Mitigation	1	5	Grant
Energy Efficiency, Renewable Energy	Energy Efficiency in Hotels (with water) 84 properties	Mitigation	5-10	4	Loan / Grant
Emergency Response and Preparedness	• Capacity building at community level; Information generation and use/capacity ($5 million) • Shelters ($5 million)	Adaptation	10	4	Grant / Loan
	• Retrofit of NEMO HQ ($0.2 million)	Mitigation	0.2	2	Loan
Agriculture	Sustainable farming for small farmers, including	Crosscutting (Adaptation & Mitigation)	10	4-5	Grant / Loan

Sector	Project	Climate Change Impact	Total Size (million USD)	Time (years)	Mechanism
	efficient water management, land management, fertilizer use, biogas, composting, organic farming (focus on specific areas in Saint Vincent)				
Transport	Transport NAMA	Mitigation	TBC	5	Loan / Grant
Coastal Areas	Defense of coastal areas	Adaptation	TBC	TBC	Grant

Source: Own elaboration (August-November 2018).

As per the request of the MFEPSDIT, the projects were ranked following a multi-criteria analysis of these potential projects using as a basis the GCF investment criteria and the information collected during the consultation process. The purpose was to summarize the process of moving from country priorities into projects and programmes that are consistent with GCF policies, principles and access modalities. See Annex 4 for the template used in the project ranking.

Based on that criteria, each of the projects was scored against each of the GCF investment criteria and a ranking was developed. In the backdrop of the analysis, it was considered that at the regional level there were only one Accredited Entity that is qualified for loans (the Caribbean Development Bank) and two others accredited for grants (CCCCC and UNDP). The results of the ranking exercise based on the GCF investment criteria are presented in Table 13.

Table 13. Ranking of potential GCF projects using a multi-criteria analysis based on GCF Investment Criteria.

Ranking	Title of project	Area	Simplified Approval Process
1	Residential Solar Transition	Mitigation	Yes
2	Transport NAMA	Mitigation	--
3	Energy Efficiency in Hotels (with water)	Mitigation	Yes
4	Water and Natural Resource Management in St. Vincent Island	Crosscutting (Adaptation & Mitigation)	Yes
5	Sustainable farming for small farmers	Crosscutting (Adaptation & Mitigation)	Yes
6	Capacity building at community level; Information generation and use/capacity; Shelters; Retrofit of NEMO HQ	Adaptation	Yes
7	Geothermal Transmission and Distribution	Mitigation	--

Source: Own elaboration based on methodology presented in Annex 4.

The MFEPSDIT, based on its own internal decision making process and preliminary input during the GCF Regional Dialogue in December 2018, selected the following three project for concept note development:

- Water and Natural Resource Management in St. Vincent Island
- Residential Solar Transition
- Energy Efficiency in Hotels

During the development of each of the three concept notes, the focus and scope of the projects was further defined. The Government technical counterparts were the Forestry Services for the "Water and Natural Resource Management in St. Vincent Island" and the Energy Unit for the other two projects on renewable energy and energy efficiency.

2.4 Country Portfolio

Overview of project/programme pipeline

The pipeline includes the three selected projects presented in section 2.3, and the second readiness project currently under development with the support of the Caribbean Community Climate Change Centre (CCCCC).

Table 14. Country projects/programmes pipeline

<table>
<tr><th>Project Title</th><th>Description</th><th colspan="2">Accredited Entity</th><th>Submission timeframe</th></tr>
<tr><td>Forest and Watershed Restoration for Climate Resilience in St. Vincent and the Grenadines</td><td rowspan="3">Saint Vincent and the Grenadines (SVG) has observed increased warmer and dryer conditions which are expected to worsen with climate change. Given those observed and expected climatic changes, the proposed project seeks to improve forest and water resource management under dryer conditions from climate change through an integrated approach with two components: i) Improved forest management resulting in improved watershed climate resilience; and ii) Improved and diversified livelihoods of communities and farmers in transition to reduce pressure on natural resources. The main implementing agency will be the Forestry Services under the Ministry of Agriculture, Forestry, Fisheries, Rural Transformation and Industry (MoAFFRTI).</td><td colspan="2">Caribbean Community Climate Change Centre (CCCCC)</td><td>To be determined by NDA and AE</td></tr>
<tr><th>Fund level strategic impacts</th><th colspan="2">Total financing (USD million):</th><th>Status</th></tr>
<tr><td>5, 6, 8</td><td>GCF: 9.5</td><td>Other: 0.5</td><td>Concept Note developed in 2019 and under review by AE</td></tr>
<tr><th colspan="2">Action</th><th>Lead</th><th colspan="2">Timeline</th></tr>
</table>

Finalization of concept note for submission to GCF	AE	To be determined by AE and NDA

Project Title	Description	Accredited Entity	Submission timeframe
Saint Vincent and the Grenadines Sustainable Energy Transition (SVG-SET)	St. Vincent and the Grenadines (SVG) currently depends on high priced and volatile diesel fuel for power generation and other energy needs, resulting in electricity prices that are among the highest in the world and an annual petroleum import expense equivalent to 19% of its GDP. The project will support the installation of 2.4 MW solar and 550 kWh energy storage in the island of Bequia, part of SVG's energy transformation goal of reaching 80% renewable energy generation by 2021 and reduce nation-wide greenhouse gas (GHG) emissions by 22% by 2025. The project will be implemented and operated by the state-owned St. Vincent Electricity Services Limited (VINLEC).	TBD (talks with Caribbean Development Bank and UNDP)	To be determined by NDA and AE
Fund level strategic impacts		**Total financing (USD million):**	**Status**
1		GCF: 7.152 / Other: 0.522	Concept Note developed during 2019 and under review of NDA and Energy Unit

Action	Lead	Timeline
Concept Note Review	NDA and Energy Unit	To be determined by NDA
Identification of AE	NDA	To be determined by NDA
Submission to GCF	NDA	To be determined by NDA

Project Title	Description	Accredited Entity	Submission timeframe
Energy Efficiency Programme in Saint Vincent and the Grenadines	St. Vincent and the Grenadines (SVG) currently depends on high priced and volatile diesel fuel for power generation and other energy needs, as well as outdated energy efficiency standards. At the same time, SVG wants to promote a green tourism industry, seeking to reduce its carbon footprint and environmental sustainability. The project will support green credit lines in the tourism and other industries to support energy and water resource efficiency and renewable energy. The project will be implemented by local financial	TBD (talks with Caribbean Development Bank and UNDP)	To be determined by NDA and AE
Fund level strategic impacts		**Total financing (USD million):**	**Status**
3		GCF: 8.5 / Other: 0.5	Concept Note developed during 2019 and under review of NDA and Energy Unit

	institutions in SVG, with the support of the Ministry of Finance.			

Action	Lead	Timeline
Concept Note Review	NDA and Energy Unit	To be determined by NDA
Identification of AE	NDA	To be determined by NDA
Submission to GCF	NDA	To be determined by NDA

Table 15. Country Project Preparation pipeline

Project Title	Description	Accredited Entity	Submission timeframe
Fund level strategic impacts		**Total financing:**	**Status**

Action	Lead	Timeline

Table 16. Country Readiness programme pipeline

Title	Description	Delivery Partner	Submission timeframe
Second Readiness Project	Second Readiness project to further support engagement with GCF	Caribbean Community Climate Change Centre (CCCCC)	TBC
		Total financing:	**Status**
		TBC	Under preparation

Action	Lead	Timeline
Preparation of project proposal	Delivery partner	TBC

Table 17. Accreditation pipeline

Entity Name	Type	Action	Lead	Timeline

3. Monitoring and evaluation of Country Programme implementation

The Public-Sector Investment Programme (PSIP) Management Unit of the Ministry of Finance, Economic Planning, Sustainable Development and Information Technology has the overall responsibility for the coordination and management of the PSIP that reflects the strategic direction of the economy of St. Vincent and the Grenadines and contains the government's investment priorities. The Unit is responsible for monitoring the overall implementation of the PSIP as well as specific projects and programme. These include externally funded projects that are executed by the Ministry of Economic Planning.

As part of the PSIP tasks of project selection and approval, the Ministry of Finance has strengthened the project selection process through the development of a project concept template, establishment of project selection criteria, establishment of a project cycle calendar and the re-introduction of Project Monitoring and Data Capture Form across all line ministries.

The GCF Country Programme will align with the PSIP and the project cycle, and any new developments related to economic circumstances, new information on adaptation and mitigation, new information on changing viability or costs of various options will inform updates in the country programme in accordance to the PSIP.

In terms of the monitoring of the overall PSIP, the database is updated monthly and a PSIP comprehensive report is prepared every six months. The GCF Country programme reviews/evaluations to effectively monitor progress and adjust course as necessary will be aligned with the PSIP comprehensive report, and will be linked to the Paris Agreement's periodic ambition reviews. The parameters of the country programme that will likely require updates include the country portfolio (including the country project/programme pipeline, the Country Readiness programme pipeline, the Accreditation pipeline). The frequency for updating the country programme parameters will be bi-annually.

The monitoring and evaluation of the Country Programme will also align with the mechanisms and activities under the National Climate Change Policy (2019), including conducting annual reviews of the NCCP Implementation Plan and a comprehensive review of the National Climate Change Policy every five years, with effective engagement of stakeholders in the process.

Annex I. Potential mitigation and adaptation measures for SVG

Table 18. Potential mitigation and adaptation measures that could be implemented in Saint Vincent and the Grenadines (2015).

Transportation	Potential measures
Modal shift	• Subsidize the public transport sector as to stimulate the use of low consuming vehicles • Provide incentives for improvements of the public transport system as alternative to individual vehicle use
Vehicle Purchase and Use	• Advise the public on fuel consumption of different car models that are commonly imported • Apply environmental tax on purchase of vehicles over 5 years old, or other measures to curb the emissions of private vehicles currently being purchased (large number of second hand cars coming into the country) • Revise the car taxation system to give incentives for the use of fuel-efficient passenger cars and other vehicles
Vehicle Maintenance	• Introduce regular motor check-ups to avoid unnecessary emissions and limit fuel consumption to the lowest possible level. • Include emission standard/compliance testing in annual vehicular inspection
Urban Planning and Traffic Management	• Develop a comprehensive long- term transport strategy • Improve road conditions and traffic management as to avoid congestions and prioritize public transport buses.
Marine Transportation	• Improve fuel conservation and efficiency for marine transport sectors (ferries, cargo. fishing vessels).
Other	• Study the potential of introducing electric vehicles in the island. • Study the options to either produce biofuels or import biofuels from countries such as Brazil. • Investigate GHG costs and benefits of substituting LPG for gasoline in taxis • Apply energy efficiency measures in the public transportation system.
Commercial (Including Tourism and Institutional)	
Building codes	• Publish guidelines and standards for the construction of energy efficient buildings and for retrofitting existing buildings (including building design, insulation, ventilation, day lighting, use of efficient AC and appliances. etc.) • Disseminate this information to architects, civil engineers, construction companies, and the public, and encourage adoption of energy-efficient building technologies
Energy audits	• Offer low- or no-cost services for energy audits to major electricity consumers. Set up an information and advisory center and elaborate publications for smart and cost-saving energy use. • Promote energy audits for key energy consuming sectors, such as industries, hotels, restaurants and public buildings.

Efficiency standards for equipment & appliances	• Set energy performance standards for importing and sales of major domestic appliances
Government buildings	• Ensure that the new International Airport on St. Vincent is built in the most energy efficient manner possible. • Implement the results of a comprehensive energy study of the highest energy consuming Government owned/operated buildings, to reduce the energy consumption of these buildings, and also evaluate the use of renewable energy technology for these buildings (refers to EU SFA funded study). • Implement the Energy Conservation Education and Awareness Programme developed to raise awareness and promote energy efficient behaviors among government employees in their workplace (refers to same study). • Apply VINLEC's Own Use Reduction Programme model (or similar program) to all government buildings. • Set rules for the procurement of energy efficient goods and equipment, including as much electricity and fuel possible from indigenous renewable sources.
Tourism sector	• Provide fiscal incentives for the import of energy-efficient appliances
Other	• Note: Additional cross-cutting renewable energy measures are considered below
Residential	
New buildings	• Publish guidelines and standards for the construction of energy efficient buildings and for retrofitting existing buildings
Retrofit	• Provide incentives for retrofitting of built infrastructure (tax write-offs, zero rated duties on imported materials, etc.)
Efficient lighting and appliances	• Support households to switch from incandescent light bulbs to compact fluorescent light bulbs by improving current VAT and excise tax exemptions and embarking on public awareness campaigns. • Set energy performance standards for importing and sales of major domestic appliances. Appliances will require energy labeling, using the rules of the European Appliance Label or US Energy Star programs. • Provide fiscal incentives for the import of energy-efficient appliances (and equipment) (duty free concession on energy efficient appliances).
Education	• Introduce public awareness activities supported by incentives to implement energy-conservation measures (awareness alone has limited influence if not associated with the appropriate marketplace signals.
Industrial	
Energy audits	• Offer low- or no-cost services for energy audits to major electricity consumers. Set up an information and advisory centre and elaborate publications for smart and cost-saving energy use.
Standards	• Publish guidelines and standards for the construction of energy efficient buildings and for retrofitting existing buildings.

Agriculture /Forestry/Fishing	
Agriculture non-energy emissions	• Encourage cocoa production (for carbon sequestration). • Encourage minimum tillage practices (for carbon sequestration). • Adopt policies to encourage move away from traditional fertilizers to environmentally friendly alternatives (including composting). • Encourage use of methane from farm waste to energy.
Land use	• Implement integrated land-use planning. • Implement Sustainable Land Management (SLM)Project. • Upgrade the National Physical Development Plan to consider climate change, conservation of biodiversity, and allow for better land zoning.
Forestry	• Identify measures to eliminate illegal deforestation of watersheds (e.g., b marijuana planters). • Promote use of waste wood, including thinning debris, for crafts and furniture, as a means to combat deforestation. • Implement programmes of reforestation and agroforestry. • Promote the adoption of best practices for sustainable forest management, to reduce land and forest degradation, reversing vegetation and forest cover loss. • Provide local partners and stakeholders with social and economic incentives to buy into the concept of forest protection.
Waste	
Waste reduction	• Introduce source reduction programme (possibly including incentives). • Introduce composting programme for hotels, for homeowners.
Electricity Generation	
Self-generation and independent power	• Establish mechanisms that allow for fair access to the transmission/ distribution grid and provide the basis for a stronger involvement of the private sector in renewable electricity generation and cogeneration. • Support efforts by private power operators to replace diesel fuel with alternative renewable energy sources. Encourage private sector participation in the development, financing and management of renewable energy projects. • Analyze market potentials for the application of solar electric systems in all consumption sectors. Install a pilot photovoltaic plant and publish technical guidelines for the interconnection of small grid-connected RE systems.

Renewables policy and programming	• Remove legal barriers and introduce legislation supportive of non-traditional energy development, coupled with fiscal incentives. • Provide financial and fiscal incentives that allow renewable energy technologies to be market competitive (e.g. import duties, low-interest loans, tax credits). • Demonstrate pilot projects of various renewable energy systems. • **Small hydro:** Provide the financial means for rehabilitation of the hydro power plants at South River and Richmond and for installation of new small hydro plants. Start with a long-term gauging programme. • **PV and wind**: Investigate opportunities for the installation of stand-alone PV and wind power systems (VINLEO). • **Geothermal**: Ensure sustainable development of geothermal resources in the Soufriere Resource Area. • **Organic Waste**: Analyze the potentials of energy production from organic waste material from the agricultural, forestry and food processing sector. • **OTEC**: Assess the Economic Viability of shore-based Ocean Thermal Energy Conversion (OTEC) Plants.
Efficiency	• Improve the efficiency of existing power production, transmission and distribution to optimize costs and fuel consumption. • Investigate opportunities for electrical interconnection between different islands of the country and with neighboring states. • Establish guidelines for any new energy project, including requirements and standards of Environmental Impact Assessment.
Other	• Study opportunities for demand management in the short term.
Cross-cutting measures	
Energy efficiency	• Set up a fund in support of small-scale pilot and demonstration projects that showcase new ways to enhance EE. • Implement energy efficient bulb replacement program.
Renewable energy	• Support the development of innovative financing mechanisms for the deployment of solar water heaters. • Consider the mandatory installation of solar thermal collectors for all major users of hot water. • Assess the feasibility of converting waste to energy, including production of biodiesel from waste, oils and fats; production of biogas and fertilizer from agriculture residues; and production of fuels for power generation from solid waste.
Public awareness	• Implement energy related training at all education levels from primary schools up to college courses and implement general public awareness campaigns to promote energy conservation.
Other	• Examine opportunities for participation in the Clean Development Mechanism. • Report biannually on the status and results of meeting goals of EAP

Source: Second National Communication (2015), Annex 1.

Note: No agricultural energy emissions, fishing, landfill gas, refrigerant (HFC), cross-cutting renewable energy measures recommendations were identified in the source documents.

Table 19: **Adaptation measures in the Second National Communication (2015).**

Sector	Adaptation Strategies	Area
Agriculture	Sensitization seminars and education about climate change and its impact designed to help in building a resilient society.	Education
	Improved rainwater harvesting for irrigation purposes.	Irrigation
	Development of stress tolerance varieties of common agricultural plants through genomics and molecular biology. This can be done utilizing technical assistance from regional and international agencies and countries like Caribbean Agriculture Research and Development Institute (CARDI), FAO and the Government of Taiwan.	Crop varieties
	Adaptive measures to control pest. For example, consumer education relative to the ecological principles of the Integrated Pest Management (IMP), Seasonal planting of crops that provide substrate for some pest.	Pest control
	Use of technologies by Port Health authorities to provides quarantine facilities for both import and export of biological material	Phytosanitary measures
	Adapting livestock to increased heat stress by: • Provision of shade in pastures through physical structures, • Education of heat production through rumination by enhanced nutrition and feeding programme, Breeding programmes that improve the animals 'abilities to withstand heat.	Breeds
	Identification of crops that are productive under emerging climatic conditions and for which there is a ready market.	Crop varieties
	Adaptation measures for soil and water use in agriculture include: • Soil conservation measures to deal with run-offs, especially on hillside farming, Construction of retaining walls to lessen the risks of landslides, • Increase the allocation of ground water recharge areas on the islands to support the irrigation programme.	Soil and water conservation
	Adaptation measures for Hurricanes: • Crop insurance like WINCROP to provide start-up funds for farmers after storm damage as well as compensation for damage to crops. • Introduction of shorter species of Plantains (specie of bananas). • Mix farming using a combination of tree crops and vegetable or root crops.	Crop varieties
Coastal Zone	Hazard assessment of the coast to determine priority for action on the coast.	Risk management
	Movement of settlement from coast to inland	Risk management

	Construction of retaining walls in areas where old settlements have high commercial value (e.g. Layou, Barrouallie and Chateaubelair)	Resilient infrastructure
	Control and restriction of sand mining is now controlled and restricted at a few sites. Sand for construction is now imported from countries with stocks of inland sand often from mines.	Risk management
	Building codes and land use plans are slowly evolving and gaining legal status	Resilient infrastructure
	A sea level monitor station was established at the coast guard base on the south of the island in 1996. This has been since updated to give real time reaching of sea surface changes.	Risk management
	Storm surge maps developed under the coastal vulnerability assessment will allow St. Vincent to put in place early warning systems to coastal settlement and activities.	Risk management
Health	A vector control program with surveillance for dengue and other forms of vector borne diseases that are climate sensitive.	Vector borne diseases
	A water quality monitoring program that take cognizance of floods, droughts and waste disposal into water bodies	Water monitoring
	The national Solid waste management program that prohibits open burning.	Waste management
	Community Health services that are equipped with trained staff and equipment to perform primary health care and some degree of hospitalization for asthma patients and persons suffering from heat stress	Health services
	There is an evolving 'roving health clinic' that can also treat emergency cases while transporting the victim to an appropriate treatment center.	Health services
Tourism	Promotion of small group tourism that fits well into the carrying capacity of the island amenity sites.	Tourism management
	Renewable energy and energy efficient programs in the hotel sector	RE & EE
	Development of water management strategies in line with government policies.	Water Management
	The establishment of a National parks, Rivers and beach Authority to support management of the tourism product.	Parks and recreation
	The promotion of regional tourism tied to cultural and island specific events.	Tourism management
Water	Policy options like water pricing and the development of water user groups.	Water pricing
	Ground water exploitation and protection of water catchment areas.	Water Management
	Support to irrigation for agricultural diversification.	Irrigation
	The use of green house for vegetable farming	Technology

Source: Own elaboration based on the Second National Communication (2015), Table 38 "Compilation of Adaptation Efforts Implemented in Saint Vincent and the Grenadines".

Table 20: **Mitigation measures in the Second National Communication (2015).**

Sector	Measure	Description
Residential, commercial and industrial	Adopt standards and guidelines for the construction of energy efficient buildings	Introduce guidelines and standards in the commercial and residential sectors relating to building design, insulation, ventilation, daylighting, use of efficient AC and appliances, and use of renewable energy sources (e.g., for water heating)
	Set energy performance standards for importation and sales of major energy consuming equipment and appliances	Introduce minimum energy efficiency standards for selected types of appliances. Specifically, for commercial (including tourism and institutional buildings) and residential air conditioning equipment and commercial and residential refrigerators and freezers, import will be restricted to appliances that are Energy Star labelled (or equivalent).
	Support the development of innovative financing mechanisms for the deployment of solar water heaters	Provide innovative financing mechanisms that encourage installation of solar water heaters in the commercial and residential sectors
Transport	Revise the car taxation system to give incentives for the purchase and use of fuel-efficient passenger cars and other vehicles	Use import duties and/or excise taxes to provide incentives for the purchase of more fuel-efficient passenger cars and other vehicles
	Provide information to the public on fuel consumption of different car models that are commonly imported	Provide fuel consumption information for new and used vehicle models that are available for import in order to assist consumers in selecting more efficient vehicles with lower fuel costs
Agriculture, forestry and fishing	Implement programmes of reforestation and agroforestry	Increase the rate of tree-planting and reforestation through collaborative programmes involving local communities and the Ministry of Agriculture, Rural Transformation, Forestry and Fisheries.
	Implement programmes for the reduction of deforestation	Promote the use of waste wood, including thinning debris, for crafts and furniture, as a means to combat deforestation. In subsequent years the programme would expand to include additional measures
Waste	Introduce a composting programme for the commercial sector	Operate a central composting facility to handle organic waste, initially from the tourism sector. In subsequent years the programme would expand to include other parts of the commercial sector
	Waste reduction across all sectors	Reduce waste to landfill through a Reduce, Reuse, Recycle programme. This measure applies to all sectors
Electricity generation	Implement a program for the installation of grid-connected wind and PV power systems	Encourage production of electricity from renewable sources (wind and photovoltaic power) by independent power producers (IPPs).
	Undertake sustainable development of geothermal resources in the Soufriere Resource Area	Assess the geothermal resource on St. Vincent, in order to establish the basis for possible development. Assuming viable results develop the resource for purposes of electricity generation.

Source: Second National Communication, 2015. Table 27 “Measures included in mitigation scenario #1”.

Annex 2. Mission`s agenda July 23-27, 2018

Day	Time	Stakeholder visit
Monday 23rd July	8:30 - 9:15	Session 0.1 Staff of the NDA/FP and other Team Members (Ministry of Finance)
	9:30 – 11:30	Session 1: Natural Resources & Management • Ministry of Agriculture, Forestry & Fisheries • National Parks
	13:30– 14:30	Session 3: Ministry of Health, Wellness & the Environment and BNTF
	14:30– 15:30	Session 4: Ministry of Mobilization
Tuesday 24th July	8:30– 10:30	Session 5: Utility Companies (CWSA, VINLEC & Energy Unit)
	10:45– 11:30	Session 6: Bank of St. Vincent and the Grenadines
	13:30– 14:30	Session 7: Ministry of Housing (Representative)
	14:30– 15:30	Session 8: Ministry of Housing (Planning Division)
Wednesday 25th July	8:30– 10:30	Session 9: National Security (Argyle International Airport (AIA), MET Office, NEMO, Port Authority, Maritime Agency, SVG Police Force)
	10:45– 11:30	BRAGSA
	13:30– 14:30	Session 10: Financial Institutions (Credit Unions and Insurance Companies)
	14:45– 16:00	Session 11: Ministry of Tourism, Tourism Authority and Hotel & Tourism Association
Thursday 26th July	8:30– 10:30	Session 12: Cooperatives (WINFA, Fisher-Folks and Farmers Cooperatives)
	10:45– 11:45	Session 13: NGO (CYEN, Red Cross, Richmond Vale, SusGren)
	13:30– 14:30	Session 14: International Governmental Organizations (IICA, CARDI & CRFM)
	14:45– 15:45	Any other Missing Stakeholders to be accommodated
Friday 27th July	9:00– 11:30	Stakeholder Joint Interactive Sessions/ Workshops
	13:30 - 14:30	Any Other In-House Meetings or Individual Sessions

Annex 3. National Stakeholders List that participated in consultation process – July 23-27, 2018

Public Sector	Private sector and NGOs	International Organizations
• Ministry of Finance, Economic Planning, Sustainable Development and Information Technology • Ministry of Agriculture, Industry, Forestry, Fisheries and Rural Transformation • National Parks • Energy Unit • Ministry of Housing, Informal Human Settlements, Land and Surveys and Physical Planning • The Basic Needs Trust Fund (BNTF) • The Central Water and Sewage Authority (CWSA) • National Emergency Management Organization (NEMO) • MET Office • International Airport Authority • Maritime Administration • Tourism Authority	• Hotel and Tourism Association • Caribbean Agricultural Research and Development Institute (CARDI) • Richmond Val Academy • Windward Islands Farmers Association (WINFA) • Caribbean Youth Environment Network (CYEN)	• Caribbean Community Climate Change Centre (CCCCC) • Caribbean Development Bank (CDB) • United Nations Development Programme (UNDP) • Japan-Caribbean Climate Change Partnership (J-CCCP)

Annex 4. Project prioritization methodology

The template used to rank each of the projects used each of the GCF Investment Criteria. Each of the projects was judged using a ranking from 1 (low) to 5 (high), and a written justification was provided to provide a reason on why the specific score was given. The scoring and justification were based on the consultation process with the different national stakeholders. As per request of the Ministry of Finance, Economic Planning, Sustainable Development and Information Technology (MFEPSDIT), and to provide an impartial view of the project selection, the scoring was done by the consulting firm contracted to develop the project concept notes.

GCF Investment Criteria	Ranking Scale: 1 (low) 3 (medium) 5 (high)	Justification (provide a written justification for the score)
Impact potential		
Paradigm shift: Innovation (i.e. new markets, business models, new technologies)		
Paradigm shift: Potential for Scaling up and replication		
Paradigm shift: Potential for knowledge and learning		
Paradigm shift: Creation of enabling environment (creation of new markets and business activities / elimination of systematic barriers or changes incentives by reducing costs and risks)		
Paradigm shift: Regulatory framework to promote investments		
Sustainable Development: Economic (jobs created, foreign currency savings, budget deficits reduced)		
Sustainable Development: Social (education, regulation/cultural preservation, health and safety)		
Sustainable Development: Environment (improved air quality, soil quality, biodiversity)		
Sustainable Development: Gender sensitive (proportion men/women in jobs created)		
Needs of the recipient: Vulnerability and beneficiary groups (adaptation only)		
Needs of the recipient: Economic and social development of affected population		
Needs of the recipient: Absence of alternative sources of financing		
Needs of the recipient: Opportunities to strengthen institutions and implementation capacity		
Country ownership: Coherence and alignment with SVG national climate strategy and priorities		
Country ownership: Stakeholder engagement process and feedback received from civil society organizations and other relevant stakeholders		
Efficiency and effectiveness: Expected volume of finance to be leveraged		
Efficiency and effectiveness: Amount of co-financing		
Efficiency and effectiveness: Application of best practices / degree of innovation		