

Saint Lucia's First Adaptation Communication to the United Nations Framework Convention on Climate Change (UNFCCC)



**NAP
Global
Network**



Saint Lucia's First Adaptation Communication to the United Nations Framework Convention on Climate Change (UNFCCC)

Prepared under the guidance of: Department of Sustainable Development

With the support of: NAP Global Network Secretariat, the International Institute for Sustainable Development (IISD) with funding support from the Government of the United Kingdom of Great Britain and Northern Ireland.

Suggested citation: Government of Saint Lucia. (2022). Saint Lucia's First Adaptation Communication to the United Nations Framework Convention on Climate Change (UNFCCC). Department of Sustainable Development, Ministry of Education, Sustainable Development, Innovation and Vocational Training.

Saint Lucia National Adaptation Plan logo by Alexandra Grant.

©Government of Saint Lucia, 2022



This project is undertaken with the financial support of:
Ce projet a été réalisé avec l'appui financier de :

Secretariat hosted by:
Secrétariat hébergé par :



An Roinn Gnóthaí Eachtracha
Department of Foreign Affairs

Table of Contents

Introduction	1
1. National Circumstances, Institutional Arrangements, and Legal Frameworks	5
Geography	5
Population	5
Economy	6
2. Climate Impacts, Risks, and Vulnerabilities	7
Current Climate	7
Recent Regional Trends	7
Future Climate	8
Expected Impacts of Climate Change	9
3. National Adaptation Priorities, Strategies, Policies, Plans, Goals, and Actions	10
4. Implementation and Support Needs	13
5. Implementation of Adaptation Actions and Plans by Sector and Cross-Sectoral Areas	14
Summary of Sectoral Work.....	15
Summary of Cross-Sectoral Work.....	33
6. Adaptation in Saint Lucia’s NDC: Mitigation actions with adaptation co-benefits	34
7. How Adaptation Actions Contribute to Other International Frameworks and/or Conventions..	36
8. Civil Society and Climate Action: Focus on gender-responsive and youth-related adaptation projects	38
Gender	38
Youth	40
9. Conclusion	43
References	45
Appendix 1: Documents produced to date under Saint Lucia’s NAP process	51

List of Boxes

Box 1. The Adaptation Communication (AdCom) defined.....	2
Box 2. Scope of work on adaptation in Saint Lucia.....	11
Box 3. Four major outcomes of the Water SASAP.....	16
Box 4. Four major outcomes in the agriculture sector.....	19
Box 5. Four main outcomes of the Fisheries SASAP.....	21
Box 6. Three main outcomes of the REASAP.....	23
Box 7. Adaptation outcomes for the health sector outlined in the NAP.....	24
Box 8. Selection of key projects for the health sector.....	25
Box 9. Infrastructure outcomes in Saint Lucia’s NAP (2018–2028).....	27
Box 10. Selected key projects for the infrastructure and spatial planning sector.....	27
Box 11. Four outcomes for the education sector in Saint Lucia’s NAP (2018–2028).....	29
Box 12. Selection of key projects for the education sector.....	29
Box 13. Adaptation outcomes for the tourism sector included in Saint Lucia’s NAP (2018–2028).....	30
Box 14. Adaptation measures aligned with the CCAP, with indicative outputs.....	31
Box 15. Selected key projects for the tourism sector.....	32
Box 16. Cross-sectoral outcomes identified in the NAP.....	33
Box 17. Selected energy initiatives with adaptation co-benefits.....	34
Box 18. Non-exhaustive list highlighting selected multilateral environmental agreements and international frameworks.....	36
Box 19. Summary of EnGenDER project related to the Fisheries SASAP outcomes and strategic objectives.....	40
Box 20. Two adaptation initiatives.....	41

List of Tables

Table 1. Identified snapshot of national adaptation priorities.....	3
Table 2. Overview of SASAP development and content.....	15
Table 3. Indicative checklist of progress in short-term measures (2018–2021).....	16
Table 4. Indicative checklist of progress in short-term measures (2018–2021).....	19
Table 5. Indicative checklist of progress in short-term measures (2018–2021).....	21
Table 6. Indicative checklist of progress in further short-term measures with adaptation focus or benefits (2020–2023).....	23
Table 7. Identified snapshot of national mitigation priorities.....	35

Abbreviations

ACE	Action for Climate Empowerment
CBD	Convention on Biological Diversity
CCAP	Climate Change Adaptation Policy
CDB	Caribbean Development Bank
CYEN	Caribbean Youth Environment Network
DSD	Department of Sustainable Development
EnGenDER	Enabling Gender-Responsive Disaster Recovery, Climate and Environmental Resilience
EquIP	Education Quality Improvement Project
FAO	Food and Agriculture Organization of the United Nations
GCF	Green Climate Fund
GCM	General Circulation Model
GEF	Global Environment Facility
GHG	greenhouse gas
GoSL	Government of Saint Lucia
GST	global stocktake
HNAP	Health National Adaptation Plan
IPCC	Intergovernmental Panel on Climate Change
NAP	National Adaptation Plan
NASAP	National Strategy and Action Plan
NCCC	National Climate Change Committee
NDC	Nationally Determined Contribution
NIA	National Infrastructure Assessment
NIFS	National Infrastructure Financing Strategy
PAHO	Pan American Health Organization
RCM	Regional Climate Model
REASAP	Resilient Ecosystems Adaptation Strategy and Action Plan
REDD+	Reducing Emissions from Deforestation and Forest Degradation
SASAP	Sectoral Adaptation Strategy and Action Plan
SDGs	Sustainable Development Goals
SGP	Small Grants Program
SIDS	Small Island Developing States

Saint Lucia's First Adaptation Communication to the UNFCCC

UNCCD	United Nations Convention to Combat Desertification
UNFCCC	United Nations Framework Convention on Climate Change
WASCO	Water and Sewerage Company
WHO	World Health Organization
WRMA	Water Resources Management Agency

Introduction

Climate change has been identified as one of the greatest challenges of our generation. Global greenhouse gas (GHG) emissions due to human activities have reached their highest levels in recent years and influence unprecedented changes around the planet, including the warming of the atmosphere and oceans, the reduction in snow and ice amounts at high altitudes, and the rise in sea level. As temperatures increase, it is expected that the multiple and interconnected impacts of climate change, many of which are already felt across the globe, will intensify. This will disproportionately affect the poor, jeopardise development achievements, and increase the costs of development.

Small Island Developing States (SIDS) are particularly threatened by climate change. They face the prospect of partial or total inundation by sea level rise, more frequent and intense tropical storms, increased coastal erosion and saline intrusion, higher air and sea temperatures, and more erratic rainfall conditions. These and other potential impacts exacerbate current vulnerabilities and limit SIDS' capacity to grow and sustainably develop.

In its *Sixth Assessment Report*, the Intergovernmental Panel on Climate Change (IPCC) emphasises that the world faces unavoidable multiple climate hazards over the next two decades with global warming of 1.5°C. Even temporarily exceeding this warming level will result in additional severe impacts, some of which will be irreversible. Risks for society will increase, including to infrastructure and low-lying coastal settlements. Increased heatwaves, droughts, and floods are already exceeding tolerance thresholds for plants and animals, driving mass mortalities in species such as trees and corals. These weather extremes are occurring simultaneously, causing cascading impacts that are increasingly difficult to manage. The report makes a clear case for the urgency of climate action, focusing on equity and justice. It also states that adequate funding, technology transfer, political commitment, and partnership will lead to more effective climate change adaptation and emissions reductions, but the window is narrow and rapidly closing.

The island of Saint Lucia is vulnerable to climate change due to three main conditions: (a) its small geographical area, which accounts for the fact that disasters take on country-wide proportions; (b) its location in one of the highest-risk areas of the planet, being situated in the tropical cyclone belt and directly exposed to the forces of the oceans, as well as facing disaster risks that include high volcanic and seismic activity; and (c) its dependence on a few sources of income (primarily, the agriculture and tourism sectors) for a substantial part of its GDP. These sources of income have already been severely reduced for months on end by single climate-related disasters, which have been significantly exacerbated by the recent global pandemic. Another critical indicator of Saint Lucia's vulnerability is its limited capacity to reactivate the development process after a devastating weather event (Government of Saint Lucia [GoSL], 2018d). The cost of inaction on climate change in Saint Lucia has been calculated to be at 12.1% of GDP by 2025, rising to 24.5% by 2050 and 49.1% by 2100 (GoSL, 2018d). Recent extreme climate events have highlighted the vulnerability of the country to climate hazards and provided an indication of the additional future costs of failing to prepare for climate change.

The GoSL recognises the challenges that climate change poses to its population, natural resources, and economy, and has taken considerable measures to identify and address, to the extent possible, current and future climate risks at the policy and operational level. Today, various sectoral policies

and strategies address climate change, and a wide range of interventions have been designed or established as adaptation measures, often facilitated or supported by international donors.

To facilitate effective mid- and long-term climate adaptation planning and to enable the integration of climate change adaptation considerations into all relevant policies and programmes and development planning, Saint Lucia initiated its National Adaptation Plan (NAP) process in 2017, culminating in the publication of Saint Lucia's 2018–2028 NAP, which has recently undergone an initial review of progress for the first 3 years of its 10-year term. In addition, Saint Lucia has included adaptation in both the first and second iterations of its Nationally Determined Contribution (NDC) to demonstrate its commitment to achieving the targets of the Paris Agreement as well as to having in place better mechanisms for adaptation to climate change impacts. While the 2018–2028 NAP is the driver of adaptation action in Saint Lucia, there is a recognition that adaptation and mitigation can be understood as complementary components of countries' response to climate change and that adaptation generates larger benefits to small islands when delivered in conjunction with other development activities—including mitigation. In particular, this has been corroborated by the recently published *Sixth Assessment Report* by the IPCC's Working Group II (IPCC, 2022).

Saint Lucia has committed in its NAP to prioritise cross-sectoral and sectoral adaptation measures for eight key sectors and a key segment on the "limits to adaptation." The ultimate goal of the NAP is to strengthen Saint Lucia's resilience to climate change and to support the implementation of the country's Climate Change Adaptation Policy (CCAP).

Box 1. The Adaptation Communication (AdCom) defined

Article 7, paragraph 10, of the Paris Agreement (2015) provides that each Party "should, as appropriate, submit and update periodically an adaptation communication, which may include its priorities, implementation, and support needs, plans and actions, without creating any additional burden" for that developing country party.

The Katowice Climate Package, adopted in 2018, elaborates implementation guidelines for the Paris Agreement and notes that the purpose of the AdCom is to

- Increase the visibility and profile of adaptation and its balance with mitigation
- Strengthen adaptation action and support for developing countries
- Provide input to the global stocktake (GST)
- Enhance learning and understanding of adaptation needs and actions. (United Nations Framework Convention on Climate Change [UNFCCC], 2018):

In light of the commencement of the first GST under the Paris Agreement,¹ the role of the AdCom is in the spotlight, as its role is not only to provide input to the GST but to help enhance the implementation of adaptation action, especially in particularly vulnerable developing countries.

¹ Article 14 of the Paris Agreement provides for a global stocktake every 5 years to assess the collective progress made toward achieving the purpose of the agreement and its long-term goals. The 2018 Katowice Climate Package sets out the modalities and sources of input for the GST, which include the AdCom.

This AdCom succinctly highlights Saint Lucia’s priority sectors (Table 1) for adaptation action as set out in its NAP: tourism, water, agriculture, fisheries, infrastructure and spatial planning, natural resources management/resilient ecosystems, education, and health. The NAP also considers a monitoring and evaluation plan as part of the process, which aims to track progress on the actions and projects mentioned in the NAP and Sectoral Adaptation Strategy and Action Plans (SASAPs). The first NAP progress report on the first 3 years of NAP implementation has been prepared, and the results of this monitoring and evaluation process have helped inform this AdCom.

Table 1. Identified snapshot of national adaptation priorities

Area	From national documents ²	From climate change consultations
Water	<p>Enhanced enabling environment and improved behaviour for water-related climate adaptation action</p> <p>Increased water access, availability, and quality</p> <p>Increased water efficiency and conservation</p> <p>Strengthened preparedness to climate variability and extremes</p>	<p>Rainwater harvesting for households as well as agriculture</p> <p>Ensuring that improvements in water delivery benefit end users</p> <p>Strengthened engagement of local communities in water management</p> <p>Addressing salination in freshwater aquifers as a result of sea level rise</p>
Agriculture	<p>Enhanced enabling environment for climate adaptation action in the agriculture sector</p> <p>Enhanced nutrition, food availability, quality, and security through adaptation in the agriculture sector</p> <p>Strengthened partnerships for scaling up climate-resilient agriculture</p> <p>Strengthened preparedness to climate variability</p>	<p>Geographically distributing, rather than centralising, the demonstration of climate-resilient agriculture</p> <p>Climate-resilient livestock management</p> <p>Livelihood protection for farmers</p> <p>Education on climate issues for farming groups</p>
Fisheries	<p>Enhanced enabling environment for climate adaptation action in the fisheries sector</p> <p>Enhanced nutrition and food availability, quality, and security through adaptation in the fisheries sector</p> <p>Strengthened partnerships for building sustainable and resilient fisheries in a changing climate</p>	<p>Livelihood protection and risk reduction for fisherfolk</p> <p>Inclusion of aquaponics in aquaculture expansion</p> <p>Enhanced fisherfolk capacity to address climate change impacts, including training, new technology, and new business models</p>

² See Appendix 1

Area	From national documents ²	From climate change consultations
	Strengthened preparedness to climate variability and extremes in the fisheries sector	Development of markets for types of fish available in a changing climate
Infrastructure and spatial planning	<p>Enhanced enabling environment for climate adaptation action in infrastructure and spatial planning</p> <p>Strengthened infrastructure to withstand climate impacts</p> <p>Enhanced infrastructure-based climate adaptation</p> <p>Strengthened preparedness to climate variability and extremes</p>	<p>Enhancement of capacity to address flooding</p> <p>Enhancement of resilience of energy supply infrastructure across the island</p> <p>Diversification of electricity generation mix with a view to energy independence</p>
Natural resource management/resilient ecosystems	<p>Enhanced enabling environment for ecosystem-based adaptation and natural resource management under a changing climate</p> <p>Increased ecosystem quality and coverage</p> <p>Strengthened ecosystem-based adaptation</p>	Continuous implementation of interventions that promote the stabilisation of slopes to address the greater frequency of high-rainfall events that lead to erosion and siltation of drainage systems
Education	<p>Enhanced environment for climate adaptation education</p> <p>Improved and expanded climate change education as the basis for effective adaptation</p> <p>Professional capacities built for leading future climate adaptation planning implementation</p> <p>Strengthened preparedness to climate variability and extremes</p>	<p>A dedicated component on education and awareness included in all projects</p> <p>Climate change incorporated into school curriculums</p> <p>Education on agriculture mainstreamed for learning new and scientifically sound practices—potentially through vocational training</p>
Health	<p>Enhanced enabling environment for health-related climate adaptation action</p> <p>Improved public health under a changing climate</p> <p>Strengthened preparedness to climate variability and extremes</p>	Scale renewable energy and energy efficiency to other hospitals and health centres, especially for post-disaster situations where decentralised power is needed

Area	From national documents ²	From climate change consultations
Tourism	Viable and productive tourism sector through direct interventions and collaborations and synergies with all other sectors	Development of markets in the tourism sector for types of local products available in the fisheries and agriculture sectors in the future changing climate

Excerpt from Table 8, Government of Saint Lucia, 2020c.

1. National Circumstances, Institutional Arrangements, and Legal Frameworks³

Geography

The Small Island Developing State (SIDS) of Saint Lucia is located in the Lesser Antillean Arc of the Caribbean Archipelago. It sits on an ancient volcanic ridge that connects Martinique to the north and Saint Vincent and the Grenadines to the south. The island has a land area of approximately 616 km². It is 42 km long and, at its widest point, 22 km wide. Its coastline is approximately 158 km long, with a coastal shelf area of 522 km² that is relatively narrow and drops off sharply along the west coast. Saint Lucia has a very rugged landscape, characterised by mountains along a centrally located north-south-oriented mountain range, deep valleys, and rivers. Mount Gimie, reaching an elevation of 950 m, is the island's highest peak.

Population

According to the Central Statistical Office of Saint Lucia (n.d.), in 2018, the estimated population of Saint Lucia was nearly 180,000 and was relatively young, with 43% of the population under 30 years of age and approximately 14% 60 years old or older. Women make up just over 50% of the population, a ratio that has remained stable based on recent national statistics. In 2020, the average life expectancy at birth for men and women was 76 (World Bank, n.d.).

Most of the country's population is located along the coastal belt, where lowland agriculture, coastal resources, reefs, fisheries, and tourism are the main livelihood sources. Approximately 41% of the population lives in the city of Castries and 55% in the Castries-Gros Islet corridor. Urbanisation is rapidly occurring, resulting in denser populations living in unplanned or informal settlements (Thomas-Louis, 2014).

Understanding and addressing the reasons for poverty can serve the dual purpose of addressing the nation's vulnerability to climate change, as there is a clear link between poverty and climate vulnerability. Poverty in Saint Lucia has traditionally been primarily a rural phenomenon. Based on a 2016 Survey of Living Conditions and Household Budgets, rural poverty rates stood at 33% while the overall poverty rate, including the urban population, stood at 25% (Central Statistical Office of Saint

³ See GoSL, 2018d.

Lucia, n.d.). According to the 2010 census,⁴ over 50% of the poor were under the age of 20; the incidence of poverty was higher among children than among adults, and it was slightly higher among men than among women—29% and 25%, respectively (Central Statistical Office of Saint Lucia, 2010). While about one third of the population is considered economically active, unemployment rates are high, at 22% in 2020 (Central Statistical Office of Saint Lucia, n.d.). Of the economically active population, in 2019 the labour force was primarily employed by the dominant sectors of accommodation and food services (17%); wholesale and retail trade services (16%); construction (8%); and administrative and support services (6%) (Jordan, 2020).

Economy

Over the past two decades, with the active promotion of tourism, the traditionally agrarian economy of Saint Lucia has shifted toward a service-based economy, and tourism has replaced the production of bananas for export as the island's number one foreign income earner. Manufacturing and industrial production in the country concentrate on food and beverages, paper and paper board products, metal products, and chemicals subsectors. Despite rising operating costs, the island's manufacturing and other industries have remained important productive sectors. The construction sector has also made major contributions to GDP and employment (GoSL, 2021b). Understanding the role these economic trends have in addressing poverty and the country's implementation of adaptation actions is a key component of success.

With a fairly liberal trade regime, Saint Lucia is a net importer of manufactured goods and also a net importer of food, with a growing trade deficit in its food bill. In addition, the country relies almost exclusively on imported fossil fuels to meet its energy needs (GoSL, 2021).

⁴ This is the latest census for which these statistics are available. A census was conducted in 2020, but statistics are still being compiled. Please see Central Statistical Office of Saint Lucia (2010).

2. Climate Impacts, Risks, and Vulnerabilities

Current Climate

Saint Lucia lies within the north-east trade winds belt and is normally under an easterly flow of moist, warm air. Its climate is tropical maritime, and due to its location in the Atlantic Ocean/Caribbean Sea, the sea surface temperatures vary little from 26.7°C at any time (GoSL, 2017).

Annually, the island's climate is influenced by the migration of the north Atlantic subtropical high, the eastward spread of the tropical Atlantic warm pool, the fairly steady easterly trade winds, and the passage of tropical waves, depressions, storms, and hurricanes. The El Niño Southern Oscillation is a major driver of inter-annual variability in climate conditions, with its warming phase (El Niño) bringing warmer and drier-than-average conditions during the late wet season, and its cooling phase (La Niña) causing colder and wetter conditions during the same period (Caribbean Community Climate Change Centre [5Cs] & GoSL, 2015).

Temperature: Due to the size and position of the country, the air temperature is strongly influenced by the winds originating from the surrounding seas and varies little over the course of the year (~28°C on average). However, diurnal temperatures can vary by as much as 10 °C. The coldest period is December to March, and the warmest between June and September. The mean maximum temperature is about 30.2°C, and mean minimum is about 24.6°C. The island's mountainous topography, particularly in the more rugged interior, can also cause temperature variation between high and low-lying regions of between 2°C and 5°C (5Cs & GoSL, 2015).

Rainfall: Saint Lucia experiences a unimodal rainfall regime. There is one dry season from January to May and one main rainy season from July to November, which sees approximately 60% of total yearly rainfall. Precipitation records from the two major airports indicate that the island receives an annual average of 1,450 mm of rain in the south to 1,900 mm of rain in the north (5Cs & GoSL, 2015). Also, across the country, annual rainfall ranges from 1,265 mm in the relatively flat coastal regions to about 3,420 mm in the elevated interior region (GoSL, 2017).

Winds: Wind speeds are highest, on average, during the months of January to July, corresponding roughly with the dry season, when the average is 24 km/h. Between August and December, the speeds average 16 km/h. Higher gusts are occasionally experienced with the passage of tropical disturbances (GoSL, 2017).

Humidity: On average, the relative humidity is around 77% (measured at the Hewanorra airport station). Daily variation in relative humidity is at a maximum during the warmer months (GoSL, 2017).

Sunshine: Saint Lucia receives its maximum daily sunshine from February to May and its minimum around September. Due to cloud cover, radiation values vary widely over the island. Elevated regions with greater cloud cover receive less direct radiation than the low-lying coastal regions (GoSL, 2017).

Recent Regional Trends

Between 1961 and 2010, a significant warming of the Caribbean region's surface air temperature was recorded, with the night-time temperature increasing more than the daytime temperature. Warm

days, warm nights, and extreme high temperatures became more frequent, with less-frequent cool days, cool nights, and extreme low temperatures. Precipitation trends are less consistent. While no significant change in annual total precipitation was detected between 1961 and 2010, a trend of increasing intensity in daily rainfall and heavier rainfall events was detected (Stephenson et al., 2014).

It has been estimated that global sea level rise has occurred at a rate of 1.7 ± 0.2 mm per year between 1901 and 2010 but has accelerated since the 1990s, with the 1993–2010 period presenting a rate of 3.2 ± 0.4 mm/year (Church et al., 2013). Between 1950 and 2000, sea level rise in the Caribbean region was estimated at near the global mean (5Cs & GoSL, 2015).

Future Climate

Several recent studies have developed climate change projections for Saint Lucia. While using different models, emission scenarios, baseline periods, and projection periods, all projections indicate general trends of increasing mean annual temperatures and decreasing precipitation amounts with climate change in Saint Lucia.⁵

The results of the climate projections produced by CARIBSAVE (2012) for a high-emissions scenario (*Special Report on Emission Scenarios SRES A2*) relative to the 1979–2009 period, summarised below, indicate that the following could be expected in Saint Lucia:

Mean annual temperature increases in the order of:

0.3°C to 0.8°C by 2020; 0.9°C to 1.7°C by 2050; and 1.8°C to 3.1°C by 2080 (General Circulation Model [GCM]).

2.4°C to 3.3°C by 2080 (Regional Climate Model [RCM]).

The **frequency of hot days increases** between 38% and 54% by 2050 and between 55% and 97% by 2080 (GCM).

The **frequency of hot nights increases** between 38% and 67% by 2050 and between 55% and 97% by 2080 (GCM).

Cold days and cold nights do not occur at all by 2050 and 2080 according to the GCM models.

Annual precipitation decreases in the order of -15 mm to 4 mm by 2020; -19 mm to 4mm by 2050; and -37 mm to 6mm by 2080 (GCM).

Sea Surface Temperature increases by 0.8°C to 3°C by the 2080s (GCM).

Wind speed increases by 2080 by up to 0.5 m/s (GCM); by up to 0.7 m/s (RCM).

The number of sunshine hours per day increases by roughly 1 hour by 2080 (RCM) due to a reduction in average cloud fraction.

⁵ See, e.g., GoSL (2017); 5Cs & GoSL (2015); CARIBSAVE Partnership (2012).

Tropical storms and hurricanes become more intense but not necessarily more frequent. North Atlantic hurricanes and tropical storms appear to have increased in intensity over the last 30 years. Observed and projected increases in sea surface temperatures indicate potential for continuing increases in hurricane activity, and model projections suggest that this may occur through increases in the intensity of events, but not necessarily through increases in the frequency of storms.

The **proportion of total rainfall** that falls in heavy events decreases, changing by -25% to +2% by the 2080s (GCM).

The **rate of sea level rise** is difficult to calculate, as new evidence suggests that the contribution of ice sheet melting to global sea level rise will be greater than considered in IPCC projections. This increases the range of potential mean sea level rise in the Caribbean from 0.18 m–0.56 m (IPCC for an SRES A2 scenario) to up to 1.45 m by 2100 relative to the 1989–1999 baseline. It has been established that in the northern Caribbean, sea level rise could be 25% higher than the global average due to physical factors affecting land elevation.

The high level of uncertainty in sea level rise and hurricane intensity makes it difficult to estimate future changes in storm surge height or frequency.

Expected Impacts of Climate Change⁶

Recent extreme weather events and their consequences are indicative of the challenges that climate change will pose to Saint Lucia in the coming decades, particularly when we consider that even if GHG emissions are reduced to an absolute minimum, global temperatures will still rise due to the thermal inertia of the world's oceans. By signing the Paris Agreement in 2015, the international community—including Saint Lucia—committed to accelerate efforts to limit the global temperature rise to below 2°C above pre-industrial levels (and attempt to avoid surpassing the 1.5°C limit called for by SIDS and many other countries). Reaching these targets would avoid the most catastrophic impacts of climate change; however, understanding that at least some level of warming is inevitable, the signatory countries also recognise the need to scale up adaptation efforts, with requisite support to developing countries to do so, for strengthening society's ability to deal with the impacts of climate change. Knowledge and understanding of expected impacts and their cascading effects are essential for planning and implementing effective national, sub-national, and sectoral adaptation actions.

Under a changing climate, Saint Lucia could see its freshwater resources dwindle. It could also suffer from the effects of more intense floods and a higher incidence of water-, food-, and vector-borne diseases (such as dengue). It is expected that the country's terrestrial and marine ecosystems and biodiversity will see changes in habitat conditions and that species will be lost as a consequence. Some expected examples include extensive coral bleaching and the loss of turtle nesting sites. Additionally, coastal erosion, more frequent landslides, and flooding from intense seasonal rains and hurricanes will test the resilience of the island's infrastructure and livelihoods. Saint Lucia is already experiencing many of these impacts.

⁶ See GoSL, 2018d.

3. National Adaptation Priorities, Strategies, Policies, Plans, Goals, and Actions

Saint Lucia's NAP is the starting point for the implementation of coordinated adaptation action at the national level. It is expected that the overarching NAP **Goal 1: To enhance the national enabling environment for climate-related adaptation and risk reduction action within and across the development sectors** will be achieved largely through the implementation of cross-sectoral measures. Attaining the overarching **Goal 2: To accelerate the implementation of climate adaptation and risk reduction actions critical to safeguard the country's socioeconomic and environmental systems** will happen through the implementation of the sectoral adaptation measures included in the NAP or in the eight SASAPs as these are developed and implemented. The NAP process is also supported by a stocktaking, climate risk and vulnerability assessment report, a NAP communications strategy, a NAP climate financing strategy, a climate change research policy and strategy, and a private sector engagement strategy, among others. These documents are the products of broad stakeholder consultations, exhaustive literature reviews, and participative planning sessions.

The NAP process, initiated in 2017, fell under the rubric of Saint Lucia's 2015 CCAP (preceded itself by a consultation process), and the NAP for 2018–2028 itself was officially launched in 2018. Development of the NAP benefitted from the input of multiple stakeholders, comprising public, statutory, academic, private sector, and civil society representatives, organisations, and bodies, as well as international partners. The process also involved other state and non-state actors, such as media personnel, who play an important role in helping efforts to raise awareness, develop adaptation outcomes, change behaviour, and instigate action at the national and community levels.

The steps taken by the GoSL for the preparation of the NAP have followed the broad recommendations of the technical guidelines prepared by the Least-Developed Countries Expert Group of the UNFCCC.

The adaptation measures included in the NAP have been formulated to address identified needs and to contribute directly to the achievement of a series of strategic objectives, six cross-sectoral objectives, 26 sectoral outcomes, and two overarching NAP goals. These are all considered essential for Saint Lucia to realise its NAP vision and to achieve the objectives of Saint Lucia's CCAP (GoSL, 2015).

The scope of work on adaptation in Saint Lucia is bounded by several national policies, strategies, laws, institutions, processes, and associated reports.

Box 2. Scope of work on adaptation in Saint Lucia⁷

Policies and strategies

- CCAP, 2015
- National Energy Policy, 2010
- National Energy Transition Strategy, 2018
- National Infrastructure Financing Strategy, 2021
- Medium-Term Development Strategy 2020–2023
- Other relevant sectoral policies, strategies, and plans in the draft and final stages (e.g., water, agriculture, fisheries, forests, planning, infrastructure, education, health, tourism, marine/coastal)

Legislation

- Climate change bill (under development)
- Other relevant existing pieces of sectoral legislation and those in draft and final stages (e.g., for water, agriculture, fisheries, forests, planning, infrastructure, education, health, tourism, marine/coastal)

Institutions

- National Climate Change Committee (NCCC) and its Technical Sub-Committee
- Civil Society Climate Action Team⁸

Processes and reports

- Formulation, updating, and implementation of NDCs (2015 and 2020)
- Formulation of National Communications (1st, 2nd, and 3rd completed)
- Formulation of Biennial Update Report, 2021
- Formulation of Biennial Transparency Report (deadline of 2024)
- Green Climate Fund Country Programme, 2020
- Other processes linked to the Sustainable Development Goals (SDGs), gender initiatives, youth, and the considerations of the limits to adaptation

Saint Lucia's NAP process is being led by the Sustainable Development and Environment Division of the Department of Sustainable Development (DSD), within the Ministry of Education, Sustainable Development, Innovation, Science, Technology, and Vocational Training. The NAP process is a country-owned and country-driven process designed to align Saint Lucia's adaptation priorities and actions with its medium- and long-term development plans. It is an iterative, ongoing process that will change and improve over time to reflect the changing climate and development context, and to reflect adaptation successes, challenges, and failures.

SASAPs form a central component of Saint Lucia's NAP. Priority sectors and thematic areas for adaptation action identified in the NAP through stakeholder consultation are water, agriculture, fisheries, infrastructure and spatial planning, natural resource management, and resilient ecosystems (terrestrial, coastal, and marine), education, health, and tourism. Over the first 3 years of Saint Lucia's

⁷ See Appendix 1 for NAP process-specific documents

⁸ See Section 8 for more information on the recently established Civil Society Climate Action Team.

NAP, SASAPs have been completed for water, agriculture, fisheries, and natural resource management/resilient ecosystems (terrestrial, coastal, and marine). These SASAPs have all been approved by the Cabinet of Ministers. Strategies were developed and received Cabinet endorsement for private sector engagement in the NAP process: climate adaptation financing, communications on climate adaptation, and climate change research. Efforts are underway for the development of SASAPs for health, education, and spatial planning and infrastructure, as well as an updated SASAP for tourism. Additional key sectors/thematic areas will be identified through a cyclical, iterative NAP process.

Working with stakeholders, the GoSL has also identified several cross-sectoral adaptation measures that feed into the development, implementation, and monitoring and evaluation of the NAP and SASAPs, and much has been undertaken and achieved on these measures—especially at the planning level—since the finalization and launch of the NAP in 2018.

Consideration is also given to limits to adaptation, as outlined in Chapter 15 of Saint Lucia's NAP, which will receive due attention in upcoming progress reports.

4. Implementation and Support Needs

It should be noted that Saint Lucia, as a SIDS, has very limited resources and will need a significant amount of international technological and financial resources to address climate change. Consequently, substantial international support will be needed to achieve the adaptation measures set out in its NAP and the supporting SASAPs. Addressing the increased risk of significant levels of loss and damage due to climate change will require international support to implement a range of comprehensive risk-management strategies referenced in Chapter 15 of the NAP and to be further identified and elaborated incrementally under an iterative process.

Saint Lucia currently has in place a Climate Financing Strategy under the NAP process (2020) (GoSL, 2020b) that considers different sources of financing such as domestic public resources, international public finance, and domestic and international private finance. Consistent with the NAP process, the NAP Climate Financing Strategy is an ongoing and iterative process that would periodically evaluate funding needs and opportunities for the implementation of project or programme concepts identified in SASAPs, the Climate Change Research Strategy (2020), the Private Sector Engagement Strategy (2020), and other supplemental strategies and plans.

The full costs of the measures within the NAP have not been evaluated as part of the broader NAP process. So far, indicative costing has been conducted on an as-needed basis for the development of specific concept notes for the achievement of the NAP objectives. These are included in the country's SASAPs and were developed in support of the NAP process. This concept note development process is continuous and ongoing. It is also worth noting that the NAP will not be financed in one effort, and so an iterative process needs to be maintained for developing funding priorities.

The approximate total cost to implement the concept notes thus far developed across three priority sectors is estimated at USD 35.4 million. This includes the concept notes that have been developed in 2018 for the water, fisheries, and agriculture SASAPs and does not comprise the full range of measures prioritised for these three sectors. In 2020, further advancements were made, with development of a Resilient Ecosystems Adaptation Strategy and Action Plan (REASAP) that seeks to drive the implementation of effective actions to safeguard Saint Lucia's natural capital from the impacts of climate change, while harnessing biodiversity, ecosystems and ecosystem services to reduce vulnerability and build resilience. The approximate total cost to implement the concept notes thus far developed for REASAP is USD 18.7 million, which does not include the full range of measures prioritised. Furthermore, in the course of stakeholder engagement for the development of the NAP Financing Strategy, it was noted that the costs indicated represent a "best-case scenario" and should thus be considered a floor rather than a ceiling for financing needs. The full scale of need will be significantly higher than the figure quoted above once the remaining SASAPs have been developed for health, tourism, infrastructure, and education. This will require ongoing efforts to further estimate the full cost of implementation.

5. Implementation of Adaptation Actions and Plans by Sector and Cross-Sectoral Areas

Much has been achieved on Saint Lucia's adaptation needs since the launch of the NAP in 2018—particularly in sectoral adaptation planning and the development of strategies and policies that complement and support further implementation of the NAP and the attainment of its goals. With planning well under way, further support will be needed to help the Government transition toward implementation, monitoring, and evaluation.

The sectoral and cross-sectoral measures covered by Saint Lucia's NAP progress report correspond to those included in Saint Lucia's 2018–2028 NAP/SASAP process while ensuring that consideration is given to all the NAP supplements not included as sectors, such as Saint Lucia's *Private Sector Engagement Strategy* and the *Climate Finance Strategy*.

Priority Sectors Identified in the NAP

- Water
- Agriculture
- Fisheries
- Natural resource management/resilient ecosystems (terrestrial, coastal, and marine)
- Infrastructure and spatial planning
- Education
- Health
- Tourism

Cross-Sectoral Measures Identified in the NAP

- NAP coordination
- Information management
- Research and systematic observation
- Skills building for implementing adaptation
- Institutional strengthening
- Communications and awareness raising
- Resource mobilisation
- Policy, legal, and regulatory frameworks
- NAP monitoring and evaluation

Consideration in Saint Lucia's NAP is also given to the limits to adaptation as outlined in its Chapter 15. In light of the findings of the IPCC Working Group II's *Sixth Assessment Report on Impacts, Adaptation and Vulnerability* (Pörtner et al., 2022), Chapter 15 likely will receive more attention in upcoming AdComs and other related reports.

A summary of sectoral work is presented below.

Summary of Sectoral Work

Table 2. Overview of SASAP development and content

SASAP sectors	Published? (Y/N) If Y, year If N, proposed year	Lead agency/agencies	Number of adaptation measures
Water	Y 2018	Water Resources Management Agency	70 adaptation measures and 19 project concepts*
Agriculture	Y 2018	Department of Agriculture	45 adaptation measures and 11 project concepts*
Fisheries	Y 2018	Department of Fisheries	31 adaptation measures and 10 project concepts*
Infrastructure and spatial planning	N Proposed 2023/24	Ministries with responsibility for infrastructure and planning	16 indicative adaptation measures in the Saint Lucia NAP**
Natural resource management/resilient ecosystems	Y 2020 and called the Resilient Ecosystems Adaptation Strategy and Action Plan (REASAP)	Departments with responsibility for natural resources management, both marine (e.g., Department of Fisheries) and terrestrial (e.g., Division of Forests and Lands Resources)	58 adaptation measures and 10 project concepts*
Education	N Proposed 2023/24	Ministry of Education	11 indicative adaptation measures in the SLU NAP**
Health	N Proposed 2022 and called the Health National Adaptation Plan (HNAP)	Ministry of Health	26 indicative adaptation measures in the SLU NAP**
Tourism	Y, Update proposed 2023/24***	Ministry of Tourism	12 indicative measures in the SLU NAP**

* Project concept note ideas are a reflection of the measures contained in SLU's SASAPs and REASAP. They are not presented in order of priority and are indicative in nature (i.e., not meant to reflect the template of a particular funding entity). They are expected to be enhanced and elaborated on a case-by-case basis, including amalgamation of several into larger projects and programmes, as appropriate. There are many more measures

presented per SASAP/REASAP than concept note ideas; this is indicative of an iterative process of concept note idea development, reflective of prioritized measures.

** Indicative adaptation measures aligned with the CCAP are featured in the SLU NAP, along with indicative outputs. Timeframes will be assigned when a SASAP is developed for that sector.

*** The National Strategy and Action Plan (NASAP) for 2020–2030 was developed independently of the NAP/SASAP process, and a SASAP for tourism will be updated in the next reporting period. The NASAP has six goals with accompanying strategies and actions.

Water Sector

Goal

“The overarching goal of the Water SASAP is to drive the implementation of effective adaptation actions across all sectors and at all levels of society for safeguarding Saint Lucia’s water resources and services under a changing climate.”

Within the water SASAP, four major outcomes, 13 strategic objectives and 70 adaptation measures have been identified.

Box 3. Four major outcomes of the Water SASAP

Outcome 1. Enhanced enabling environment and improved behaviour for water-related climate adaptation action

Outcome 2. Increased water access, availability, and quality

Outcome 3. Increased water efficiency and conservation

Outcome 4. Strengthened preparedness to climate variability and extremes

Table 3. Indicative checklist of progress in short-term measures (2018–2021)

Major outcome	Nature of the measure	Work initiated and/or completed (Y/N)	Highlights to date
Outcome 1	Enhancing national policy, legal, and regulatory frameworks	Y	Updated Water Policy for SLU, 2021.
Outcome 1	Building human capacity	Y	Training in Isotope hydrology training: an International Atomic Energy Agency-sponsored initiative in 2021. Data Loggers and Communications equipment for the Disaster Vulnerability Reduction Project, an activity under the rehabilitation of the national hydro-met system component (a World Bank project) in 2021.

Major outcome	Nature of the measure	Work initiated and/or completed (Y/N)	Highlights to date
			Project proposal finalised and funding secured for training through bilateral assistance from the Government of Mexico: the technical and scientific cooperation project on the "Availability of Water in Quantity and Quality in a Watershed" (to start in early 2022).
Outcome 1	Enhancing public awareness	Y	Project proposal finalised and funding secured from the Caribbean Development Bank (CDB) under the Vieux Fort Water Rehabilitation Project (managed by the Water and Sewerage Company, WASCO): funding includes a public education and awareness component to be implemented in 2022 (executed by the Water Resources Management Agency [WRMA]). Public education and awareness activities occur every year on March 22 in celebration of World Water Day. Undertaken jointly with WASCO and the Forest Division (which celebrates the International Day of Forests on March 21).
Outcome 2	Ensuring accessibility and availability of potable water using sustainable technologies	Y	Discussions and arrangements have concluded to facilitate the Organization of Eastern Caribbean States Commission (and the Caribbean Community Climate Change Centre), partnering with WASCO, to undertake an upgrade of the existing infrastructure at the Vanard Intake and Pumping Station and the Desbarra Water Treatment Facility: This an African, Caribbean and Pacific Group of States and European Union (EU) Global Climate Change Alliance+ Project (procurement is projected to occur in 2022). The focal point agency is WASCO.
Outcome 2	Exploring alternative water sources	Y	The WRMA undertook two site investigations related to requests for groundwater abstractions by private companies.
Outcome 2	Improving wastewater management	Y	In late 2021, the WRMA became the focal agency for implementing the Global Environment Facility (GEF) Caribbean Regional Fund for Water Management initiative. The proposal includes improvements to the public facilities in the Canaries Village and the improvement to a farm wastewater management system. The Situational Analysis and National Package were completed in 2021, to be finalized in 2022.
Outcome 2	Improving water quality and pollution control	Y	The GEF Caribbean Regional Fund for Water Management initiative mentioned above includes water quality monitoring activities and a small-scale Vetiver pilot system for bioremediation.

Major outcome	Nature of the measure	Work initiated and/or completed (Y/N)	Highlights to date
			<p>Funding secured from CDB under the Vieux Fort Water Rehabilitation Project (managed by WASCO). Includes a component for designing check dams and riverbank stabilization (to be executed by WRMA, with procurement expected in 2022).</p> <p>Assessment and rehabilitation of major rivers in Saint Lucia conceptualized by the Forest and Land Resources Division under the Disaster Vulnerability Reduction Project. Procurement to occur in 2022 and the project to be implemented by the Forest and Land Resources Division.</p>
Outcome 3	Enhancing water conservation measures	Y	<p>Rainwater harvesting enhanced in schools and communities: initiative conceptualized together with the Organization of Eastern Caribbean States Commission under the African, Caribbean and Pacific Group of States and EU Global Climate Change Alliance+ in 2021 for educational institutions in Vieux Fort. Procurement is projected for 2022. Focal point agency: WRMA.</p>
Outcome 4	Enhancing hydrometeorological monitoring and emergency planning	Y	<p>Climate Risk and Vulnerability Assessment and Adaptation Plan of Action for WASCO, adopted in 2018.</p>
Outcome 4	Knowledge management and monitoring systems	Y	<p>Community-based water quality monitoring programme in progress, to be completed in 2022 under the Integrating Land, Water and Ecosystems Management in Caribbean Small Island Developing States Project.</p>

NOTE: Many of the measures involve working across sectors, including with WASCO, the Meteorology Office, and Forestry.

Agriculture Sector

Goal

“The overarching goal of the Sectoral Adaptation Strategy and Action Plan for the Agriculture Sector is to overcome the barriers (policy, regulatory, institutional, technical, financial, business, and social) to facilitate the adoption and scaling up of climate-resilient agriculture best practices and businesses for enhancing food and nutrition security in Saint Lucia under a changing climate.”

Box 4. Four major outcomes in the agriculture sector

Outcome 1. Enhanced enabling environment for climate adaptation action in the agricultural sector

Outcome 2. Enhanced nutrition, food availability, quality, and security through adaptation in the agricultural sector

Outcome 3. Strengthened partnerships for scaling up climate-resilient agriculture

Outcome 4. Built adaptive capacity to climate variability and extremes in the agricultural sector

Table 4. Indicative checklist of progress in short-term measures (2018–2021)

Major outcome	Nature of the measure	Work initiated and/or completed (Y/N)	Highlights to date
Outcome 1	Research and development of climate-resilient agriculture	Y	Capacity building of farmers and technicians in water use efficiency methods and protected agriculture (greenhouses). Validation of appropriate crop cultivars (drought tolerance and tolerance to waterlogging).
Outcome 1	Enhancing human and institutional capacities	Y	Training of extension officers in climate-smart agriculture (World University Services of Canada).
Outcome 2	Promoting climate-resilient crop and livestock production	Y	Implementation of Building Resilience for Adaptation to Climate Change and Climate Variability in Agriculture in Saint Lucia project. Launched in September 2021. ⁹
Outcome 2	Watershed management and soil conservation	Y	Advocacy for use of minimum tillage methods for soil cultivation. Expansion of agro-forestry using fruit trees, including cocoa under the southeast coast project.

⁹ A roughly USD 10 million project with the goal of building resilience in Saint Lucia’s agricultural sector through enhanced adaptive capacities for climate change and climate variability. See Adaptation Fund (2021).

Major outcome	Nature of the measure	Work initiated and/or completed (Y/N)	Highlights to date
Outcome 3	Engagement with the private sector	Y	Support to private farmers through extension officers continues for crops and livestock. Swine and poultry farmers were specially trained in waste management. All were trained on rainwater harvesting and climate-smart farming techniques. Efforts of Export Saint Lucia to assist farmer groups with development and enhancement of agricultural products for export continue.
Outcome 4	Improving agro-meteorological data monitoring and emergency planning	Y	Multiple stakeholder consultations with Caribbean Institute for Meteorology and Hydrology on topics including <ul style="list-style-type: none"> • Linking drought indicators and drought impacts in the Caribbean • Drought planning and triggers forum • Drought scenarios forum.
Outcome 4	Scaling up climate-resilient agricultural infrastructure to reduce climate risks	Y	Use of hoop greenhouses under the Seven Crops project to reduce the impact of rainstorms and reduce the impact of UV rays on crop production.

NOTE: Many of these measures involve working across sectors, including with the WRMA, the Meteorology Office, and Forestry, and involving rural farming communities and the private sector. While changes in policy, legislation, and regulations are not envisioned in the short term, the updated Water Policy for Saint Lucia, which was driven by Water SASAP measures, includes agricultural provisions.

Fisheries Sector

Goal

“The overarching goal of the Sectoral Adaptation Strategy and Action Plan for the Fisheries Sector is to drive the implementation of effective adaptation actions to strengthen the sustainability of Saint Lucia’s fisheries and fishery-dependent businesses and the security of fisheries-dependent livelihoods under a changing climate.”

Box 5. Four main outcomes of the Fisheries SASAP

Outcome 1. Enhanced enabling environment for climate adaptation action in the fisheries sector

Outcome 2. Enhanced nutrition, food availability, quality, and security through adaptation in the fisheries sector

Outcome 3. Strengthened partnerships for building sustainable and resilient fisheries in a changing climate

Outcome 4. Strengthened preparedness to climate variability and extremes in the fisheries sector

Table 5. Indicative checklist of progress in short-term measures (2018–2021)

Major outcome	Nature of the measure	Work initiated and/or completed (Y/N)	Highlights to date
Outcome 1	Policy improvement, planning, and programme design	Y	<p>A revised National Fisheries Policy 2020–2030 was developed during the reporting period, which mainstreams the overall impact of climate change on the industry.</p> <p>A draft Fish Aggregating Device Fisheries Management Plan and a draft Aquaculture Management Strategy incorporating the principles of the Ecosystem Approach to Fisheries, Climate Change Adaptation, and Disaster Risk Management were produced during the reporting period.</p> <p>An action plan for enhancing coral reef systems within the Pointe Sables Environmental Protection Area toward building resilience to the impacts of climate change was developed during the reporting period.</p>
Outcome 1	Enhancing human and institutional capacities	Y	<p>The Coral Restoration programme delivered training in scuba diving, coral restoration techniques, and basic coral reef ecology using relevant modules from the National Vocational Qualification in Coral Reef Restoration.</p> <p>Training provided under the CC4Fish programme:</p> <ul style="list-style-type: none"> • Safety-at-sea training • 200 fishers received VHF radios and associated training. • Business skills training for fishers • Study exchange in the region on marine protected areas and fishing cooperatives • Proposal development and enhancing access to climate finance through the Green Climate Fund (GCF) (2019)

Major outcome	Nature of the measure	Work initiated and/or completed (Y/N)	Highlights to date
			<ul style="list-style-type: none"> A GCF Readiness Adaptation planning proposal (approved in 2021) and concept note were developed in parallel to support this measure.
Outcomes 2 and 4	Improving knowledge and communication	Y	<p>Fisheries Early Warning Emergency Response app developed.</p> <p>Coral Restoration Programme: Communications strategy for the nursery and out-planting programmes.</p>
Outcome 2	Hazard mapping and research	Y	<p>A GCF Readiness Adaptation planning proposal (approved in 2021) and concept note were developed in parallel to support this measure. The concept note was submitted to the GCF in 2020, and GCF provided feedback to be addressed in 2021.</p>
Outcome 2	Programme of best practices for fishing vessels	Y	<p>CC4Fish conducted an institutional-level review of the vessel registry information system with a proposal for improvements.</p> <p>Report published: <i>Opportunities to Promote the Climate Change Resilience of Saint Lucia's Pelagic Fisheries and Value Chains Through Sustainable and Efficient Resource Use</i> by the Food and Agriculture Organization of the United Nations (FAO), 2021.</p>
Outcome 2	Introducing fuel-efficient technologies/programmes	N	<p>A GCF concept note and Project Preparation Facility application to develop a full proposal including a component to address fuel efficiency in fishing vessels was developed and submitted to the GCF in 2020. The process is ongoing.</p>
Outcome 4	Monitoring and control activities	Y	<p>The Coral Restoration programme developed and completed a monitoring plan during the reporting period to track the progress and performance of out-planted corals.</p> <p>A GCF Readiness Adaptation planning proposal (approved in 2021) and concept note were developed in parallel during the reporting period to support this measure. The concept note was submitted to the GCF in 2020, and it has provided feedback to be addressed in 2021.</p>

Resilient Ecosystems

Goal

“The overarching goal of the Resilient Ecosystems Adaptation Strategy and Action Plan is to drive the implementation of effective actions to safeguard Saint Lucia’s natural capital from the impacts of climate change while harnessing biodiversity, ecosystems and ecosystem services to reduce vulnerability and build resilience.”

Box 6. Three main outcomes of the REASAP

Outcome 1. Enhanced enabling environment for ecosystem-based adaptation and sustainable natural resource management under a changing climate

Outcome 2. Enhanced ecosystem integrity for the sustainable supply of essential ecosystem goods and services to society under a changing climate

Outcome 3. Strengthened ecosystem-based adaptation and disaster risk reduction

Table 6. Indicative checklist of progress in further short-term measures with adaptation focus or benefits (2020–2023)¹⁰

Major outcome	Nature of the measure	Work initiated and/or completed (Y/N)	Highlights to date
Outcome 1	Strengthening national policy, institutional, legal, and regulatory frameworks	Y	Accession to the Nagoya Protocol on Access and Benefit Sharing Development of a Coastal Master and Marine Spatial Plan Approval of a National Ocean Policy and Strategic Action Plan
Outcome 1	Environmental research information generation	Y	GHG Inventory and Forest Reference Emission Level submitted to UNFCCC ¹¹ Plastic Waste National-Level Quantification and Sectorial Material Flow Analysis ¹²

¹⁰ Given that the REASAP was adopted in 2020, only part of the reporting timeframe of 2018–2021 (i.e., 2020–2021) will be covered by this report.

¹¹ A national forest reference emission level is one of the elements to be developed by developing country parties implementing REDD+ activities, expressed as tonnes of CO₂ equivalent per year for a reference period against which the emissions and removals from a results period will be compared. It serves as a benchmark for assessing each country’s performance in implementing REDD+ activities and needs to maintain consistency with the country’s GHG inventory estimates.

¹²As part of the Plastic Waste Free Islands Project, a National-Level Quantification of Plastic Waste and Sectorial Material Flow Analysis in three key sectors (household and commercial, tourism, and fisheries) was undertaken

Major outcome	Nature of the measure	Work initiated and/or completed (Y/N)	Highlights to date
Outcome 2	Scaling up protection and sustainable management	Y	Erosion control demonstration plots initiated under the Integrating Land, Water and Ecosystems Management in Caribbean Small Island Developing States project
Outcome 2	Addressing the drivers of current and future degradation ¹³	N	

NOTE: Given the broad scope of this REASAP, the execution of most of the specific measures is expected to occur as a consequence of their inclusion in projects and programmes funded from both national and international sources and for each of the short-term measures, the key implementing institutions.

Health

The SASAP for this sector is expected to be completed within the next reporting period. It is already underway, and the Pan American Health Organization (PAHO) has partnered with the EU and other institutions from the CARIFORUM region in the implementation of the Strengthening Climate Resilient Health Systems Project. Under one of the project outputs, PAHO and the Caribbean Community Climate Change Centre are charged with guiding countries through the process of preparing HNAPs and project concepts for financing.

Box 7. Adaptation outcomes for the health sector outlined in the NAP

Outcome 1. Enhanced enabling environment for health-related climate adaptation action

Outcome 2. Improved public health under a changing climate

Outcome 3. Strengthened preparedness to climate variability and extremes

In all, 26 indicative adaptation measures have been identified under the NAP that are aligned with the CCAP, with indicative outputs. Timeframes will be assigned during the development of the SASAP.

to identify sources, quantities, and pathways of plastic waste generated and leaked per sector in Saint Lucia. Indiscriminately discarded plastic waste material is problematic during heavy rainfall events associated with climate change, usually clogging drains and resulting in floods. Plastics also contribute to GHG emissions.

¹³ Examples include activities relating to inappropriate disposal of solid waste, invasive species, negligent or illegal activity, impact of construction, tourism, etc.

Box 8. Selection of key projects for the health sector

The SMART Health Care Facilities project

This project is aimed at strengthening facilities in an effort to make them “Safe” against natural hazards and “Green” with sustainable practices and climate-resilient installations, that is, SMART.

The SMART Health Care Facilities initiative is funded by the UK Department for International Development (now the Foreign, Commonwealth and Development Office), implemented by the PAHO, and instituted at 13 wellness centres across the island. The Ministry of Equity also benefited from the initiative (Comfort Bay – Senior Citizen’s Home, Transit Home for Children).

The project has the following benefits:

- Improve the structural safety of health care facilities
- Reduce energy and water use
- Boost energy security with low-carbon, renewable sources
- Improve air quality and reduce harmful emissions
- Strengthen disease surveillance and control
- Equip structures with efficient and environmentally friendly appliances and fixtures.

The first phase of retrofitting works to SMART Health Care Facilities was completed in 2019–2020 at several wellness centres around the country.

The following improvements, among others, were made at the wellness centres:

- Upgrading of the rainwater harvesting system to allow captured rainwater to be used for non-potable purposes
- Additional water storage tanks
- Installation of metal sinks as well as low-flow faucets and toilets.

Strengthening Climate Resilient Health Systems in the Caribbean (2020–2025)

This is a regional project with main partners including PAHO/WHO, its collaborating centres, and relevant regional agencies.

Sixteen participating Caribbean countries will be the principal target groups for this 5-year project (2020–2025), as the project has been formulated with the specific goal of building capacity and networks within the CARIFORUM community.

The overall objectives of this project are to

- Strengthen the resilience of public health systems and services, which ultimately, aims at reducing the mortality and morbidity from the expected health consequences of climate change in the Caribbean countries.
- Work in a collaborative manner across organizations and nations to develop innovative products, methods, and actions to prevent negative health consequences.
- Prepare public health plans, programmes, and policies to better adapt to the current unprecedented changes in the CARIFORUM community.

One of the main outputs of this project is that the CARIFORUM countries will develop comprehensive health chapters in their NAP for health and climate change or equivalent document. This document is necessary for countries to strengthen the health system’s ability to adapt to climate change, bolster prevention and preparedness, and prioritise adaptation projects among the most vulnerable for implementation.

Saint Lucia was selected to further develop and finalize a draft of the HNAP (SASAP) so that the health and non-health sectors are better positioned to address the impacts on climate change and health. While the process toward the development of the HNAP commenced during the reporting period, the HNAP is expected to be completed in 2022.

Enhancing climate change resilience of health systems in seven CARICOM states (GCF Readiness Proposal) (Green Climate Fund & World Health Organization, 2020)

In 2019, the Caribbean Action Plan on Health and Climate Change was approved by the Ministers of Health, Environment, and Climate Change of Caribbean countries and territories. The plan addresses the common challenges posed by climate change for health and provides a roadmap for integrated action to protect health and promote sustainable development under a changing climate. This led to the submission of a regional GCF Readiness proposal by WHO/PAHO in 2020 to further support CARICOM member states.

Through this 18-month project, PAHO/WHO will support CARICOM member states in implementing the Caribbean Action Plan. Seven countries are included as direct beneficiaries of the underlying activities: Belize, Guyana (lead), Haiti, Jamaica, Saint Lucia, Saint Kitts & Nevis, and Trinidad & Tobago. The project will aim to “ensure that the region is fully engaged in global climate change processes and agreements ... [and will] benefit Caribbean countries and territories by strengthening their technical cooperation methods, and facilitate the access to human, technical and financial resources necessary to address the effects of climate change on health.”

While progress was made on project development and approval during the reporting period, there have been delays in implementation. The main expected results from the project, once completed, are to

- Strengthen institutional, political, and technical capacities through established and operational health-climate change committees.
- Generate baseline data (e.g., country profiles on health and climate change and a multi-country health vulnerability and adaptation assessment) and engage the whole of society in consultations for enhancing health issues integration in national and regional plans and strategies.
- Build a pipeline of projects on health and climate change and create capacities to prepare and implement project proposals.
- Estimate the health sector's carbon footprint.
- Estimate the health co-benefits and avoided impact economic costs from different emission pathways proposed in national documents.
- Prepare strategies and project proposals for the development of climate and health data integration systems.
- Train national representatives and enhance their technical knowledge and capacities to address climate change and health issues.
- Develop communication strategies for public awareness and outreach on health and climate change.

The direct beneficiaries of the readiness proposal are national designated authorities, health ministries, and climate change focal points in the seven participating CARICOM member states.

Infrastructure and Spatial Planning

The SASAP for this sector is expected to be developed during the next reporting period. It will be guided in part by the recently published National Infrastructure Assessment (NIA) (GoSL, 2020i), with a strong connection to the National Infrastructure Financing Strategy (NIFS) (GoSL, 2021c) and the Country Financing Roadmap.

Box 9. Infrastructure outcomes in Saint Lucia's NAP (2018–2028)

Outcome 1. Enhanced enabling environment for climate change adaptation in infrastructure and spatial planning

Outcome 2. Strengthened infrastructure to withstand climate impacts

Outcome 3. Enhanced infrastructure-based climate adaptation

Outcome 4. Strengthened preparedness to climate variability and extremes

In all, 16 adaptation measures have been identified under the NAP that are aligned with the CCAP, along with indicative outputs. Timeframes will be assigned when a SASAP is developed for that sector.

Box 10. Selected key projects for the infrastructure and spatial planning sector

NIA and NIFS

The infrastructure modelling undertaken for the NIA (2020) consists of two distinct components: long-term strategic planning and adaptation planning.

The long-term strategic planning component focuses on four interdependent infrastructure sectors: energy, water supply, wastewater, and solid waste, and characterises future changes in demand for these infrastructure types caused by trends in the resident population and tourist arrivals. Though not modelled in the same way, the importance of transport is also emphasised due to its role in providing access to infrastructure services and in increasing demand for other infrastructure types through expansions to international transport hubs.

The adaptation planning component focuses on four relevant climate hazards: sea level rise, storm surges, flash floods, and landslides. This study assesses the direct risk from these four hazards on economic infrastructure (including roads, freight, airports, ports, electricity, water, wastewater, and solid waste), social infrastructure (including health care, education, civic agencies and groups, emergency, food, tourism, finance, manufacturing, retail, and wholesale), and natural environment assets (forests, agriculture, wetlands, barren lands, rangeland, and water-based ecosystems). Adaptation options aligned with those in Saint Lucia's NAP are prioritised.

The NAP involves both sectoral and cross-sectoral measures in eight prioritised sectors to be put into practice over the coming 10 years. To date, implementing and prioritising these measures across sectors and districts of Saint Lucia remains relatively poorly informed. To this end, the NIA identifies priority locations of exposure across sectors, hazards, and areas to help inform adaptation prioritisation.

The 2021 NIFS provides a robust pipeline of projects to meet long-term infrastructure needs, in line with national development objectives, as well as the SDGs and the Paris Agreement. However, obtaining adequate financing to implement these projects remains a challenge. Six focus projects covering the wastewater, water, energy, solid waste, and housing sectors (and their implementation) are proposed between 2022 and 2028. Finance available for these projects can fund enabling activities and project preparation, along with both capital and initial operating costs. The implementation of the national infrastructure pipeline, including the six focus projects, will require coordinated action across Government ministries and agencies. Ongoing financing initiatives in Saint Lucia, including the Country Financing Roadmap for the SDGs initiative,¹⁴ can be leveraged to attract private sector financing. This includes areas of shared focus, for example, renewable energy generation and energy efficiency projects.

¹⁴ The Country Financing Roadmap is a Government-led initiative that serves to identify and develop strategies to bridge the financing gap for immediate and longer-term national development priorities in line with the SDGs by formulating joint action plans to attract greater investment.

Planning for the integration of climate resilience in the road transport sector in the borrowing member countries of the CDB (2017–2020)¹⁵

A climate risk and vulnerability assessment has been carried out in Saint Lucia, Guyana, and Dominica to pilot a new approach to identifying and evaluating the effects of climate change on the road transport sector, which can then be utilised across the borrowing member countries of the CDB. This, together with an institutional assessment, has been combined into an investment plan for each country to improve the resilience of the road transport sector.

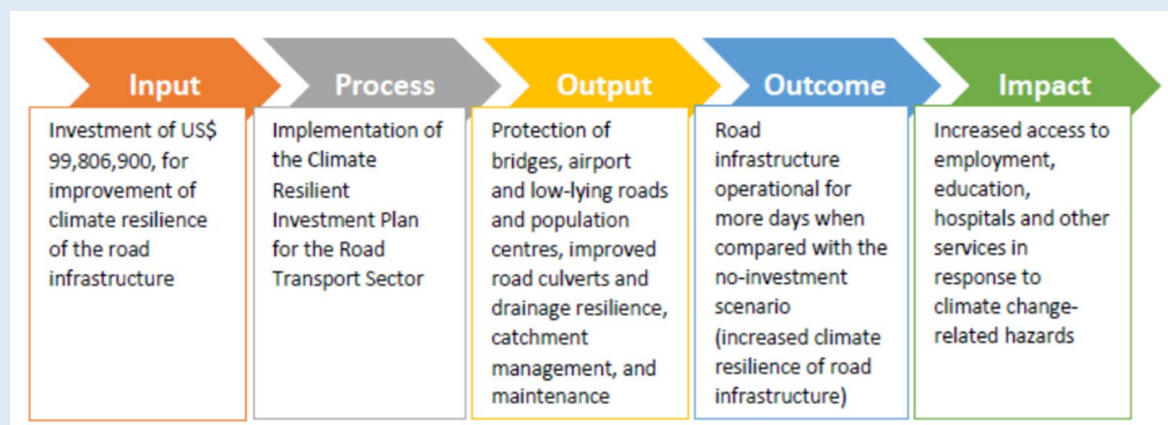
Tasks under the project included

- Assessment of the vulnerability of key infrastructure and assets in the road sector by developing a climate risk and vulnerability assessment of the road transport sector of each country.
- Assessment of the adaptive capacity in the road transport agencies and other key institutions and recommendations for strengthening.
- Preparation of a climate-resilient investment plan that will include priority infrastructure investments as well as proposals and strategies to deliver the identified adaptation options.
- Gender-sensitive climate screening of relevant policies, plans, and strategies in the sector and recommendations for integrating resilience.
- Development of a road transport sector resilience index to measure progress on adaptation.

The Investment Plan

1. Institutional strengthening
2. Climate-resilient road asset management
3. Bridge and river protection
4. Exposure reduction in low-lying roads/population centres
5. Catchment management improvement
6. Enhanced protection in landslide risk hotspots
7. Strategic road culvert and drainage upgrades
8. International airport protection

Investment plan roadmap in summary



¹⁵ For information on this project, please see CDB (n.d.).

Education

The SASAP for this sector is expected to be developed during the next reporting period (2022–2025).

Box 11. Four outcomes for the education sector in Saint Lucia's NAP (2018–2028)

Outcome 1. Enhanced enabling environment for climate change adaptation education

Outcome 2. Improved and expanded climate change education as the basis for effective adaptation

Outcome 3. Professional capacities built for leading future climate adaptation planning implementation

Outcome 4. Strengthened preparedness to climate variability and extremes

In all, 11 indicative adaptation measures have been identified that are aligned with the CCAP, with indicative outputs. Timeframes will be assigned when a SASAP is developed for that sector.

Box 12. Selection of key projects for the education sector

Education Quality Improvement Project (EQuIP)¹⁶

The EQuIP Project aligned with Saint Lucia's Education Sector Development Plan (2015–2020) and was consistent with the Bank's Strategic Plan 2015–2019, which promotes a strategic vision of inclusive and sustainable growth and development. The project, funded by the CDB and GoSL, had three main objectives:

- Integration of renewable energy/energy efficiency improvements within project schools.
- Greater climate change awareness and resilience through in-service training on the SDGs (July 2019).
- Climate vulnerability assessment (CVA) of project schools, and the development of prototype guidelines for use in the CVA of schools nationally.

The EQuIP Project will help foster the mechanisms and capacity for improved planning, leadership, and delivery of education services; the rehabilitation, renovation and/or expansion of physical infrastructure at various education levels; and institutional strengthening and capacity building. The project includes funding for consultancy services to develop a CVA of project schools and prototype guidelines for use in CVA of schools nationally.

Green Architecture Promotion Pilot Toward Building Resilience to the Adverse Effects of Climate Change¹⁷

The primary objective of the project was to improve national energy efficiency, increase renewable energy penetration, and reduce national GHG emissions through the implementation of green design principles, green technologies, mobilisation of energy-saving potential, and the documentation and promotion of best practices in green design. Focus was placed on demonstrating such practices in three schools of different sizes located in different parts of the island, that also serve as disaster shelters. Secondary benefits of the project included increased resilience to the effects of climate change and natural disasters and improved national food security.

Interventions in three schools around the island included

- Efficient renewable energy generation through the installation of grid-connected solar photovoltaic (PV) systems with battery storage. These grid-connected PV systems, complete

¹⁶ See EQuIP Saint Lucia (n.d.).

¹⁷ A project factsheet is available through the Japan-Caribbean Climate Change Partnership (n.d.).

with battery storage, serve as a backup power source for the facility/shelter following an emergency or extreme weather event.

- Water management, including rainwater harvesting, provided non-potable water that is used in efficient toilets/bathrooms and for irrigation. The plumbing for the rainwater system was completely isolated from the potable water plumbing.
- Climate-resilient agriculture through greenhouse infrastructure using gravity-fed irrigation water sourced from harvested rainwater.
- Provide Leadership in Energy and Environmental Design certification training for six technical officers within the GoSL.

The Department of Education partnered with the Department of Physical Development and the Department of Infrastructure to implement this project. The GoSL used the lessons learned during these pilots as a prototype for future development of residential and school buildings on the island.

Education for Democratic Citizenship

The programme focuses on developing soft skills and national pride and was introduced into the curricula of primary and secondary schools in Saint Lucia at the start of the 2017 academic year. The Education for Democratic Citizenship programme is integrated into the education system to equip students with key skills such as problem solving, debating, writing, and discussing controversial issues. It will also help students to develop the attitudes or dispositions necessary for them to become productive citizens, and involve education on equality, personal responsibility, honesty, and a sense that one's action can make a difference in society. The programme introduces issues related to sustainable development, environmental, and climate change issues, including

- Identifying the major issues affecting the environment (climate change, pollution, and unplanned development).
- Assessing the negative impact of human activity on the environment (destruction of coral reefs, animal extinction, flooding, land slippage, climate change, rising sea levels, etc.).

Tourism

An adaptation plan for the tourism sector was developed prior to the launch of Saint Lucia's NAP. That document will be updated during the next reporting period to match the structure of the other SASAPs and to reflect new climate information and data as well as changing vulnerabilities and adaptation priorities.

Box 13. Adaptation outcomes for the tourism sector included in Saint Lucia's NAP (2018–2028)

Outcome 1. Viable and productive tourism sector through direct interventions and collaborations and synergies with all other sectors.

The overarching outcome is representative of the following three sub-outcomes in the NASAP for tourism (2020–2030):

1. Improved policy, legal, regulatory, and institutional framework for the tourism sector
2. Improved technical and institutional capacity for the tourism sector
3. Enhanced and improved training and awareness in relation to climate change and the tourism sector.

Timeframes will be assigned when a SASAP is developed for that sector. The SASAP will be aligned with the NASAP for 2020–2030, which has the following six goals (each with accompanying strategies and actions).

Box 14. Adaptation measures aligned with the CCAP, with indicative outputs

Goal 1. Promoting sustainable tourism

Goal 2. Stimulating demand

Goal 3. Generating community awareness and involvement

Goal 4. Improving, diversifying, and spreading products and experiences island-wide

Goal 5. Ensuring visitor security, safety, and comfort

Goal 6. Organising for effective and well-managed tourism growth

Indicative timeframes for completing each of the activities under each of the goals span three different benchmark years: 2022, 2026, and 2030.

Goal 1 is the most relevant to adaptation-related action and includes both spatial planning and sustainability programmes. The spatial planning programme will include the conducting of a baseline assessment of environmental, economic, and social conditions in key tourist areas of the island, adaptative measures to advance climate resilience, the assessment of current land-use and environmental policies and regulations, and expansion of the number and scope of marine and terrestrial protected areas. The sustainability programme envisions prioritising tourism-related environmental management requirements in the policies, strategies, programmes, and budgets of relevant ministries and executing agencies, and adopting and formalising an appropriate set of sustainable tourism management guidelines.

In both cases, there are activities under each of the two programmes with 2022 completion dates. It should be noted that Goal 3 on generating community awareness and involvement is also potentially very important to the deployment and implementation of adaptation action on the ground, although the activities listed under this goal focus more on fostering investment and entrepreneurship.

The SASAP for this sector is expected to be developed during the next reporting period.

Box 15. Selected key projects for the tourism sector

Transforming Tourism Value Chains in Developing Countries and Small Island Developing States to Accelerate More Resource Efficient Low Carbon Development¹⁸ (2017–2020)

The project aimed to reduce carbon emissions and improve resource efficiency from tourism by transforming activities and services along the whole supply chain. The 4-year project looked at the entire supply chain for three areas of tourism: accommodation, food/beverages, and events. The key outputs delivered included:

- Report to identify “hotspots” (key areas to reduce carbon emissions and improve resource efficiency within tourism business) for Saint Lucia.
- Trained public officials and private sector staff in sustainable procurement in Saint Lucia.
- Developed and launched the Transforming Tourism Value Chains: Low Carbon and Resource Efficient Action Plan for Accommodation in Saint Lucia to reduce GHG emissions and improve resource efficiency, providing recommendations based on the identified hotspots.
- Stakeholder engagement with the Saint Lucia Hospitality and Tourism Association to take ownership of project initiatives and to embed the action plans in their own strategic plans to ensure the longevity of the initiative.
- Analysis of the market readiness of selected sustainable products in Saint Lucia.

The project was funded under the International Climate Initiative programme, coordinated by UN Environment.

Preparation of a GCF concept note for the Transforming Finance to Unlock Climate Action in the Caribbean programme, CDB

The concept note proposes a regional programme that will aim to unlock the private sector investment needed to transform Caribbean productive sectors, with a focus on tourism, associated value chains, and energy systems, by catalysing a transformation of finance. The programme will accomplish this by blending GCF and CDB resources to extend concessional lines of credit to development finance institutions, who in turn will lend to micro, small, and medium-sized enterprises and homeowners for climate action investments. The programme will simultaneously deliver technical assistance to facilitate programme lending and support the transformation toward climate-informed lending by Caribbean development finance institutions. Stakeholder consultations within Saint Lucia were initiated in 2019 during the development of the concept note. The concept note and a project preparation facility application were submitted and approved in 2020. The development of a full proposal commenced in 2021 and is scheduled for submission to the GCF in 2022.

¹⁸ While this project is related to reducing emissions associated with the value chains associated with Saint Lucia's tourism industry, it has significant adaptation co-benefits in a number of the priority sectors set out in Saint Lucia's NAP, including water; natural resource management/resilient ecosystems; and infrastructure and spatial planning. For a short summary of the project, please see United Nations Environment Programme (2022). An upcoming 2022 consultancy to identify responsible tourism opportunities on the southeast coast will provide technical support to the DSD to assist with facilitating social and economic development in that region. A complementary proposal to the Caribbean Development Bank, scheduled for submission in 2022, aims to unlock private sector investment in key productive sectors, including tourism.

Summary of Cross-Sectoral Work

Solid data is needed for decision making on—and implementation of—effective interventions to reduce climate change risks while integrating adaptation into development planning processes and initiatives. This includes the ability to transform the data, as it emerges, into useful and science-based information combined with the capacity to manage and use the information to identify, appraise, and prioritise adaptation options. It also demands an enabling policy and regulatory environment and sufficient capacities to coordinate and obtain funds for the implementation of adaptation actions, while communicating and engaging with stakeholders. While Saint Lucia's NAP takes the approach of addressing adaptation measures by sector, it recognises the cross-cutting nature of adaptation action and incorporates cross-sectoral adaptation measures, which will require the involvement of multiple agencies.

Box 16. Cross-sectoral outcomes identified in the NAP

Outcome 1. Improved national, legal, and regulatory framework to facilitate climate adaptation across sectors

Outcome 2. Increased generation and use of climate information in national and sectoral decision making

Outcome 3. Increase capacities to design and implement climate adaptation projects across sectors

Outcome 4. Strengthen national capacities for integrating climate adaptation considerations into national development agendas, programmes, and projects

Outcome 5. Strengthened preparedness to climate variability and extremes at the sectoral and national levels

There are 40 adaptation measures aligned with the CCAP and with indicative outputs.

The NAP's cross-sectoral measures follow and include some measures that are already being pursued in part or in full. Some measures may also appear to be sector specific (and in some cases are also included in sectoral plans) but are of value to multiple sectors, warranting their inclusion.

These measures comprise a mixture of soft and hard actions, including developing policies and plans, centralising information gathering, incentivising research activities, developing a NAP communications strategy, and assessing, mapping, and modelling in areas at risk of being adversely affected by the impacts of climate change, and capacity building and training.

Given the role of the DSD as Saint Lucia's Climate Change Focal Point, it is envisaged that as far as is practical this entity is expected to play a coordinating, facilitating, mobilising, and enabling role in collaboration with key entities, such as those with responsibility for planning, infrastructure, disaster risk management, finance, and natural resource management. These and more are part of the NCCC, the inter-agency NAP-coordinating mechanism.

6. Adaptation in Saint Lucia's NDC: Mitigation actions with adaptation co-benefits

Saint Lucia submitted its revised NDC in January 2021. Adaptation is included as a component of this mitigation-focused NDC to demonstrate Saint Lucia's commitment to achieving the targets of the Paris Agreement as well as having in place better mechanisms for adaptation to climate change impacts.

Saint Lucia is now in the process of exploring a national Reducing Emissions from Deforestation and Forest Degradation (REDD+) program and is implementing efforts to maintain its current forest cover, as well as undertaking efforts to protect watersheds through forest-protection measures. Due to the early stages of implementation of Article 6 of the Paris Agreement, and the related uncertainties around the double counting of emissions reductions, Saint Lucia chose not to include forest sink capacity targets in its revised NDC but will continue to look at challenges and opportunities in the sector, including capacity building, for future inclusion of the Agriculture, Forestry and Other Land Use sector in its NDCs.

According to the IPCC, adaptation and mitigation can be understood as complementary components of a country's response to climate change, and adaptation generates larger benefits to small islands when delivered in conjunction with other development activities (GoSL, 2015b).

Saint Lucia faces a variety of natural hazards that affect access to and usage of energy. The impacts of these hazards are considerable, especially those from tropical storms, hurricanes, and flood rains, which have become more frequent and intense due to climate change. While renewable energy and energy efficiency projects are generally considered to fall into the domain of climate change mitigation, there are instances where such projects may generate significant adaptation benefits, increasing resilience in the face of existing and emerging climate change impacts (GoSL, 2011a).

Work has been initiated, including in the areas of solar and wind energy generation and energy efficiency measures. There has been progress made with respect to policy, institutional, and regulatory frameworks, capacity building, awareness raising, research, infrastructure improvements, and energy security.

Box 17. Selected energy initiatives with adaptation co-benefits

Solar PV at the airport, guaranteed by Government to utility with 50% capital investment by utility (ongoing)

Exploration of thermal potential expected in 2022 (forthcoming)

Offshore wind project to identify potential offshore wind resources with funds from the World Bank (planned)

Building housing and installing lighting and air conditioning in the public sector (planned)

Draft revised Electricity Bill in final stages of public consultation (ongoing)

Early-stage investigations into transitioning to electric vehicles (ongoing)

Training/certification on solar PV installation and inspection (ongoing)

Scholarship for women to be mechanical engineers with internship programmes that aim to foster equal employment in the renewable energy sector (planned)

Energy-awareness month to raise public awareness on energy and energy efficiency measures (ongoing, held annually)

All of this is consistent with the climate change priorities highlighted in the Country Programme to the GCF, which contains a mitigation segment (Table 7) with adaptation co-benefits:

Table 7. Identified snapshot of national mitigation priorities

Area	From national documents	From climate change consultations
Energy efficiency	Energy-efficient appliances Energy efficiency in the public sector: 20% reduction in energy use in public buildings by 2020 Energy efficiency in schools	Improvement of human capacity for energy audits, conservation, and management
Electricity generation	35% renewable energy in electricity by 2025; 50% by 2030 Improvements to grid distribution and transmission efficiency Geothermal development	Decentralized financing for distributed renewable energy development Distributed renewable energy in health centres, schools, and other areas that act as disaster shelters
Transport	Efficient vehicles Improved and expanded public transit	Improved public understanding and acceptance of electric vehicles Improved infrastructure and service capacity for electric vehicles

Source: Excerpt from Table 8, Saint Lucia Country Programme for the GCF (December 2020).

7. How Adaptation Actions Contribute to Other International Frameworks and/or Conventions

Saint Lucia is party to several multilateral environmental agreements and is involved in international processes and frameworks. Adaptation actions at the country level have the potential to contribute to the implementation of Saint Lucia's duties and responsibilities under them.

Box 18. Non-exhaustive list highlighting selected multilateral environmental agreements and international frameworks

Convention on Biological Diversity (CBD, 1992)

Saint Lucia acceded to the CBD in 1993.

The CBD has the following three main objectives:

- The conservation of biological diversity
- The sustainable use of the components of biological diversity
- The fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

One of the targets of the CBD's post-2020 global biodiversity framework (CBD, 2021) is to *Minimize the impact of climate change on biodiversity, contribute to mitigation and adaptation through ecosystem-based approaches, contributing at least 10 GtCO₂e per year to global mitigation efforts, and ensure that all mitigation and adaptation efforts avoid negative impacts on biodiversity.*

UN Convention to Combat Desertification (UNCCD, n.d.)

- Saint Lucia ratified the UNCCD in 1997.
- The UNCCD's Strategic Framework 2018–2030 (2022) recognises that *sustainable land management and the combating of desertification/land degradation contribute to the conservation and sustainable use of biodiversity and addressing climate change.*

Sustainable Development Goals (SDGs) (United Nations Department of Economic and Social Affairs, n.d.-b)

- Of the 17 SDGs, the one that may be most relevant to climate change adaptation is SDG 13: Climate Action, which includes targets on strengthening resilience and adaptive capacity; raising awareness and increasing capacity in SIDS.
- Other SDGs of relevance to Saint Lucia's work on climate change adaptation include SDGs 5 (Gender Equality); 6 (Clean Water and Sanitation); 7 (Affordable and Clean Energy); 14 (Life Below Water); and 15 (Life on Land).

Sendai Framework for Disaster Risk Reduction 2015–2030 (United Nations Office for Disaster Risk Reduction, n.d.)

- The Sendai Framework provides UN member States with concrete actions to protect development gains from the risk of disaster.
- One of the stated means of implementing the Sendai Framework is the incorporation of disaster risk reduction measures into, among others, efforts to adapt to climate change (United Nations General Assembly, 2015).

UN Forum on Forests (United Nations Department of Economic and Social Affairs, n.d.-b)

- The UN Strategic Plan for Forests 2017–2030 recognises that forests contribute substantially to climate change mitigation and adaptation and to the conservation of biodiversity (United Nations Department of Economic and Social Affairs, 2017).

Work under the FAO

- Saint Lucia is a member state of the FAO.
- The FAO has established a Technical Cooperation Programme in Saint Lucia, which includes the development and implementation of projects for the GCF, such as an adaptation planning readiness grant to improve the capacity of the fisheries sector in Saint Lucia to enhance resilience to climate change (FAO, n.d.).

Trade-related discussions as they relate to tourism, agriculture, and export–import regimes (World Trade Organization, n.d.)

One Ocean Summit and other ocean-related initiatives

- The Best Commitments for the Ocean (Feb 2022) drafted at the recent One Oceans Summit recognises that the oceans play a crucial role in climate change mitigation and adaptation.

8. Civil Society and Climate Action: Focus on gender-responsive and youth-related adaptation projects

Saint Lucia is a partner in a regional GCF Readiness project called Enhancing Caribbean Civil Society's Access and Readiness for Climate Finance. The project objective is to enhance civil society's capacity, including knowledge, skills, and organisational structures, and the enabling external institutions to improve access to climate financing and delivery of climate change adaptation and mitigation in the Caribbean.¹⁹

Under the project, Saint Lucia is establishing a Civil Society Climate Action Team with membership including national non-governmental organisations and community-based organisations, to support their effective engagement in climate change processes at the national and local levels and strengthen knowledge sharing and partnerships. The overall purpose of the Climate Action Team is to foster collaboration, knowledge sharing, and partnerships among Saint Lucia civil society organisations for effective civil society engagement in climate change processes and decision making, and for improved access to climate finance and implementation of climate actions.

Members of the Climate Action Team will be recommended by the Saint Lucia Coalition of Civil Society Organizations (n.d.) and will comprise individuals working across several areas, including environment, gender, youth, health, social and community development, culture, and heritage.

In addition to this project, there are several other climate action initiatives being carried out in Saint Lucia that focus on the crucially important areas of gender and youth.

Gender

Saint Lucia has developed progressive policy and institutional frameworks for climate change through the National CCAP, NAP, and SASAPs for agriculture, fisheries, water, natural resources management/resilient ecosystems, and an updated NDC. In all of these, gender is included to varying degrees, and oversight and implementation are supported through the efforts of lead agencies and coordinating mechanisms like the NCCC.

There has also been a shift within the priority sectors as women have become more involved in the agriculture and fisheries sectors over the last 10 to 20 years, playing active roles in agro-processing and the post-harvest value chain, and there have been targeted efforts to promote women's and youth engagement in these sectors.

Despite this, there remain significant areas for improvement for effective gender mainstreaming into adaptation and resilience building in the priority sectors and beyond. There needs to be better

¹⁹ Caribbean Natural Resources Institute (CANARI), Enhancing Caribbean Civil Society's Access and Readiness for Climate Finance. This project is being implemented over 2.5 years (February 2020–August 2022) by CANARI, in partnership with the National Designated Authorities for the GCF in Antigua and Barbuda, Belize, Grenada, Jamaica, Saint Kitts and Nevis, Saint Lucia, and Suriname (GCF, 2019).

coordination and oversight through officially designated gender focal points within the lead agencies for climate change and the priority sectors of agriculture, fisheries, and water. Stronger linkages with the work of the Department of Gender Relations and the development of specific monitoring and reporting systems to track gender outcomes are needed. Lack of resources for the implementation of gender-responsive processes and gender mainstreaming also needs to be addressed through improved budgeting and financing. With the proposed development of the gender policy and strategic plan and further mainstreaming of gender into project concepts for financing under the NAP and SASAPs, there is an opportunity to better ensure gender mainstreaming and address the impacts of climate change and related disasters.

Saint Lucia is one of nine Caribbean countries benefiting from the EnGenDER project (UNDP, n.d.-a). This project is supporting the efforts of the GoSL to close existing financing gaps and leverage sustainable and diverse sources of climate financing with specific attention to financing for gender-responsive and inclusive climate action.

As part of the EnGenDER project, Niagara College Canada, in collaboration with Saint Lucia, undertook institutional and policy reviews of six sectors/thematic areas: health, education, tourism, resilient ecosystems, energy and infrastructure, and spatial planning. The reviews focused on 1) identifying the intersection of gender and climate change in each sector; 2) assessing the institutional capacities and gaps in addressing gender-responsive sector planning; and 3) developing relevant gender-responsive guidelines and tools for use in the development of SASAPs.

Following the institutional and policy analysis, gender assessments were undertaken for each of the six sectors/thematic areas further exploring the links between gender and climate change. These reports identify practical considerations for prioritizing, implementing, and monitoring and evaluating gender-responsive climate action.

An overall summary found that the GoSL has demonstrated a commitment to inclusive decision making (United Nations Development Program, n.d.-b). For example, Saint Lucia's NAP speaks to promoting gender equality in decision making. The draft National Gender Equality Policy Statement prioritises equitable participation and states the objective to

create institutional mechanisms and systems that mandate and facilitate effective dialectic and inclusive participation, collaboration and consultation with various stakeholders (including civil society organizations, youth, private sector, academia, vulnerable groups and the media).²⁰

The project report also found that inclusive and equitable decision making is supported by a National Mechanism for Gender Equality within the Department of Gender Affairs. Sectors and thematic areas may draw upon that department to assist in establishing an inclusive and consultative process as part of their internal planning mechanism for the development of their SASAP.

The report provides a number of recommendations for ensuring gender-responsive climate adaptation planning and SASAP development in line with the elements of a gender-responsive NAP process. The report further identified sector-specific recommendations pulled from international best practice documents that could support the GoSL's gender-responsive climate change adaptation planning efforts. The water, agriculture, and fisheries sectors were not considered in the assessment

²⁰ See Niagara College, Implications of Gender Assessments on SASAPS (August 2021, draft lodged with GoSL).

reports, given that they were covered in the gender-based climate resilience analysis for Saint Lucia prepared through the CANARI as well as under the EnGenDER project.

An important recent initiative under the EnGenDER project, and one which is related to the Fisheries SASAP outcomes and strategic objectives, is summarised in Box 19.

Box 19. Summary of EnGenDER project related to the Fisheries SASAP outcomes and strategic objectives

Inclusive Aquaponics for a Resilient Saint Lucia

The objectives of the project are as follows:

- Showcase the use of a commercial-scale community aquaponics system as a local food source.
- Increase technical aquaponics and business capacities of farmers.
- Provide an income stream for farmers and strengthen community ties.
- Enhance the ability of women and youth farmers and farmers with disabilities to grow and sell their own food, including protein sources that will contribute to food security and increase self-sufficiency by providing livelihood-enhancement and income-generating opportunities.

The total budget for the project is USD 325,000, and the expected results from the project implementation include

- 500 m² commercially-scaled aquaponics system is operationalised and 100% operated by women and youth farmers and farmers with disabilities.
- Thirty people trained in aquaponics operation and 30 people in aquaponics business plans (composed of at least 50% women and ensuring equitable representation of youth and farmers with disabilities).
- Creation of a market for the fish and hydroponic products to be produced with the development of a value-added strategy and interactions with the supply chain for these products.
- Contest and recipe book developed to incentivise the consumption of freshwater fish products.
- Materials for distribution on the lessons learned from the implementation of the project to inform the population involved in the agricultural and fisheries sectors.

Youth

The Saint Lucia Chapter of the Caribbean Youth Environment Network (CYEN) is an active member of the NCCC and, along with other community groups, was active in the development of Saint Lucia's CCAP, which establishes the core elements of the country's cross-sectoral and integrated framework for addressing climate impacts, and whose publication in 2015 initiated the NAP process. CYEN's current areas of focus relevant to adaptation and building climate resilience are (CYEN, n.d.)

- SDGs
- Youth employment
- Education and training
- Climate change and SIDS
- Water resources management
- Health and wellness

- Environmental biodiversity

Several key projects were undertaken by the Saint Lucia Chapter of CYEN during the review period (2018–2020).

Box 20. Two adaptation initiatives

2019

Review of GEF Community-Based Adaptation Projects²¹

In 2019 CYEN undertook a review of completed community-based adaptation projects funded by the GEF UNDP Small Grants Program (SGP). This review was established to assess the effects and success of the projects. Five projects were reviewed:

- The Development of Natural Apiculture as the Basis for Sustainable Livelihoods for Farmers with Disabilities in Saint Lucia
- Rainwater Harvesting to Reduce the Impacts of Drought Exacerbated by Climate Change in the Community of Bouton
- Provision of Mobile Water Desalination Facility to Provide Potable Water in Times of Crisis and to Provide a Ready and Reliable Source of Water for Fisherfolk and the Laborie Community in Saint Lucia
- Creating Sustainable Communities—Building Local Capacity for Adaptation to Climate Change and for Managing Related Issues
- Promoting Climate-Smart Practices in Water Storage, Conservation and Management by Farmers in La Pointe, Mon Repos, Micoud, Saint Lucia.

2020

GEF UNDP SGP Knowledge Fair 2020–21

Knowledge Fair 2020 built on the successes of the same event in 2018 and responded to the need to promote and undertake research and innovation work in Saint Lucia. It used the various modalities of learning to ensure that there is the communication of information, the imparting of knowledge, and the visioning of sustainable futures, through the lenses of the GEF UNDP SGP focal areas and the SDGs. It was also consistent with the GoSL's declaration of the Decade of Research and Innovation 2018 to 2027.

The theme was Visioning Sustainable Futures—Confronting the Threats of Climate Change and Climate Variability, and the goal was to inform, educate, and motivate the citizens of Saint Lucia to aspire to sustainable futures and to address socio-economic inequalities within the context of climate change and variability.

The six specific objectives were to

- (i) Provide the opportunity for discussions between civil society organizations, the private sector, and the Government on the elements, framework, and strategies for sustainable futures in the region.
- (ii) Present the results of the most recent primary research conducted on Saint Lucia, which will help with understanding the environmental, social, economic, and political threats that should be urgently addressed as people vision alternative futures.

²¹ For an overview of GEF UNDP SGP funded projects in Saint Lucia, please see Global Environment Facility (n.d.).

- (iii) Present research and innovation from the diaspora, as part of a process of motivating people to take risks and undertake research and innovation as an integral part of paving the way to sustainable futures.
- (iv) Present environmental and sustainable development projects as visible and viable manifestations of changes that are already occurring at the community level and in various sectors, and which can be adapted and upscaled to respond to individual or national needs.
- (v) Select the best organization for partnering with the GEF SGP UNDP for project implementation.
- (vi) Conduct a rigorous and thorough evaluation of the entire project to identify lessons learned and areas for future improvement.

To achieve the project goal and objectives, the GEF UNDP SGP has created a coalition of partners, who have contributed to project design and are expected to continue to participate in implementation. The primary partners are the University of the West Indies – Open Campus; the Iyanola Apiculture Collective; the Saint Lucia National Conservation Fund; the Castries Constituency Council; GoSI and specific members of the private sector. The CYEN will be the project executing/implementation partner.

9. Conclusion

This AdCom sets out in some detail Saint Lucia's progress and continuing needs in climate adaptation. Much has been achieved through the country's NAP process, noting that the latter was launched after the adoption of Saint Lucia's CCAP and submission of Saint Lucia's first NDC, both in 2015."

The cost of inaction on climate change in Saint Lucia has been calculated to be 12.1% of GDP by 2025, rising to 24.5% by 2050 and 49.1% by 2100 (GoSL, 2018d). These numbers were calculated well before 2020, when the COVID-19 global pandemic disrupted economies worldwide. The pandemic also affected Saint Lucia's overall economy; the tourism sector—the largest revenue-generating sector on the island and linked directly and indirectly to a number of sectors and livelihoods—was paralyzed for several months and is still recovering today. While the long-term economic impacts of the pandemic are not yet fully known, the crisis has highlighted the extreme fragility of economies and development gains in tourism-based import-dependent SIDS such as Saint Lucia.

Considering these facts, and as part of the NAP process, Saint Lucia has committed to prioritising sectoral and cross-sectoral adaptation measures for eight key sectors and a segment on the "limits to adaptation." The ultimate goal of the NAP is to strengthen Saint Lucia's resilience to climate change and to support implementation of the country's CCAP. This communication highlights the priority sectors for adaptation action: tourism, water, agriculture, fisheries, infrastructure and spatial planning, natural resources management/resilient ecosystems, education, and health. The NAP also considers a monitoring and evaluation plan as part of the process, which aims to track progress on the actions and projects mentioned in the NAP and SASAPs. The first NAP 3-year progress report has been prepared, and the results of this monitoring and evaluation process have helped inform this AdCom.

While adaptation is key to reducing risks and addressing the impacts of climate change, including through nature-based climate solutions and ecosystem-based adaptation, the lack of ambition in mitigating climate change at the global level may result in a number of limits to efforts undertaken by Saint Lucia. In Saint Lucia, these limits are categorized as biophysical, economic, technological, institutional, social, and cultural. These limits to adaptation may result in loss and damage, that is, impacts of climate change that occur despite the best mitigation and adaptation efforts. As detailed in Saint Lucia's NAP, all priority sectors are at risk of experiencing loss and damage as a result of increased climate impacts and the limits faced by the Government and population to adapt to them. Potential loss and damage will result from frequent flooding, storm surges, and saltwater intrusion into freshwater supplies and agricultural land, which would lead to water shortages, decreased food availability and security, and the permanent loss of territory due to sea level rise. Rising water temperatures and seawater CO₂ concentration will result in damage to coral reef systems and declines in commercially important fisheries stocks. These impacts will also affect tourism, which is dependent on these ecosystems. Sea level rise and increased extreme climatic events will also result in loss of culturally and spiritually important landscapes and, ultimately, the migration and displacement of coastal communities. Temperature increase will directly result in increased risk of deaths and injuries associated with extreme heat and weather events, and indirectly through increased waterborne and vector-borne disease outbreaks (GoSL, 2018d, Chapter 15).

Saint Lucia, with the requisite support, is also committed to ensuring that Action for Climate Empowerment (ACE) becomes, as per Article 12 of the Paris Agreement, a key cross-cutting instrument to involve all levels of society in climate action, in particular the most vulnerable groups

(including children, youth, the elderly and people living with disabilities) in support of all elements of mitigation and adaptation. ACE has the potential to provide the social and political will for action, in addition to the scientific and technological know-how. As such, the country's ACE commitments, as non-GHG targets, will help accelerate the achievement of the NDC.

In Saint Lucia, much progress has been made on adapting to the adverse impacts of climate change from a planning perspective: a NAP and several SASAPs have been developed, alongside supporting strategies, such as those focused on private sector engagement, climate change communications, and research, among others. However, more needs to be done to raise the profile of adaptation and give it greater visibility both nationally and internationally, facilitating enhanced learning about and understanding of adaptation needs and actions. This cannot be done without dedicated external support for adaptation, including finance, technology, and capacity building that is, at the very least, commensurate with that provided for mitigation. Support for adaptation should cover both hard measures, such as the development of resilient infrastructure, and soft measures, such as sustained awareness raising, capacity building, research, and data management, and understanding of the context of human constraints and ecosystem vulnerability. The science unequivocally projects increasing loss and damage resulting from human-induced climate change, even if the world were on track to meet the 1.5°C temperature goal; therefore, greater consideration of and support for addressing the limits to adaptation will need to be integrated into all climate action implemented in Saint Lucia.

Saint Lucia looks forward to forging further partnerships and alliances that will assist in implementing the priority adaptation measures, programmes, projects, and activities outlined in its NAP, SASAPs, and other supporting documents. Saint Lucia is prepared to welcome the support required (finance, technology transfer, and capacity building) from a variety of sources, including public, private, bilateral, multilateral, and alternative sources, all in an effort to help the country build climate resilience and address the seemingly insurmountable phenomenon of climate change.

References

- Adaptation Fund. (2021). *Building resilience for adaptation to climate change and climate vulnerabilities in agriculture in Saint Lucia*. <https://www.adaptation-fund.org/project/building-resilience-adaptation-climate-change-climate-vulnerabilities-agriculture-saint-lucia/>
- Caribbean Community Climate Change Centre & Government of Saint Lucia. (2015). *Impact assessment and national adaptation strategy and action plan to address climate change in the tourism sector of Saint Lucia (Vol. I and II)*. European Union Global Climate Change Alliance (EU-GCCA) Caribbean Support Project.
- Caribbean Development Bank. (n.d.). *Package of guidance resources: Planning for the integration of climate resilience in the road transport sector in the Caribbean*. <https://www.caribank.org/package-guidance-resources-planning-integration-climate-resilience-road-transport-sector-caribbean>
- Caribbean Youth Environment Network. (n.d.). *Home page*. <https://cyen.org/>
- CARIBSAVE Partnership. (2012). *The CARIBSAVE climate change risk atlas (CCRA): Climate change 137 risk profile for Saint Lucia*. <http://dms.caribbeanclimate.bz/M-Files/openfile.aspx?objtype=0&docid=5040>
- Central Statistical Office of Saint Lucia. (n.d.). *Estimated mid-year population by sex and five year age groups, 2011 to 2018*. <https://www.stats.gov.lc/>
- Central Statistical Office of Saint Lucia. (2010). *2010 Housing and population census*. <https://redatam.org/binlca/RpWebEngine.exe/Portal?BASE=PHC2010C&lang=ENG>
- Church, J. A., Clark, P. U., Cazenave, A., Gregory, J. M., Jevrejeva, S., Levermann A., Merrifield, M. A., Milne, G. A., Nerem, R. S., Nunn, P. D., Payne, A. J., Pfeffer, W. T., Stammer, D., & Unnikrishnan, A. S. (2013). Sea level change. In T. F. Stocker, D. Qin, G.-K. Plattner, M. Tignor, S. K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex, & P. M. Midgley (Eds.), *Climate change 2013: The physical science basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press.
- Coalition of Civil Society Organizations. (n.d.). *Home page*. <http://saintluciacsocoalition.org/>
- Convention on Biological Diversity. (1992). United Nations. <https://www.cbd.int/doc/legal/cbd-en.pdf>
- Convention on Biological Diversity. (2021). *First draft of the post-2020 global biodiversity framework*. <https://www.cbd.int/doc/c/abb5/591f/2e46096d3f0330b08ce87a45/wg2020-03-03-en.pdf>
- EQuIP Saint Lucia. (n.d.). *Home page*. <https://www.equip.education.gov.lc/>
- Food and Agriculture Organization of the United Nations. (n.d.). *Saint Lucia*. <https://www.fao.org/countryprofiles/index/en/?iso3=LCA>

Global Environment Facility. (n.d.). *Small grants programme results, Saint Lucia*. <https://sgp.undp.org/spacial-itemid-projects-landing-page/spacial-itemid-project-search-results.html?view=allprojects&CountryID%5b0%5d=STL>

Government of Saint Lucia. (2001). *Saint Lucia initial national communication to the United Nations Framework Convention on Climate Change*. Ministry of Physical Development, Environment and Housing.

Government of Saint Lucia. (2010). *Saint Lucia national energy policy*. Ministry of Physical Development, Environment and Housing.

Government of Saint Lucia. (2011a). *Saint Lucia's strategic programme for climate resilience (SPCR) under and beyond the PPCR*.

Government of Saint Lucia. (2011b). *Second national communication on climate change for Saint Lucia*. Department of Sustainable Development, Ministry of Sustainable Development, Energy, Science and Technology.

Government of Saint Lucia. (2015a). *The Saint Lucia climate change adaptation policy: Adapting one individual, one household, one community, one enterprise and one sector at a time*. Ministry of Sustainable Development, Energy, Science and Technology.

Government of Saint Lucia. (2015b). *Saint Lucia: Intended nationally determined contribution under the United Nations Framework Convention on Climate Change (UNFCCC)*.

Government of Saint Lucia. (2017). *Third national communication on climate change for Saint Lucia*. Department of Sustainable Development, Ministry of Education, Innovation, Gender Relations and Sustainable Development.

Government of Saint Lucia. (2018a). *Guidelines for the development of sectoral adaptation strategies and action plans (SASAPs): Saint Lucia's experience under the National Adaptation Planning process*. Department of Sustainable Development, Ministry of Education, Innovation, Gender Relations and Sustainable Development.

Government of Saint Lucia. (2018b). *Monitoring and evaluation plan of Saint Lucia's National Adaptation Planning process*. Department of Sustainable Development, Ministry of Education, Innovation, Gender Relations and Sustainable Development.

Government of Saint Lucia. (2018c). *Saint Lucia's climate change communications strategy under the National Adaptation Planning Process*. Department of Sustainable Development, Ministry of Education, Innovation, Gender Relations and Sustainable Development.

Government of Saint Lucia. (2018d). *Saint Lucia's National Adaptation Plan (NAP): 2018–2028*. Department of Sustainable Development, Ministry of Education, Innovation, Gender Relations and Sustainable Development. <https://www4.unfccc.int/sites/NAPC/Documents/Parties/SLU-NAP-May-2018.pdf>

Government of Saint Lucia. (2018e). *Saint Lucia's National Adaptation Plan roadmap and capacity development plan 2018–2028*. Department of Sustainable Development, Ministry of Education, Innovation, Gender Relations and Sustainable Development.

Government of Saint Lucia. (2018f). *Saint Lucia's National Adaptation Plan stocktaking, climate risk and vulnerability assessment report*. Department of Sustainable Development, Ministry of Education, Innovation, Gender Relations and Sustainable Development.

Government of Saint Lucia. (2018g). *Saint Lucia's nationally appropriate mitigation action for schools (green schools NAMA)*. Ministry of Infrastructure, Ports, Energy and Labour and the Ministry of Education, Innovation, Gender Relations and Sustainable Development.

Government of Saint Lucia. (2018h). *National energy transition strategy*. Ministry of Infrastructure, Ports, Energy and Labour and the Ministry of Education, Innovation, Gender Relations and Sustainable Development.

Government of Saint Lucia. (2018i). *Saint Lucia's portfolio of project concept notes for the agriculture sector 2018–2028, under the National Adaptation Planning process*. Department of Sustainable Development, Ministry of Education, Innovation, Gender Relations and Sustainable Development and Department of Agriculture, Fisheries, Natural Resources and Cooperatives, Ministry of Agriculture, Fisheries, Physical Planning, Natural Resources and Cooperatives.

Government of Saint Lucia. (2018j). *Saint Lucia's portfolio of project concept notes for the fisheries sector 2018–2028, under the National Adaptation Planning process*. Department of Sustainable Development, Ministry of Education, Innovation, Gender Relations and Sustainable Development and Department of Agriculture, Fisheries, Natural Resources and Cooperatives, Ministry of Agriculture, Fisheries, Physical Planning, Natural Resources and Cooperatives.

Government of Saint Lucia. (2018k). *Saint Lucia's portfolio of project concept notes for the water sector 2018–2028*. Department of Sustainable Development, Ministry of Education, Innovation, Gender Relations and Sustainable Development and Department of Agriculture, Fisheries, Natural Resources and Cooperatives, Ministry of Agriculture, Fisheries, Physical Planning, Natural Resources and Cooperatives.

Government of Saint Lucia. (2018l). *Saint Lucia's sectoral adaptation strategy and action plan for the agriculture sector (agriculture SASAP) 2018–2028, under the National Adaptation Planning process*. Department of Sustainable Development, Ministry of Education, Innovation, Gender Relations and Sustainable Development and Department of Agriculture, Fisheries, Natural Resources and Cooperatives, Ministry of Agriculture, Fisheries, Physical Planning, Natural Resources and Cooperatives.

Government of Saint Lucia. (2018m). *Saint Lucia's sectoral adaptation strategy and action plan for the fisheries sector (fisheries SASAP) 2018–2028, under the National Adaptation Planning process*. Department of Sustainable Development, Ministry of Education, Innovation, Gender Relations and Sustainable Development and Department of Agriculture, Fisheries, Natural Resources and Cooperatives, Ministry of Agriculture, Fisheries, Physical Planning, Natural Resources and Cooperatives.

Government of Saint Lucia. (2018n). *Saint Lucia's sectoral adaptation strategy and action plan for the water sector (water SASAP) 2018–2028, under the National Adaptation Planning process*. Department of Sustainable Development, Ministry of Education, Innovation, Gender Relations and Sustainable Development and Department of Agriculture, Fisheries, Natural Resources and Cooperatives, Ministry of Agriculture, Fisheries, Physical Planning, Natural Resources and Cooperatives.

Government of Saint Lucia. (2019). *Saint Lucia's nationally determined contribution partnership plan*. Department of Sustainable Development.

Government of Saint Lucia. (2020a). *Medium term development strategy: 2020–2023*. Department of Economic Development, Transport, and Civil Aviation.

Government of Saint Lucia. (2020b). *Saint Lucia's climate financing strategy under the national adaptation planning process*. Department of Sustainable Development, Ministry of Education, Innovation, Gender Relations and Sustainable Development.

Government of Saint Lucia. (2020c). *Saint Lucia's country programme for the Green Climate Fund*. Saint Lucia's National Designated Authority: Department of Economic Development, Transport, and Civil Aviation. Saint Lucia's GCF Readiness and Preparatory Support Programme Delivery Partner: The Caribbean Community Climate Change Centre. Supported by Climate Analytics.

Government of Saint Lucia. (2020d). *Saint Lucia's national climate change research strategy 2020–2030*. Department of Sustainable Development, Ministry of Education, Innovation, Gender Relations and Sustainable Development.

Government of Saint Lucia. (2020e). *Saint Lucia's portfolio of project concept notes for resilient ecosystems 2020–2028*. Department of Sustainable Development, Ministry of Education, Innovation, Gender Relations and Sustainable Development.

Government of Saint Lucia. (2020f). *Saint Lucia's national climate change research policy 2020–2030*. Department of Sustainable Development, Ministry of Education, Innovation, Gender Relations and Sustainable Development.

Government of Saint Lucia. (2020g). *Saint Lucia's private sector engagement strategy under the National Adaptation Planning process*. Department of Sustainable Development, Ministry of Education, Innovation, Gender Relations and Sustainable Development.

Government of Saint Lucia. (2020h). *Saint Lucia's resilient ecosystems adaptation strategy and action plan (REASAP) 2020–2028, under the National Adaptation Planning process*. Department of Sustainable Development, Ministry of Education, Innovation, Gender Relations and Sustainable Development.

Government of Saint Lucia. (2020i). *National Infrastructure Assessment*. Department of Finance. <https://content.unops.org/publications/Saint-Lucia-National-Infrastructure-Assessment.pdf>.

Government of Saint Lucia. (2021a). *Saint Lucia: Updated nationally determined contribution under the United Nations Framework Convention on Climate Change (UNFCCC)*. Department of Sustainable Development.

Government of Saint Lucia. (2021b). *Saint Lucia 2021 Economic and Social Review*. Department of Finance.

Government of Saint Lucia. (2021c). *Saint Lucia: National Infrastructure Financing Strategy*. Ministry of Finance, Economic Development and Youth Economy. <https://content.unops.org/publications/Saint-Lucia-National-Infrastructure-Financing-Strategy.pdf>.

Green Climate Fund. (2019). *Strategic frameworks support for Antigua and Barbuda, Belize, Grenada, Jamaica, Saint Lucia, Saint Kitts and Nevis, Suriname through CANARI*. <https://www.greenclimate.fund/document/strategic-frameworks-support-antigua-and-barbuda-belize-grenada-jamaica-saint-lucia-saint>

Green Climate Fund & World Health Organization. (2020). *Enhancing climate change resilience of health systems in seven CARICOM states*. <https://www.greenclimate.fund/sites/default/files/document/regional-who.pdf>

Japan-Caribbean Climate Change Partnership. (n.d.). *Green architecture promotion pilot (GAPP) toward building resilience to the adverse effects of climate change*. https://www.globalsupportprogramme.org/sites/default/files/resources/j-cccp_sluc_gapp_project_fact_sheet.pdf

Jordan, D. (2020). *Saint Lucia labour market needs assessment survey report, 2020*. World Bank. <https://www.stats.gov.lc/wp-content/uploads/2021/07/L.M.N.A.S-2020-Final.pdf>

Stephenson, T. S., Vincent, L. A., Allen, T., Van Meerbeeck, C. J., McLean, N., Peterson, T. C., Taylor, M. A., Aaron-Morrison, A. P., Auguste, T., Bernard, D., Boekhoudt, J. R. I., Blenman, R. C., Braithwaite, G. C., Brown, G., Butler, M., Cumberbatch, C. J. M., Etienne-Leblanc, S., Lake, D. E., Martin, D. E., McDonald, J. L., ... Trotman, A. R. (2014). Changes in extreme temperature and precipitation in the Caribbean region, 1961–2010. *International Journal of Climatology*, 34, 2957–2971.

Thomas-Louisy, M. L. (2014). *Saint Lucia: Country document for disaster risk reduction, 2014*. National Emergency Management Organisation. <https://dipecholac.net/docs/files/869-documento-pais-saint-lucia-para-la-web.pdf>

The Paris Agreement. (2015). https://unfccc.int/sites/default/files/english_paris_agreement.pdf

Pörtner, H.-O., Roberts, D. C., Adams, H., Adelekan, I., Adler, C., Adrian, R., Aldunce, P., Ali, E., Ara Begum, R., Bednar-Friedl, B., Bezner Kerr, R., Biesbroek, R., Birkmann, J., Bowen, K., Caretta, M. A., Carnicer, J., Castellanos, E., Cheong, T. S., Chow, W., ... Zaiton Ibrahim, Z. (2022). Technical summary. In H.-O. Pörtner, D. C. Roberts, E. S. Poloczanska, K. Mintenbeck, M. Tignor, A. Alegría, M. Craig, S. Langsdorf, S. Lösschke, V. Möller, & A. Okem (Eds.), *Climate change 2022: Impacts, adaptation, and vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press. [WG2AR6_FD_TS_FINAL \(ipcc.ch\)](https://www.ipcc.ch/report/ar6/wg2/)

Présidence de la République. (2022). *Brest commitments for the oceans*. <https://www.oneplanetsummit.fr/sites/default/files/2022-03/BREST-COMMITMENTS-FOR-THE-OCEANS.pdf>

United Nations Convention to Combat Desertification. (n.d.). *Home page*. <https://www.unccd.int/>

United Nations Convention to Combat Desertification. (2022). *2018–2030 strategic framework*. https://www.unccd.int/sites/default/files/2022-02/cop21add1_SF_EN.pdf

United Nations Department of Economic and Social Affairs. (n.d.-a). *Global forest goals*. <https://www.un.org/esa/forests/index.html>

United Nations Department of Economic and Social Affairs. (n.d.-b). *Sustainable development goals*. <https://sdgs.un.org/goals>

United Nations Department of Economic and Social Affairs. (2017). *United Nations strategic plan for forests 2017–2030*. <https://www.un.org/esa/forests/documents/un-strategic-plan-for-forests-2030/index.html#:~:text=The%20Strategic%20Plan%20features%20a,twice%20the%20size%20of%20France>

United Nations Development Programme. (n.d.-a). *EnGenDER project*. undp.org/barbados/engender

United Nations Development Program. (n.d.-b). *Climate resilience analysis: Saint Lucia*. <https://www.undp.org/barbados/baseline-analyses>.

United Nations Environment Programme. (2022). *Transforming tourism value chains in developing countries and Small Island Developing States (SIDS) to accelerate resource efficient, low-carbon development*. <https://unepdtu.org/project/transforming-tourism-value-chains-in-developing-countries-and-small-island-developing-states-sids-to-accelerate-resource-efficient-low-carbon-development/>

United Nations Framework Convention on Climate Change. (2018). *Further guidance in relation to the adaptation communication, including, inter alia, as a component of nationally determined contributions, referred to in Article 7, paragraphs 10 and 11, of the Paris Agreement*. <https://unfccc.int/decisions?f%5B0%5D=body%3A4099&f%5B1%5D=session%3A4221>

United Nations General Assembly. (2015). *Sendai framework for disaster risk reduction 2015–2030*. <https://www.preventionweb.net/files/resolutions/N1516716.pdf>

United Nations Office for Disaster Risk Reduction. (n.d.). *Home page*. <https://www.undrr.org/>

World Bank. (n.d.). *Data, Life expectancy at birth, total (years) Saint Lucia*. <https://data.worldbank.org/indicator/SP.DYN.LE00.IN?locations=LC>

World Trade Organization. (n.d.). *Trade topics*. https://www.wto.org/english/tratop_e/tratop_e.htm

Appendix 1: Documents produced to date under Saint Lucia's NAP process

- *Saint Lucia's National Adaptation Plan Stocktaking, Climate Risk and Vulnerability Assessment Report 2018*
- *Saint Lucia's National Adaptation Plan Roadmap and Capacity Development Plan 2018-2028*
- *Saint Lucia's National Adaptation Plan (NAP) 2018-2028*
- *Saint Lucia's Climate Change Communications Strategy 2018*
- *Saint Lucia's Sectoral Adaptation Strategy and Action Plan for the Water Sector (Water SASAP) 2018-2028*
- *Saint Lucia's Sectoral Adaptation Strategy and Action Plan for the Agriculture Sector (Agriculture SASAP) 2018-2028*
- *Saint Lucia's Sectoral Adaptation Strategy and Action Plan for the Fisheries Sector (Fisheries SASAP) 2018-2028*
- *Monitoring and Evaluation Plan of Saint Lucia's National Adaptation Planning Process 2018*
- *Saint Lucia's Portfolio of Project Concept Notes for the Water Sector 2018-2028*
- *Saint Lucia's Portfolio of Project Concept Notes for the Agriculture Sector 2018-2028*
- *Saint Lucia's Portfolio of Project Concept Notes for the Fisheries Sector 2018-2028*
- *Guidelines for the Development of Sectoral Adaptation Strategies and Action Plans: Saint Lucia's experience under its national adaptation planning process 2018*
- *Snapshot of Saint Lucia's NAP 2018*
- *Snapshot of Saint Lucia's Water SASAP 2018*
- *Snapshot of Saint Lucia's Agriculture SASAP 2018*
- *Snapshot of Saint Lucia's Fisheries SASAP 2018*
- *Saint Lucia's Climate Financing Strategy under the national adaptation planning process 2020*
- *Saint Lucia's Private Sector Engagement Strategy under the national adaptation planning process 2020*
- *Saint Lucia's Resilient Ecosystems Adaptation Strategy and Action Plan 2020-2028*
- *Saint Lucia's Portfolio of Project Concept Notes for Resilient Ecosystems 2020-2028*
- *Snapshot of Saint Lucia's Resilient Ecosystems Adaptation Strategy and Action Plan*

- *Saint Lucia's Climate Change Research Policy and Climate Change Research Strategy under the national adaptation planning process 2020*
- *Saint Lucia's National Adaptation Plan Progress Report: 2018-2021*

Acknowledgements

This opportunity is taken to acknowledge those that have made invaluable contributions toward the completion of this Adaptation Communication, in particular the Sustainable Development and Environment Division of the Department of Sustainable Development and the NAP Global Network, the secretariat of which is hosted by the International Institute for Sustainable Development. Generous financial support for this Adaptation Communication was provided by the United Kingdom's Foreign, Commonwealth, and Development Office. The Department of Sustainable Development would also like to acknowledge the consultant, Linda Siegele, who assisted in the compilation of this Communication.

