



Cayman Islands  
**CLIMATE CHANGE  
POLICY** | 2023-2040



**Cayman Islands**  
Government

PUBLIC CONSULTATION DRAFT  
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# TABLE OF CONTENTS

FOREWORD by the Premier and Minister of Sustainability and Climate Resiliency	I
MESSAGE from the Ministry of Sustainability & Climate Resiliency Chief Officer	II
VISION	III
1.0 EXECUTIVE SUMMARY	1
POLICY OVERVIEW	3
2.0 INTRODUCTION	4
2.1 BACKGROUND	4
2.2 PURPOSE AND SCOPE	7
2.2.1 Local Context	7
2.2.2 International Context	8
3.0 SITUATIONAL ANALYSIS	10
3.1 HUMAN SETTLEMENTS AND INFRASTRUCTURE	12
3.2 HUMAN HEALTH	13
3.3 BIODIVERSITY	14
3.4 TOURISM	15
3.5 AGRICULTURE AND FISHERIES	16
3.6 FINANCIAL SERVICES	17
3.7 ENERGY SUPPLY	18
3.8 TRANSPORT	19
3.9 BUSINESS	20
3.10 LAND USE CHANGE	21
3.11 WASTE MANAGEMENT	22
4.0 CLIMATE CHANGE POLICY FRAMEWORK	23
4.1 VISION	23
4.2 GUIDING PRINCIPLES	23
4.3 GOALS & POLICY OBJECTIVES	24
4.4 STRATEGIES AND STRATEGIC AIMS	25
4.4.1 Strategies Supporting Interwoven Equity	26
4.4.2 Strategies Supporting a Robust Economy	27
4.4.3 Strategies Supporting a Liveable Built Environment	29
4.4.4 Strategies Supporting Healthy and Resilient Communities	31
4.4.5 Strategies Supporting Resilient Infrastructure Networks	33
4.4.6 Strategies Supporting Harmony With Nature	35
4.4.7 Strategies Supporting Integration and Coordination	37
5.0 GOVERNANCE AND IMPLEMENTATION	39
6.0 MONITORING, EVALUATION AND CHANGE	40
7.0 CONCLUSION	41
8.0 APPENDICES	42
8.1 GLOSSARY	43
8.2 CLIMATE IMPACTS EXPLAINER	45
8.3 RESOURCES	46
8.4 ACKNOWLEDGEMENTS	48

"Together we can and will realise the vision of a climate-resilient Cayman Islands that promotes and sustains vibrant communities, a thriving natural environment and a robust economy, where our people can live their best lives now and for future generations."



# FOREWARD

**Hon. G. Wayne Panton, JP, MP**

Premier | Minister for Sustainability & Climate Resiliency

The world has known for several decades that global climate patterns and environments are changing rapidly. This planetary transformation has significant implications for the way we live our lives today and plan for tomorrow, particularly on small islands. The Cayman Islands and wider Caribbean region have experienced more intense rainfall events and tropical storms, putting communities and critical infrastructure at greater risk of flooding and damage. Warmer sea temperatures and longer periods of drought have placed in jeopardy the health and viability of valuable natural resources, upon which tourism, livelihoods and food security depend. Our islands remain vulnerable to these direct impacts and, for example, to secondary impacts to trade and tourism from extreme weather events occurring regionally or internationally, or geopolitical policy and regulatory shifts that affect our financial services sector.

Nations around the world increasingly recognise that the window of opportunity to mitigate and adapt to climate change is quickly closing. Small islands like the Cayman Islands arguably have an even narrower window to prepare for disruptive impacts that can devastate our communities and the economy. Indeed, our country faces a number of complex challenges.

Despite this, there are many opportunities to adapt to these changing conditions, build our resiliency, and thrive in spite of inevitable disruptions. We need to recognise opportunities as they emerge and capitalise on them. The long-term prosperity of our people depends on the decisions we make today and our ability to pivot in response to a changing world.

Therefore, it is my pleasure to present this Climate Change Policy 2023-2040, which has its roots in the draft 2011 Climate Change Policy. This updated Policy accounts for new insights and shifting circumstances, particularly the climate risks identified in the Cayman Islands Climate Change Risk Assessment 2022. A diverse groups of stakeholders and local and international subject experts were consulted in the



drafting of this Policy's core concepts and strategies to ensure that current and future needs of this country are addressed. The strategic measures aim to lower the risks that climate change poses to key sectors and groups by reducing vulnerabilities, adapting and embracing sustainable, low carbon activities. The Policy also establishes a governance framework for climate action that is fair and accountable. An all-hands-on-deck approach is necessary for the success of the Policy, which includes cooperation and coordination across ministries and departments, the private and public sectors, and civil society.

Together we can and will realise the vision of a climate-resilient Cayman Islands that promotes and sustains vibrant communities, a thriving natural environment and a robust economy, where our people can live their best lives now and for future generations.



# MESSAGE

**Jennifer M. Ahearn, AICP, JP**

Chief Officer | Ministry for Sustainability & Climate Resiliency

The Ministry of Sustainability and Climate Resiliency, in partnership with the Department of Environment, Cayman Islands National Weather Service and Hazard Management Cayman Islands, is pleased to present the Climate Change Policy 2023-2040.

This Policy is the product of several months of multi-stakeholder engagement convened under our Technical Working Group. It benefits from insights gained through the Climate Change Risk Assessment Public Survey conducted in 2022, and is informed by a Climate Change Risk Assessment generously funded through the Governor's Office by the United Kingdom's Conflict, Stability and Security Fund, which supports activities to build climate resilience within the context of sustainable development. Following extensive desktop research, technical stakeholder consultation and public engagement on risks from these climatic changes, the resulting Cayman Islands Climate Change Evidence Report 2022 is now the most comprehensive reference document to date on the potential implications of climate change for the Cayman Islands' environmental, social and economic sectors.

The Climate Change Policy 2023-2040 contains measures required to address the most pressing risks posed by current and continued climate changes to people, prosperity and planetary health in the Cayman Islands. Borne from the principles of resiliency and sustainability, the Policy outlines strategic actions that have been deemed necessary to make our ambitious vision a reality.

I would like to thank my senior leadership team colleagues from other Ministries, Departments and Government agencies for attending the CCRA technical workshop, and consulting on this updated Policy. Continued coordination and collaboration of public sector talent and resources will be needed to deliver this Policy, and to effect positive outcomes for people's lives and livelihoods in the face of increasing climate and economic



challenges that strain the public purse.

The Ministry also looks forward to working closely with private sector and other non-governmental partners who have key roles to play in ensuring their sectors adequately adapt to climate impacts in a timely manner. Leveraging partnerships and resources will be important to providing additional assistance to vulnerable groups within these sectors to enhance their climate resiliency.

## OUR VISION

A climate-resilient Cayman Islands that promotes and sustains vibrant communities, a thriving natural environment and a robust economy, where people can live their best lives now and for future generations.



# 1 | EXECUTIVE SUMMARY

The immediate and predicted impacts of global climate change pose an existential threat to lives and livelihoods around the world. Small island nations like the Cayman Islands are increasingly affected by the adverse impacts of climate change, many of which are already detectable across natural and human systems in our islands, including: increases in sea and air temperatures, the growing impacts of tropical cyclones, storm surges, changing precipitation patterns, droughts, sea-level rise, coral bleaching, invasive species and diseases.

The Cayman Islands recognises the severe and increasing implications of climate-related risks on human health, the natural environment, food security and water supply, economic prosperity, national security, and a host of other impacts locally, regionally and globally.

Recognising that the physical and economic impacts of climate change are likely to disproportionately affect vulnerable socio-economic groups, the Policy highlights the importance of maintaining and enhancing essential ecosystem services that underpin our economy and protect our communities.

The Policy focuses on strategies to urgently reduce further contributions to climate change (mitigation) and respond to the inevitable impacts of a changing climate (adaptation) to ensure a low or zero carbon climate-resilient future for the Cayman Islands. When climate actions benefit both mitigation and adaptation agendas, they are typically cost-effective.

The Cayman Islands Climate Change Policy 2023-2040 outlines the strategic interventions needed over the next 17 years to ensure a climate resilient Cayman Islands that promotes and sustains vibrant communities, a thriving natural environment, and a robust economy, where people can live their best lives now and for future generations.

Guided by global and regional climate action and commitments, as well as the Cayman Islands Climate Change Risk Assessment 2022, this Policy contains measures required to:

- Reduce Cayman's vulnerability and enhance local resiliency to climate change;

- Promote sustainable, low or zero carbon economic activity; and,
- Establish a governance framework for climate change action which is future-focused, fair to all, accountable, and transparent.

This Policy is timely in providing an opportunity to raise awareness and provide guidance on the vast and complex nature of mitigation and adaptation to climate change. The challenge is to broaden perspectives to progress fair and equitable climate action locally, especially at the individual, household and community levels, taking all voices into account. The Climate Change Policy 2023-2040 is a reflection of these tenets of climate justice.

An Implementation and Monitoring Plan with targets and performance indicators shall be developed upon the approval of this Policy.

The Implementation and Monitoring Plan will detail how the strategic aims will be brought into action and where citizens, corporations, community organisations, and regional and international bodies can play their part in assisting the Government to realise a climate-resilient Cayman Islands now and for future generations. Development of the Implementation Plan is currently underway and will be subject to a separate public consultation period.



The Earth's climate continues to change due to a rapid buildup of greenhouse gases in our atmosphere.

Multiple lines of evidence show that, since approximately 1850, the global climate has warmed by 1.2°C, and this change is impacting weather patterns, ecosystems, industries and communities around the world.

**The scientific consensus is that limiting the global average temperature increase to 1.5°C compared to pre-industrial levels is our best chance of preventing more severe climate-related impacts on people, wildlife, ecosystems, and financial systems.**



# POLICY OVERVIEW



## OUR VISION

A climate-resilient Cayman Islands that promotes and sustains vibrant communities, a thriving natural environment and a robust economy, where people can live their best lives now and for future generations.

## GOALS

1.

Reduce Cayman's vulnerability and enhance our resiliency to climate change

2.

Promote sustainable, low or zero carbon economic activity

3.

Establish a governance framework for climate action which is future-focused, fair to all, accountable and transparent

## POLICY OBJECTIVES



INTERWOVEN EQUITY



ROBUST ECONOMY



LIVEABLE BUILT ENVIRONMENT



HEALTHY AND RESILIENT COMMUNITIES



RESILIENT INFRASTRUCTURE NETWORKS



HARMONY WITH NATURE



INTEGRATION AND COORDINATION

## GUIDING PRINCIPLES

SUSTAINABLE DEVELOPMENT

PUBLIC PARTICIPATION AND COLLABORATION

INTER- AND INTRA GENERATIONAL EQUITY

BEST AVAILABLE SCIENCE AND TECHNOLOGY

MULTI-SECTORICAL APPROACH TO CLIMATE CHANGE

PRECAUTIONARY PRINCIPLE

EQUALITY AND NON-DISCRIMINATION

GOOD GOVERNANCE

POLLUTER PAYS

## 2 | INTRODUCTION

The Climate Change Policy 2023-2040 aims to deliver a robust strategy for responding to the current and anticipated adverse risks of climate change on the economy, society and natural environment of the Cayman Islands over the next 17 years.

The Policy recognises that a combination of actions are required to effectively address the challenge of continued climate change. In doing so, it contains measures for responding to the inevitable impacts of a warming world (adaptation) and measures required to curb greenhouse gas emissions from activities that contribute to continued climate change (mitigation). When taken together, these actions are cost-efficient and more likely to result in a low or zero carbon, climate-resilient future for the Cayman Islands.

Funding for local climate action made available through the national budget or with United Kingdom support is critical given the difficulty for the Cayman Islands to access the international climate finance system.

It will, therefore, be important to ensure climate action is integrated into existing economic as well as physical development planning and budget cycles. In addition, building partnerships with non-state actors in the private sector, local communities, and regionally on cross-sectoral policies and plans will ensure interventions at all scales reflect timely climate adaptation, mitigation and resilience outcomes.

The Climate Change Policy 2023-2040 is published and available for download on a microsite established under the Ministry of Sustainability and Climate Resiliency's website: [www.gov.ky/sustainability/climatechange/policy](http://www.gov.ky/sustainability/climatechange/policy).

### 2.1 BACKGROUND

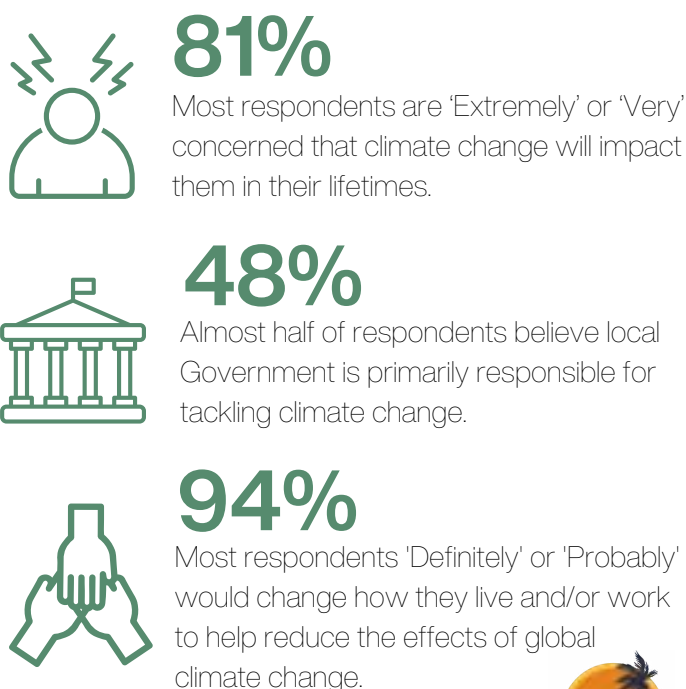
In 2011, the National Climate Change Committee delivered the consensus-based 'Achieving a Low Carbon Climate-Resilient Economy: Cayman Islands' Climate Change Policy' under the UK Department for International Development-funded Enhancing Capacity for Adaptation to Climate Change (ECACC) in the UK Caribbean Overseas Territories Project (2007-2011) with the support of the Caribbean Community Climate Change Centre in Belize. This draft policy set out priority

climate adaptation and mitigation actions for the initial five years after anticipated endorsement by Cabinet.

However, the policy remained in draft and left recommended longer term interventions sitting in the technical Green Paper, 'Climate Change Issues for the Cayman Islands: Towards a Climate Change Policy', and the 'Vulnerability and Capacity Assessment of the Climate Change and Sea-Level Rise Impacts on The Cayman Islands' Tourism Sector'. Some components of the draft 2011 policy have been implemented, for example, the passage of the National Conservation Act in 2013 and the National Energy Policy in 2017.

Recognising that local views on and understanding of climate change may have evolved in the interim, the Ministry of Sustainability and Climate Resiliency conducted a month-long public survey in 2022 (see Diagram 1) which received over 1,000 responses. The full survey report, available at [www.gov.ky/sustainability/climatechange/policy](http://www.gov.ky/sustainability/climatechange/policy), provides a clearer appreciation for the concerns about the impacts of climate change on residents' lives and livelihoods and their willingness to collectively address them.

Diagram 1. Climate Change Risk Assessment 2022 Public Survey Results



Acknowledging important advancements in climate science over the last decade, the Cayman Islands Government in partnership with the Centre for Environment Fisheries and Aquaculture Science (Cefas) and the UK Centre for Ecology and Hydrology (UKCEH), undertook a Climate Change Risk Assessment (CCRA) in 2021-2022. Funded by the United Kingdom's Conflict, Stability and Security Fund, the Cayman Islands CCRA utilised a robust methodology that the UK Government has been using for its risk assessments for over 10 years. The full Cayman Islands Climate Change Evidence Report and a non-technical summary are available for download at:

[www.gov.ky/sustainability/climatechange/policy](http://www.gov.ky/sustainability/climatechange/policy)

The risk assessment utilised several sources of data, including peer-reviewed literature on global and regional climate science, and impact and vulnerability studies. These have also informed international climate treaties such as the Paris Agreement which aims to limit the global average temperature rise to 1.5°C above pre-industrial levels before the end of this century. The scientific consensus is that crossing this 1.5°C threshold risks cascading and irreversible climate impacts which will have profound environmental and societal consequences. Global average temperature rise currently sits at about 1.2°C above pre-industrial levels, with overshoot being well before 2100, posing an existential threat to small, low-lying states like the Cayman Islands.

The CCRA utilised, locally collected data, and global and Caribbean warming scenarios and modelling outputs, providing higher confidence on the likely impacts to the Cayman Islands' environmental and social sectors and the economy at large. Diagram 2 shows the projected climate changes for the Cayman Islands.

Risks and impacts resulting from these expected climatic changes, including current climate impacts or observed trends, were initially assessed by Cefas and UKCEH and subsequently ranked by local and regional experts at a technical workshop in May 2022. Of the 50 risks evaluated, 18 were deemed 'severe,' from which nine comprised threats to biodiversity and natural habitats, and nine risks to society, infrastructure and buildings (see Table 1).

An additional 16 risks were considered 'moderate' and needing appropriate climate action. The remaining 16 risks were considered at the time to be 'low-level risks' to either the natural environment or society at large, therefore specific strategies to address them are not included in this policy.

Diagram 2. Climate change projections for the Cayman Islands.



#### AIR TEMPERATURE

- 2050s: 1.57°C - 2.4°C rise
- 2080s: 2.53°C - 3.72°C rise
- Increased 'hot days' and 'hot nights', approx. 30 in every month between July-October
- 'Cool days' and 'cool nights' disappear by mid-century for the summer months and none between May-November



#### RAINFALL

- Changes in rainfall patterns expected with generally heavier rainfall events
- 2020s: drying trend established across Caribbean region
- 2050s: region is 2% drier on average
- 2100: region up to 17% drier
- Cayman area: slightly wetter conditions through to mid-century changing to drier conditions by the end of the century



#### STORMS & HURRICANES

- More 'major hurricanes' (category 4 and 5) expected
- Substantially more rainfall and peak winds intensity



#### SEA LEVEL RISE

- Caribbean trend 2.5-3.0 mm per year between 1960-2014
- 2050s: 0.29 m to 0.32 m rise (Cayman area)
- 2090s: 0.55 m to 0.72 m rise (Cayman area)
- 2100: 0.32 to 1.01 m (global mean sea level rise projected)

Table 1. Prioritised climate change risks to the Cayman Islands.

RISK	OVERALL RISK SCORE	RISK CATEGORY
Disruption of turtle distribution and population dynamics	100	SEVERE
Increased frequency and severity of coral bleaching and coral disease outbreaks	100	SEVERE
Decline of coral reef structure and integrity	100	SEVERE
Damage and inundation to the sewerage system and release of wastewater	75	SEVERE
Disruption to fossil fuel imports, power generation and disruption	75	SEVERE
Impacts on communications infrastructure	75	SEVERE
Disruption to ports and shipping traffic	75	SEVERE
Damage to roads, airports and infrastructure	75	SEVERE
Damage to coastal settlements and buildings	75	SEVERE
Disruption and damage to the tourism sector (and related infrastructure)	75	SEVERE
Loss of endemic species and sub-species as a result of habitat degradation (animals and plants)	75	SEVERE
Loss and damage to mangroves	75	SEVERE
Loss and damage to seagrass beds or change in seagrass distribution	75	SEVERE
Freshwater lens contraction and salinisation of surface and groundwaters	75	SEVERE
Impact on forest, woodland and shrubland communities	75	SEVERE
Storm damage to arable and horticultural agricultural	67	SEVERE
Decline in natural assets that underpin tourism	67	SEVERE
Increases in the occurrence of Sargassum seaweed	67	SEVERE
Losses in artisanal fisheries yield, with impacts on food security and incomes	50	MODERATE
Increasing heat and water stress for crops and forage plants	50	MODERATE
Impacts on livestock	50	MODERATE
Impacts on demand for, and supply of building materials	50	MODERATE
Shortage of water for agriculture and irrigation	50	MODERATE
Damage to inland settlements and buildings	50	MODERATE
Damage to archaeological and cultural heritage sites as well as disruption of cultural events	50	MODERATE
Heat and humidity related health impacts and mortality	50	MODERATE
Increase in direct mortality and injury from hurricane/storm/flood events	50	MODERATE
Loss of coastal protection function associated with removal of coral reefs, mangroves, seagrass and beaches	50	MODERATE
Decline in carbon sequestration and storage function of vegetative habitats	50	MODERATE
Changes in the distribution and abundance of large offshore pelagic fish	50	MODERATE
Disruption of seabird population dynamics	50	MODERATE
Changes to populations of resident and migratory bird species (terrestrial)	50	MODERATE
Impacts on insect and vertebrate pollinators	50	MODERATE
Impacts on fresh (but brackish) water wetland vegetation and biodiversity	50	MODERATE



The risk assessment has helped to identify gaps in the previous draft policy and build urgency and rigour into proposed adaptation planning and resiliency measures. While the CCRA did not include an updated assessment of risks to or opportunities presented by the Financial Services sector, interventions in the draft 2011 Climate Change Policy were reviewed and revised based on focus group sessions held with key stakeholders from this sector.

It is therefore crucial that the Cayman Islands has a robust climate change policy designed in collaboration with a wide spectrum of stakeholders to ensure the country can promote and sustain vibrant communities, a thriving natural environment and a robust economy, now and for future generations. The Climate Change Policy 2023-2040 has been developed to provide strategic guidance in the delivery of such climate resiliency in the Cayman Islands.

## 2.2 PURPOSE & SCOPE OF THE POLICY

### Local Context

This Climate Change Policy 2023-2040 serves as an updated framework within which to address the multifaceted risks to, and widespread challenges for, the Cayman Islands presented by a rapidly changing climate. It reflects the whole-of-government approach needed and taken to date to effectively tackle climate change, recognising the integrated nature of policy development and delivery.

The Policy aims to enable the country’s various sectors to not only avoid or simply bounce back from disastrous circumstances should they occur, but in some instances to even bounce forward into a new paradigm of climate resilience. Resiliency is a competitive advantage; it reduces the risk-adjusted return making projects more tenable for investors to minimise their risk. This in turn provides investor confidence in the Cayman Islands.

The Policy seeks to advance quick wins and ‘no regrets’ options that strengthen sustainable development. These are cost-efficient climate action with adaptation, mitigation and resilience co-benefits, such as nature-based solutions to enhance coastal protection, address flooding and storm water management, and sustain local livelihoods.

The Policy’s economy-wide coverage has several

benefits, namely:

- Measures to build climate resilience at scale through food, water and energy security, physical development and infrastructure hardening, and institutional and individual capacity building, which serve to support robust tourism and financial services sectors and supporting activities.
- Addresses risks previously identified but omitted from the draft 2011 policy which only covered interventions deemed necessary in the immediate and short terms; leaving human health and health care-related risks largely unaddressed.

The strength of this Policy is that it will better cater to the vulnerable groups within society and the climate-sensitive sectors of the economy, such as tourism and traditional agriculture. These and other at-risk groups and sectors have been identified through the review of the 2021 Population and Housing Census Report, and further refined during stakeholder and focus group consultations. A critical aspect of this Policy will be determining whether the right set of indicators have been selected to properly evaluate adaptation responses taken toward enhanced climate resiliency in these areas.

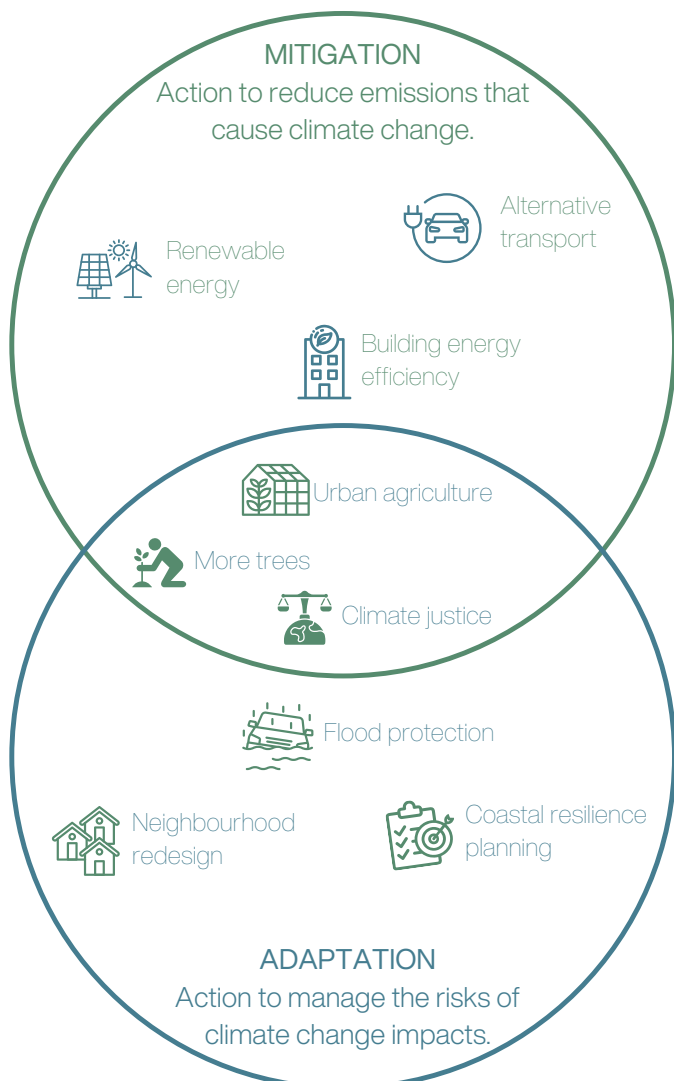
The Policy builds on the foundations of, and demonstrates strong synergies with, the United Nations Sustainable Development Goals, the Sendai Framework for Disaster Risk Reduction, the 2030 Biodiversity Pledge, and alignment with national priorities laid out National Energy Policy, Food & Nutrition Security Policy, National Tourism Plan, and an updated National Development Plan.



The Climate Change Policy 2023-2040 helps structure the creation, amendment and implementation of legislation needed to foster and sustain a climate-resilient society and robust economy by urgently reducing further contributions to climate change (mitigation) and responding to the inevitable impacts of a changing climate (adaptation) to ensure a low or zero carbon climate-resilient future for the Cayman Islands (see Diagram 3 for examples).

It builds on the Cayman Islands Constitution Order 2009, particularly Bill of Rights, Freedoms and Responsibilities Section 18 Protection of the environment, which requires Government to “adopt reasonable legislative and other measures to protect the heritage and wildlife and the land and sea biodiversity of the Cayman Islands that: (a) limit pollution and ecological degradation; (b) promote conservation and biodiversity; and (c) secure ecologically sustainable development and use of natural resources.”

Diagram 3. Adaptation and mitigation climate actions and co-benefits.



Adapted from City of Calgary, Canada.

The Policy identifies areas where legislative action may be necessary to reinforce Government’s constitutional obligations to have due regard in its decisions to the need to foster and protect an environment that is not harmful to the health or well-being of present and future generations, while promoting justifiable economic and social development.

Legislation may be required to establish and give effect to the oversight body responsible for implementing and periodically reviewing this Policy. In addition, it is also suggested that a bespoke fund be established to finance the timely and ongoing implementation of adaptation and mitigation measures set out in the implementation plan.

### International Context

This Policy helps the Cayman Islands further satisfy commitments under various climate treaties and other conventions (e.g., Convention on Biological Diversity), and further global mitigation and adaptation agendas in the context of meeting national sustainable development aspirations.

By extension of the United Kingdom’s ratification in March 2007, the Cayman Islands has been an affiliate party to the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol. The Cayman Islands’ current commitments agreed with the UK are twofold:

- To collate and submit information for an annual national inventory of anthropogenic (human-caused) emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, which is reported annually to the UNFCCC Secretariat as part of the United Kingdom’s National Inventory Report; and
- To formulate and regularly update nationally-determined, cost-effective policies and measures to protect the climate system against human-induced change and to deal with the adverse effects of climate change. These policies and measures should be integrated with national development programmes and promote sustainable development.



More recently, the Cayman Islands formally requested extension of the UNFCCC's 2015 Paris Agreement, which has three main objectives (see Diagram 4):

- Long-term goal of limiting global average temperature to 1.5°C above pre-industrial levels;
- Enhance adaptation and foster climate resilience in a manner that does not threaten food production;
- Align finance flows with a low greenhouse gas emissions pathway and climate-resilient development.

The Paris Agreement extension to the Cayman Islands and other United Kingdom Overseas Territories (UKOTs) demonstrates the UK's commitment to international best practice, transparency, and inclusion. The treaty's 5-year policy cycle provides a framework for UKOTs to organise their response to climate change consistent with the approach taken by the UK and other Parties, receive advice, and engage in knowledge-sharing to strengthen national response plans. The UK is committed to working collaboratively with the UKOTs on implementation of the Paris Agreement, including convening joint working groups to meet the requirements of the treaty.

The extension will bring the Cayman Islands into scope of the UK's ambitious Nationally Determined Contribution (NDC) targets, which include an economy-wide target of 68% reduction in greenhouse gas (GHG) emissions by 2030 compared to 1990 levels, as outlined in its 'Net Zero Strategy: Build Back Greener' (HM Government 2021). This Strategy commits the UK to the fastest rate of reducing GHG emissions on 1990 levels of any major economy and establishes its longer-term pathway towards the Paris-aligned goal of net zero by 2050.

While UKOTs and Crown Dependencies contribute only 1% of total UK emissions, the Cayman Islands seeks to play its part in tackling global climate change by adopting national GHG emissions reduction targets that align the country with those of the UK. Interim targets may be updated upon each review cycle to further progress towards the longer-term net zero target. This Climate Change Policy 2023-2040, alongside an updated National Energy Policy, should serve our islands well in joining with the international community to reach these global goals.

Diagram 4. Main aims of the Paris Agreement.



Hold the global average temperature to well below 2°C compared to pre-industrial levels but aspire to 1.5°C.



Enhance resilience and adaptation to climate impacts certain to occur, ensuring food security.



Align financial flows with a low greenhouse gas emissions pathway and climate-resilient development.

*Adapted from Yale Sustainability (2020)*



### 3 | SITUATIONAL ANALYSIS

Like most small island states, the degree to which the Cayman Islands is vulnerable to climate and environmental change depends on a number of inherent characteristics. The island archipelago is small, low-lying, remote from its sovereign, and located within the Caribbean Sea hurricane belt, factors which increase its exposure to climate change and variability, in particular the potentially devastating winds and floodwaters of tropical storms each year.

In 2010, annual losses for the Cayman Islands from climate risks such as hurricane-induced winds, coastal flooding from storm surge and inland flooding from both hurricanes and tropical systems were estimated by the Caribbean Catastrophe Risk Insurance Facility (CCRIF) at 5% of local gross domestic product (GDP), with annual expected losses to increase to 7% by 2030 if global GHG emissions remained high or largely unmitigated (i.e. a 'business-as-usual' scenario keeping global warming above 2°C by the end of the century). This study on the economics of climate change revealed that with a suite of adaptation measures, up to 89% of this anticipated loss could be avoided.

As of 2019, the Cayman Islands remained among the top 10 countries to experience the highest economic losses as a percentage of GDP (9.1%) to storms, mostly as a result of a single disaster event, i.e. Hurricane Ivan (see Figure 1).

Albeit significant, hurricanes are only one of several other climate hazards that Cayman society must plan for, respond to, and recover from (see Diagram 5). Heat waves, drought, and extreme rainfall are other acute hazards resulting from climate variability. Chronic or slow onset hazards include sea level rise, water salinisation, and ocean acidification. The emergence of new weather patterns can trigger ecological changes that impact society.










The Cayman Islands CCRA assessed 50 risks across all three islands. Each island has socio-ecological similarities and differences, resulting in some risks being more relevant to one island with respect to another. Overall 18 risks were deemed 'severe' (scoring 67 and above), suggesting agreement among local and regional experts that significant impacts could materialise in the near future. Of the severe risks, nine comprised threats to society, infrastructure and buildings, and nine to biodiversity and natural habitats. An additional 16 were deemed 'moderate' risks (scoring 50), given their significance but varied confidence in the anticipated timeframe or level of severity.

Figure 1. The Cayman Islands is among the most disaster-affected Caribbean nations by economic losses.



Source: CRED-UNDRR (2020) Human cost of disasters: An overview of the last 20 years 2000-2019

Diagram 5. Physical climate change impacts affecting the Cayman Islands.

-  Changes in storms, cyclones, winds, waves and storm surges
-  Changes in ocean circulation
-  Changes in freshwater input
-  Ocean acidification (declining pH)
-  Changes in salinity
-  Sea-level rise
-  Increasing air and sea temperature (including humidity)
-  Increasing coastal erosion
-  Decreasing dissolved oxygen (of seawater)





The Cayman Islands' vulnerability is also influenced by unfolding realities at the national to household levels and across the biophysical, socioeconomic, political, and institutional spectrum. Productive resources (e.g., built, social, and natural capitals) that are poorly managed can further weaken the islands' climate resiliency. It is important, then, to consider the dynamics between these dimensions, as well as how activities within the different sectors of society and the economy impact one another. Synergies can be maximised and unsustainable tradeoffs avoided with an integrated approach and coordinated strategies that satisfy a range of scenarios, recognising their timescales and inherent uncertainties.

The following dimensions of Cayman's socio-ecological system have been identified as requiring prompt attention to ensure their viability in the face of local climate risks:

-  Human settlements and infrastructure
-  Human health
-  Biodiversity
-  Tourism
-  Agriculture and fisheries
-  Financial services
-  Energy supply
-  Transport
-  Business
-  Land use change
-  Waste management



### 3.1 HUMAN SETTLEMENTS & INFRASTRUCTURE

Human settlements and infrastructure can be negatively impacted by a number of climate-related events. Catastrophic events like major hurricanes (category 3 and above) can cause widespread destruction across society in a single day, while risks like sea level rise slowly erode the coast and salinise water lenses.

Other types of infrastructure to consider are water and utility distribution networks, sewage treatment, and telecommunications, all of which can fail during major storms exposing communities to unsafe conditions. Stormy conditions can result in the closure of ports, roads and airports, slowing the economy and peoples' ability to access goods and services.

Changing weather patterns can impair inland settlements and infrastructure through flooding from intense rainfall as well as storm-surge events given the proximity of communities on all three islands to the coast.

As shown in Table 2, six severe risks and four moderate risks to human settlements and infrastructure across the Cayman Islands were identified by the CCRA. It will be more cost-effective to address these risks in the short-term than deferring the investment, resulting in higher economic and social ramifications.

Table 2. Prioritised risks to human settlements and infrastructure in the Cayman Islands.

RISK	OVERALL RISK SCORE	RISK CATEGORY
Damage and inundation to the sewerage system and release of wastewater	75	SEVERE
Disruption to fossil fuel imports, power generation and distribution	75	SEVERE
Impacts on communications infrastructure	75	SEVERE
Disruption to ports and shipping traffic	75	SEVERE
Damage to roads, airports & infrastructure	75	SEVERE
Damage to coastal settlements and buildings	75	SEVERE
Impacts on demand for, and supply of, building materials	50	MODERATE
Damage to inland settlements and buildings	50	MODERATE
Damage to archaeological and cultural heritage sites as well as disruption of cultural events	50	MODERATE
Loss of coastal protection function associated with removal of coral reefs, mangroves, seagrass & beaches	50	MODERATE





### 3.2 HUMAN HEALTH

The health of individuals and households largely depend on environmental conditions, as well as the integrity of ecosystems. Observable changes in weather trends have already occurred and are predicted to continue, altering daily life in these islands. Of greatest concern is the direct harm to human health from higher average temperatures and the dangers of more severe storms. Indirect impacts to health can also occur when, for example, people cannot access medical care, or households suddenly fall into economic hardship.

Extreme temperatures can compromise the body's ability to regulate its internal temperature resulting in illnesses, such as heatstroke and heat exhaustion, and worsening chronic health conditions. Children, pregnant women and the elderly, are particularly susceptible to the human health impacts of increased temperatures.

A person's chance of contracting a water-borne illness, or being exposed to disease-carrying mosquitos may increase as stagnant, freshwater areas expand from downpour events.

Of particular concern to human health are two moderate risks identified in the Climate Change Risk Assessment which are highlighted in Table 3.

Table 3. Prioritised risks to human health in the Cayman Islands.

RISK	OVERALL RISK SCORE	RISK CATEGORY
Heat and humidity related health impacts & mortality	50	MODERATE
Increase in direct mortality & injury from hurricane/storm/flood events	50	MODERATE



### 3.3 BIODIVERSITY

Biodiversity is a building block of ecosystems, and is thus a fundamental driver of productivity across all sectors of Cayman society. Extreme events can disrupt or destroy habitat that is being altered by human activities, making the climate and biodiversity crises inextricably interconnected.

Diverse, intact ecosystems are able to provide higher quality services than simplified, degraded ecosystems. Our people depend on these services to sustain their quality of life and buffer against climate risks. Marine ecosystems are particularly sensitive to increasing temperatures and acidity and shifting coastlines, jeopardizing the long-term survival of culturally and economically important sea turtles and coral reefs.

Another concern is the permanent loss of endemic species and sub-species, of which the islands hosts around 17 vertebrate, 61 invertebrate, and 28 terrestrial plant and marine species. Fauna and flora uniquely adapted to these islands over millennia may struggle to persist or evolve under the relatively rapid onset of new conditions.

The CCRA identified seven severe risks and six moderate risks to the nation's terrestrial, marine, and coastal biodiversity which can be seen in Table 4.

Table 4. Prioritised risks to biodiversity in the Cayman Islands.

RISK	OVERALL RISK SCORE	RISK CATEGORY
Disruption of turtle distribution and population dynamics	100	SEVERE
Increased frequency and severity of coral bleaching and coral disease outbreaks	100	SEVERE
Decline of coral reef structure and integrity	100	SEVERE
Loss of endemic species and sub-species as a result of habitat degradation (animals and plants)	75	SEVERE
Loss and damage to mangroves	75	SEVERE
Loss and damage to seagrass beds or change in seagrass distribution	75	SEVERE
Impact on forest, woodland and shrubland communities	75	SEVERE
Decline in carbon sequestration and storage function of vegetative habitats	50	MODERATE
Changes in the distribution and abundance of large offshore pelagic fish	50	MODERATE
Disruption of seabird population dynamics	50	MODERATE
Changes to populations of resident and migratory bird species (terrestrial)	50	MODERATE
Impacts on insect and vertebrate pollinators	50	MODERATE
Impacts on fresh (but brackish) water wetland vegetation and biodiversity	50	MODERATE





### 3.4 TOURISM

The tourism sector is one of the two main pillars of the nation's economy, representing approximately 20-25% of GDP in 2020. Many visitors come to the islands in search of 'sand, sea, and sun'. These themes are central to the services offered by tour operators, hotels, event planners, and other tourism stakeholders.

Tourism is climate- and nature-dependent, and as such, its importance to household income and the economy as a whole underscores the need to address the immediate and long-term climate risks to this industry. The natural resources that underpin tourism, and the infrastructure and services that facilitate it, are the main focus here. For instance, a well-known issue is coastal erosion and subsequent retreat of beaches and shoreline; these issues are exacerbated by sea-level rise, changes in currents, and stronger storms.

Warmer ocean temperatures degrade the health of marine ecosystems through various pathways including Sargassum seaweed blooms, and bring into question the viability of snorkeling and diving. Eco-tours that rely on the presence of birds or mangrove habitat may struggle to provide a quality experience. The direct threat of storms deter visitors, and can damage restaurants and attractions. These issues ultimately compromise the current image and status of the Cayman Islands, ultimately effecting the long-term sustainability of this industry.

The CCRA found three severe risks to the tourism sector which can be seen in Table 5.

Table 5. Prioritised risks to tourism in the Cayman Islands.

RISK	OVERALL RISK SCORE	RISK CATEGORY
Disruption and damage to the tourism sector (and related infrastructure)	75	SEVERE
Decline in natural assets that underpin tourism	67	SEVERE
Increases in the occurrence of Sargassum seaweed	67	SEVERE



### 3.5 AGRICULTURE & FISHERIES

The agricultural sector plays an increasingly important role in contributing to the country's resiliency to climate related shocks, at both the local and international levels.

Locally, the productivity of agriculture as it exists today is predicted to decline due to less consistent rainfall, contraction of freshwater lenses, and damage from storms and flooding. Abroad, shifting crop ranges, yields and failures could impact supply chains and local prices. Imports could be delayed during stormy weather, with ships unable to dock in our harbours.

In light of these issues, it is necessary to develop and implement agricultural methods and plans that are adaptive and regenerative, and can meet a target proportion of the population's food and nutritional needs.

Fisheries are another component of food and income security, which is vulnerable to increasing sea temperatures. The distribution of target species may shift as they move into cooler waters. Fishing for subsistence, supplementary income, recreation, and tourism is important for segments of Cayman society, and represents a valued cultural practice.

Together, agriculture and fisheries contributed approximately 0.4% to overall GDP as of 2020. Growing and helping these sectors improve their resilience also creates the opportunity to increase their benefits to society.

Two severe risks and four moderate risks to agriculture and fisheries were outlined by the CCRA in Table 6.

Table 6. Prioritised risks to agriculture and fisheries in the Cayman Islands.

RISK	OVERALL RISK SCORE	RISK CATEGORY
Freshwater lens contraction and salinisation of surface and groundwaters	75	SEVERE
Storm damage to arable and horticultural agriculture	67	SEVERE
Losses in artisanal fisheries yield, with impacts on food security and incomes	50	MODERATE
Increasing heat and water stress for crops and forage plants	50	MODERATE
Impacts on livestock	50	MODERATE
Shortage of water for agriculture and irrigation	50	MODERATE





### 3.6 FINANCIAL SERVICES

Climate change is increasingly considered a financial risk, especially when it compounds existing ecological and economic risks. A climate-changed world has the potential to impact the stability of the financial and insurance services sector, which directly contributed 34.3% and indirectly 50% to the Cayman Islands economy in 2020.

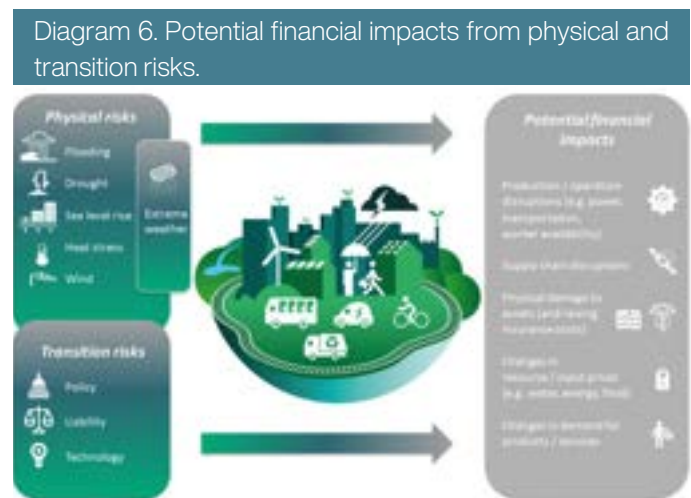
Climate-related financial risks include both physical and transition risks. Physical risks include damage to assets exacerbated by environmental degradation and extreme weather resulting in disruption to production systems or supply chains affecting prices of goods or services. Transition risks are those associated with the shift to a low carbon economy, such as radical policy, regulatory or technological changes, or changing consumer preferences, that result in consequences for financial markets, investments, pension funds or insurance companies, or legal liability affecting carbon emitters or insurers, etc. (see Diagram 6). The Cayman Islands Insurance Association has warned that property insurance premium rates are set to increase 15-30% in 2023 depending on the type of construction, protections, site location and elevation of the insured property.

However, opportunities arise in this sector from managing risks for clients and embracing technological or service innovation. (See examples related to the Banking Sector in Table 7).

UK and EU regulators in particular are planning for and facilitating sustainable investment and growth through the development of ‘green finance.’ This has spurred the adoption of directives, supervisory guidelines and risk management standards, including scenario-based tools for managing future climate-related risks and uncertainty, such that markets are responding favourably to more sustainable and climate-resilient portfolios and projects. This has driven the demand for qualified financial experts, including actuaries and other ‘green collar’ professionals.

Climate-related risk valuation and disclosures are becoming more commonplace in financial and Environment, Social and Governance (ESG) reporting frameworks and corporate practices worldwide.

Strategies for hardening Cayman’s financial services sector and deriving maximum benefits from market-driven opportunities must be formulated.



Source: Center for International Climate Research

Table 7. Climate-related risks and opportunities for the banking sector.

Banking class	Examples of risks	Examples of opportunities
Corporate banking and project financing	<ul style="list-style-type: none"> <li>Reduction in competitiveness of GHG-intensive business clients due to higher mitigation costs</li> <li>Higher costs for consumers of energy due to new mitigation policies</li> <li>Price volatility on carbon markets and carbon-related products</li> <li>Reputational risks due to investments in controversial energy projects (e.g. large dams, nuclear power)</li> </ul>	<ul style="list-style-type: none"> <li>Risk management services for clients affected by the EU ETS</li> <li>Carbon trust services (administration and custody of client’s emission allowances accounts)</li> <li>Carbon project finance services (UCDM)</li> </ul>
Investment banking and asset management	<ul style="list-style-type: none"> <li>Investment in immature technologies</li> <li>Additional costs due to changes in weather patterns e.g. in the utilities sector</li> </ul>	<ul style="list-style-type: none"> <li>Trading services in the EU ETS</li> <li>Offering weather derivatives</li> <li>Set-up of carbon fund and fund custody</li> </ul>
Retail banking	<ul style="list-style-type: none"> <li>Direct losses due to drought, precipitation, soil erosion, flood</li> <li>Policy change, e.g. termination of subsidies for renewable energies</li> </ul>	<ul style="list-style-type: none"> <li>Microfinance for climate-friendly activities</li> <li>Advisory service in the field of loans for small sized renewable energy projects</li> </ul>

Source: Allianz Group and WWF (2005). Climate Change and the Financial Sector: An Agenda for Action, June 2005.





### 3.7 ENERGY SUPPLY

Public electricity supply from diesel-powered generation plants is the main contributor to greenhouse gas (GHG) emissions in the Cayman Islands, accounting for 46% of total emissions in 2019 (see Figure 2), which stood at 1.20 MtCO<sub>2</sub>e (Megatonnes of carbon dioxide equivalent) as shown in Figure 3. This sector is the primary source of carbon dioxide emissions which make up the bulk of greenhouse gases emitted in the country and worldwide. In addition to being a point source for GHG emissions, pollution from power plant smokestacks are air quality and public health concerns.

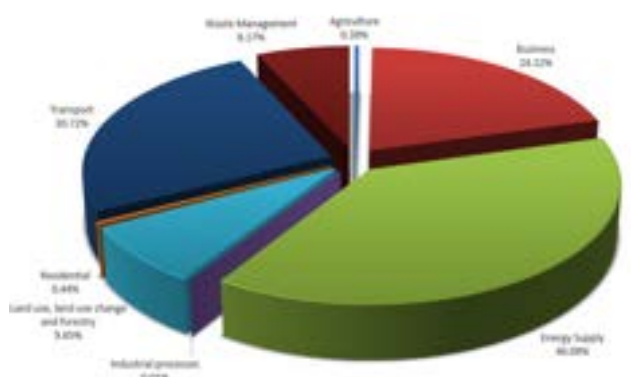
The National Energy Policy 2017-2037 (NEP) established two high-level targets: 70% of total electricity generation to come from renewable sources by 2037 and to reduce GHG emissions to 4.8 tCO<sub>2</sub>e (tonnes of carbon dioxide equivalent) per capita by 2030, which represents a 60% reduction on 2014 levels of 12.3 tCO<sub>2</sub>e. The primary means of this energy transition is distributed generation solar and utility-scale solar, commencing in 2017 with the commissioning of a 5 MW solar power plant in Bodden Town, Grand Cayman. While the plant has delivered 9.4 GWh of clean electricity annually and avoided over 4.2 tonnes of GHG emissions, it accounts for only 3% of the country’s total capacity at present.

A further approximately 6% is represented by 10.4 MW of distributed solar capacity in Grand Cayman, with no grid-connected installations on the Sister Islands. This lag in policy implementation saw a continued upward trend in electricity-related emissions since 2014 (see Figure 3) and overall GHG emissions per capita rise to 17.1 tCO<sub>2</sub>e in 2019, exceeding peak emissions ascribed in the NEP. As the overall population continues to increase, causing extra energy demands from the grid, a higher level of ambition for this sector and quicker paced transition rollout are needed to close this emissions gap.

Presently, 135 MW of utility-scale solar is planned by 2030 but may increase with the addition of the 23 MW

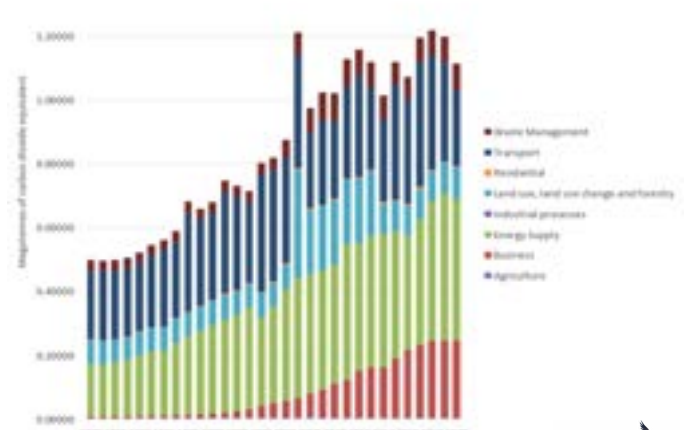
of Dispatchable Solar PV facility online by 2025. An additional 12 MW of capacity for distributed generation will be made available after the commissioning of a 20 MW utility-scale battery, but may also increase if more energy storage is added to the grid before 2030. These projects would place the Cayman Islands on a pathway to achieve 38% renewable energy penetration by 2030 and enhance national energy security in accordance with the NEP objectives.

Figure 2. Cayman Islands GHG emissions (2019) by sector.



Source: Aether (2022). United Kingdom National Atmospheric Emissions Inventory 2022 Submission

Figure 3. Cayman Islands GHG emissions (1990-2020) by sector.



Source: Aether (2022). United Kingdom National Atmospheric Emissions Inventory 2022 Submission





### 3.8 TRANSPORT

The transportation sector is the second largest contributor of both CO<sub>2</sub> and GHG emissions in the Cayman Islands, accounting for over 30% of total GHG emissions in 2019 (Figure 2). Vehicle registrations in 2022 totaled 61,741 with over 98% being gasoline, diesel, or propane. Tail pipe pollution from fossil-fuel vehicle stock, especially the volume of imported second hand cars, augment general air quality concerns. As of 2022, there are 347 hybrid or low-emissions vehicles (LEVs) and 459 electric vehicles (EVs), helped largely by reduced import duties for these vehicles.

Given EV options are available for virtually all vehicle classes and becoming more affordable generally, the Government continues to assess opportunities to increase their uptake, promote electric vehicle conversions, and provide maintenance training to support this sector's clean energy transition. Electric vehicles can reduce emissions even when charged from the electricity grid, as the emissions factor for gasoline is lower than that of diesel-powered generation plants.

Further greening of the grid with additional renewable energy resources offers greater potential for emissions reduction from EVs. Once the grid is 100% renewable, EV charging will be as well. The rate of EV adoption can be influenced by policy levers such as government vehicle mandates and further duty reductions.

A significant uptake in EVs may impact renewable energy production and storage. Despite this, the Utility Regulation and Competition Office (OfReg) of the Cayman Islands considers Vehicle-to-the-Grid (V2G) electricity storage to be a viable renewable energy source, which would reduce transportation emissions and provide grid stability. However, grid modernisation and regulatory policy will have to be changed to accommodate this.

These efforts need to be scaled up at a quicker pace, as well as electrification of an affordable and reliable public transportation system and commercial subsectors still dependent on dirty heavy duty vehicles.

Opportunities must also be sought for the domestic aviation, fishing and shipping interests to participate in climate action that reduces the country's overall GHG emissions while increasing cost-efficient operations and compiling with international regulations.



### 3.9 BUSINESS

As the third major contributor to greenhouse gas emissions in the Cayman Islands, accounting for 24% of total emissions in 2019 (Figure 2), businesses have a significant role to play in furthering the country's climate-resiliency goals.

Business emissions are primarily generated from stationary air conditioning. Other emissions sources are commercial and institutional Liquefied Petroleum Gas (LPG) usage, and commercial, industrial and transport refrigeration which produce man-made hydrofluorocarbons (HFCs) that do not contribute to ozone depletion but some are potent greenhouse gases.

Commonly occurring in the Cayman Islands is HFC-134a, found in R-134A refrigerant. It has a global warming potential (GWP) of 1,470 over 100 years - meaning it is nearly 1,500 times more destructive to the climate system than carbon dioxide - but its ozone depleting potential (ODP) is zero. HFC-125 and HFC-143a are also found in refrigerants used in this sector, with even more potent GWPs of 3,500 and 4,470, respectively. As the population and business-related economic activity continue to grow, so too do GHG emissions originating from mobile air conditioning and medical applications. Although these gases are emitted in smaller quantities than CO<sub>2</sub>, they are still important to curb due to their high warming potential.





### 3.10 LAND USE CHANGE

Land use change is the fourth largest contributor to greenhouse gas emissions in the Cayman Islands, accounting for nearly 10% of total emissions in 2019 (Figure 2).

Decades-long economic policies that fostered rapid population growth and unchecked physical development have resulted in large-scale conversion of forested areas and wetlands to urbanscape and settlements. For example, Grand Cayman's western peninsula has seen a 72% reduction in mangrove forests since 1976 to largely make way for expansive canal-style development. (The 2007 spike in this sector's emissions seen in Figure 3 likely represents this development activity, heightened post-Hurricane Ivan economic recovery stimulus, and improved inventory data and methodologies).

Overlooking the protective value of natural environments can result in the removal or alteration of ecosystem services to the detriment of the economy and local communities by increasing vulnerabilities of already impacted socio-economic groups and creating new vulnerabilities where they did not previously exist.

In order to meet international commitments and preserve vital ecosystem services for climate resiliency, land use policies that re-balance the proportion of natural areas as GHG sinks and reservoirs and also support nature-based solutions for flood management, are urgently needed.



### 3.11 WASTE MANAGEMENT

Waste management practices in the Cayman Islands contributed just over 8% to the overall GHG emissions calculated for the year 2019 (Figure 2). While carbon dioxide (CO<sub>2</sub>) is by far the most significant GHG produced in the country by volume, methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) from municipal solid waste disposal, human wastewater treatment and animal manure management are sources requiring controlled activities.

GHG emissions are due to increase under the new Integrated Solid Waste Management System (ISWMS) - now known as ReGen, Cayman's Energy & Recycling Centre - arising from recycling and composting activities, medical waste incineration and the Energy Recovery Facility which will produce up to 9.3 MW of electrical power (currently representing approximately 9% of the total average electrical power consumption on Grand Cayman). Improved techniques in residual waste landfilling and landfill gas recovery as part of the George Town landfill closure plan will likely reduce overall CH<sub>4</sub> emissions.

There is currently no legislation governing testing and reporting air emissions in the Cayman Islands. This could have implications for making progress on mitigation targets, as accurate reporting of GHG emissions data is needed. In addition, toxins and other contaminants from waste incineration, particularly plastics, can release GHGs that are many times more potent than CO<sub>2</sub>. While prohibited, the burning of trash is known to take place on a household level, and these emissions are not included in the above calculation. These concerns speak to the need for legislation that addresses the human health concerns of waste management, as well as the need to mitigate local contributions to climate change. Water pollution from waste management practices should also be considered, as this could increase the vulnerability of inland, coastal and marine systems to climate impacts.



## 4 | POLICY FRAMEWORK

### 4.1 VISION

The Climate Change Policy 2023-2040 aims to achieve a climate-resilient Cayman Islands that promotes and sustains vibrant communities, a thriving natural environment and a robust economy, where people can live their best lives now and for future generations.

### 4.2 GUIDING PRINCIPLES

The transition to a climate-resilient Cayman Islands shall be guided by the following principles:



#### SUSTAINABLE DEVELOPMENT

The foundational basis of this Policy is the promotion of development which meets the needs of the present without increasing the vulnerability, or compromising the ability, of future generations to meet their own needs. Government will seek to implement 'no regrets' solutions that leverage adaptation and mitigation synergies and maintain redundancy to achieve sustainable development benefits.



#### PRECAUTIONARY PRINCIPLE

The lack of full scientific certainty will not deter the Government from implementing the necessary strategies and measures to ensure an effective response to the impacts of climate change. Where there is a chance that the consequences are irreversible or maladaptive, an activity shall not be allowed.



#### MULTI-SECTORAL APPROACH

Mainstreaming climate adaptation and mitigation into national planning frameworks for economy-wide resilience will require alignment and integration of all policies and plans through a multi-sectoral approach. Government shall engage with other non-state actors to ensure economic resilience to cope with climate change and transition to a robust, diversified and circular economy that supports blue and green collar jobs in climate-sensitive and new emerging sectors, and embraces nature-based markets.



#### INTER- AND INTRA-GENERATIONAL EQUITY

Recognising generational equity embedded in the United Nations Sustainable Development Goals and Agenda 2030, Government will promote a just transition to protecting the climate system and creating climate resiliency through policies that do not perpetuate forms of climate or environmental injustice, either now or in the future. Efforts shall be made to identify and implement quick wins to garner a national sense of achievement and fairness, and turn momentum into further climate action.



#### GOOD GOVERNANCE

A whole-of-Government approach shall be taken to manage the inevitable impacts of committed climate warming. Addressing climate change in a rapid but just manner requires the creation of effective institutional, administrative and legislative frameworks supported by broad stakeholder participation and sustainable climate finance. Further oversight and reform will be promoted through the adoption of global principles and reporting frameworks for Environment, Social and Governance (ESG), as well as climate-responsive investment and other climate-related financial disclosures.



#### POLLUTER PAYS PRINCIPLE

In implementing this Policy, the Government shall apply the commonly accepted practice that those who produce the pollution, including greenhouse gas emissions which contribute to climate change, should bear the costs of managing to prevent further damage to the climate system and the environment.



## EQUALITY AND NON-DISCRIMINATION

In recognition of the Cayman Islands Constitution Order 2009 and Bill of Rights, Freedoms and Responsibilities, Government will deliver a gender-balanced policy which protects of the rights of children, older persons, persons with disabilities, and others in vulnerable situations, and builds their adaptive capacities to climate change, including through encouraging learning and participation.



## BEST AVAILABLE SCIENCE & TECHNOLOGY

The Government's approach to climate resilience will be evidence-based, utilising new scientific findings and risk-assessment methodologies consistent with the precautionary approach. Local knowledge will complement scientific information. Science-based targets aimed at reducing emissions to eventually net-zero or carbon negative are strongly encouraged along with the use of resilience scorecards and other tools for monitoring progress. Government will embrace innovation to leverage opportunities and the adoption of appropriate technologies and practical solutions to climate change.



## PUBLIC PARTICIPATION AND COLLABORATION

Society, at all levels and in all sectors, must be adequately informed on the risks and opportunities afforded by climate change. Government shall endeavour to obtain the involvement and participation of all stakeholders in facilitating the transition to a climate-resilient, low-carbon economy, and ensure that such engagement occurs on a fully coordinated and consultative basis. Transparency and willingness to learn from experiences and apply innovative solutions are vital aspects of this collaborative agenda.






## 4.4 GOALS AND POLICY OBJECTIVES

The Policy outlines three key goals which, if successfully achieved over the life of the Policy, will make the Vision a reality and meet the aspirations of the people of the Cayman Islands.

Each of these goals is supported by a number of policy objectives which have been matched to strategies that will protect our communities and natural environment and address threats posed by climate change, while promoting opportunities for equitable economic and social development.


The following policy tools were considered for enabling strategic actions set out in this policy:

-  LEAD BY EXAMPLE
-  REGULATE
-  TAX & SUBSIDISE
-  INVEST
-  INFORM & EDUCATE

### GOAL 1

Reduce Cayman's vulnerability and enhance our resiliency to climate change.

### OBJECTIVES

-  Liveable Built Environment
-  Harmony With Nature
-  Healthy & Resilient Communities

### GOAL 2

Promote sustainable, low or zero carbon economic activity.



### OBJECTIVES

-  Resilient Infrastructure Networks
-  Robust Economy

### GOAL 3

Establish a governance framework for climate action that is future-focused, fair to all, accountable and transparent.

### OBJECTIVES

-  Interwoven Equity
-  Integration and Coordination















#### 4.4.1 STRATEGIES SUPPORTING INTERWOVEN EQUITY

Ensuring that vulnerable groups have the tools and support to sufficiently adapt to the impacts of climate change.

##### 2023 - 2025 | SHORT-TERM PRIORITIES

-  Develop emergency management and evacuation strategies that prioritise vulnerable populations.
-  Review disbursement criteria from the Disaster Fund and other needs-based support programmes and revise as necessary to ensure an adaptive national social protection system exists.
-  Require and incentivise all new affordable housing schemes to meet climate-resilient development criteria.
-  Support the expansion of renewable energy programmes, including rebates and direct resources, to under-resourced communities.

##### 2030 - 2040 | MEDIUM-TERM PRIORITIES

-  Integrate the collection of data on economically and socially vulnerable groups into existing national socioeconomic surveys and formulate appropriate assistance programmes to alleviate further climate risk.
-  Assess the proximity of underserved and vulnerable communities to high quality green infrastructure; launch community greening projects where needed.
-  Identify existing disparities in, and barriers to, health care access and develop resiliency plans to ensure continuity of key services in underserved communities, including improving digital access to information and targeted education and outreach programmes to address health and safety risks.
-  Encourage more in-district workshops and networking opportunities to build individual and household capacities, and strengthen relationships amongst community members.
-  Integrate cross-cutting climate change issues in the academic curriculum at all levels, and give teachers the flexibility to relate to the material at hand.
-  Map community resources and services using Geographic Information Systems (GIS) to geographically represent social, economic and quality of life indicators as a guide to the allocation of resources.








#### 4.4.2 STRATEGIES SUPPORTING A ROBUST ECONOMY

A diverse, resilient economy that is able to withstand and recover from climate change impacts.

##### 2023 - 2025 | SHORT-TERM PRIORITIES CONT.

-  Partner with the banking, insurance and real estate sectors to conduct climate risk analyses to assess their vulnerabilities and identify appropriate responses to, and opportunities arising from, climate change.
-  Require new infrastructure and large development projects to undertake climate risk assessments at the start of the planning process and incorporate climate resiliency measures.
-  Develop and adopt climate-adaptive Management Plans for those protected areas that attract regular visitors such as Stingray City/Sandbar.
-  Investigate the commercial uses and viable markets for Sargassum.
-  Appoint a Sargassum Taskforce drawing from all relevant agencies to develop and implement a National Sargassum Response Strategy and Monitoring Plan for large events.
-  Revise agriculture subsidies to support Ecosystem-based Adaptive agriculture, especially regenerative practices to improve soils ecosystems, crop yields and nutrient densities.
-  Develop a national policy to reduce food waste going to landfill.
-  Continue to implement and refine the Agriculture Business Information System to reduce vulnerabilities in this highly climate-sensitive sector.
-  Develop a national growth strategy to maintain a high quality of life for an optimum population, recognising the capacity of natural systems to sustain ecosystem services, including for climate adaptation.
-  Apply Environmental Impact Assessments, Cost-Benefit Analysis, Multi-criteria analysis and other relevant decision tools to future tourism accommodation and product development proposals to ensure that they do not result in a net decline in natural assets.

##### 2030 - 2040 | MEDIUM -TERM PRIORITIES

-  Identify existing sectors in terminal decline due to long-term climatic changes and foster new opportunities in sectors that prioritise innovative and sustainable economic diversification, and provide access to financial and technical resources for small and medium size enterprises.
-  Integrate sustainability and climate resiliency into economic policies, regulations, planning, and national accounting, within and across all levels of government and all sectors.
-  Require businesses, including transnational companies and financial institutions domiciled and registered in the Cayman Islands, to regularly monitor and transparently disclose their climate risks, dependencies and impacts, including on biodiversity.

## 2030 - 2040 | MEDIUM - TERM PRIORITIES CONT.

-  Align national tourism marketing strategies with climate resilient, sustainable and environmental protection policies and strategies.
-  Incentivise the electrification of the ground transportation system, including the rental car pool.
-  Establish a carbon offsetting scheme for air and maritime travel and shipping to the Cayman Islands, ensuring that proceeds finance accelerated decarbonisation and resiliency throughout the economy.
-  Incentivise rainwater catchment and grey water re-use in agriculture production systems, and at household and commercial levels.
-  Diversify production towards more climate-resilient and resource-efficient crops and livestock to enhance food security, and reduce biodiversity impacts and economic losses.
-  Research and trial locally-appropriate crops, and soil and manure management techniques to reduce GHG emissions from these activities.
-  Review the Cayman Islands Government's catastrophe insurance with the Caribbean Catastrophe Risk Insurance Facility (CCRIF-SPC) to determine value for money and adequate liquidity for predicted events; and if appropriate expand coverage to include additional products (e.g., Excessive Rainfall, Drought, Agriculture).








#### 4.4.3 STRATEGIES SUPPORTING A LIVEABLE BUILT ENVIRONMENT

A liveable built environment provides safe, inclusive and sustainable structures and systems that enhance the physical and mental well-being of the people who live and work there.



##### 2023 - 2025 | SHORT-TERM PRIORITIES

-  Complete the Coastal Setback Reference Line reassessment on all three islands and revise coastal construction setbacks in the Development and Planning Regulations to account for wave and storm surge flooding and sea level rise.
-  Complete necessary multi-hazard risk mapping to identify high-risk areas, and reform the National Development Plan and Development & Planning Act and regulations to include appropriate development controls or design standards for these areas.
-  Revise the Development and Planning Regulations and building code to include resilience-based design standards that reduce flood, wind and heat hazards.
-  Create an open-source, GIS-based interactive tool for users to assess their locational risk from hurricanes, floods, tsunamis and earthquakes.
-  Require and integrate hazard vulnerability and climate risk assessments into national development planning processes and utilise environmental impact assessments (EIAs) to further assist with decision making when required.
-  Conduct a housing needs assessment and ensure future building stock is appropriately sited outside of existing high-risk areas and future climate hazards.


##### 2025 - 2030 | MEDIUM-TERM PRIORITIES

-  Increase the allocation of financial and human resources to monitor and enforce the regulation of land-use activities in light of climate adaptation and mitigation objectives.
-  Using Geographic Information Systems (GIS), conduct a spatial analysis of the flood capacity of intact and semi-urban wetlands, and revise the national development plan to recognise and preserve this green infrastructure network.
-  Increase investment in regional and site-specific storm water management programmes and flood control methods, including soil and substrate surveys to gain a better understanding of drainage and water conveyance mechanisms.
-  Incentivise private sector investment in neighbourhood development based on sustainable design standards and concepts (e.g., LEED for Neighbourhood Development, smart growth, cluster development, etc.).
-  Require all new commercial buildings and residential structures, including public and privately constructed affordable housing, be designed for installation of renewable energy systems (e.g., 'solar-ready').
-  Incentivise retrofits of energy-efficient building technologies, strategies and best practices per revised energy efficiency standards and building code.

## 2025 - 2030 | MEDIUM-TERM PRIORITIES CONT.

-  Develop and further incentivise policies to phase out import and sale of internal combustion engine (ICE) vehicles in all categories by 2045 in favour of comparable electric vehicles (EVs).
-  Invest in local coastal engineering modeling and analysis capacity in the public sectors.

## 2030 - 2040 | LONG-TERM PRIORITIES

-  Identify suitable refrigerant alternatives (low-GWP, no ODP, e.g., HFO blends) and regulate accordingly, phasing legislative change and incentivising industry best practices if necessary.













#### 4.4.4 STRATEGIES SUPPORTING HEALTHY & RESILIENT COMMUNITIES

Preventing and lessening health effects on people while promoting safe, inclusive, connected communities.




##### 2023 - 2025 | SHORT-TERM PRIORITIES

-  Develop comprehensive legislation and regulations for the control and prevention of air, water and land pollution, including measurable standards that can guide development and public health.
-  Promote and incentivise building retrofit and weatherisation programmes to mitigate heat-related impacts and reduce cooling costs.
-  Ensure the national flood emergency framework and area flood prevention plans incorporate the needs of Community Emergency Response Teams (CERTs) and appropriate actions by health care resilience partners.
-  Evaluate the need and feasibility of relocating households and neighbourhoods based on vulnerability assessments of communities (particularly flooding).
-  Government to investigate the benefits of joining the Resilient Cities Network and Caribbean Climate-Smart Accelerator.

##### 2030 - 2040 | MEDIUM-TERM PRIORITIES

-  Identify the groups that are most vulnerable to heat-related risks, and develop programmes to reduce vulnerability.
-  Disseminate guidance on the risk of overheating and implement heat wave plans to safeguard communities, including the most vulnerable, and advice on avoiding over-exposure to UV, and all other hazards.
-  Reduce injury risk and exposure to toxins and pollutants through incentivising resilient design of households and communities, such as climate-resilient in-home sheltering.
-  Retrofit existing shelters and ensure that new shelters are designed for multi-use purposes and for passive survivability to withstand Category 5 hurricanes and facilitate post-disaster recovery.
-  Regularly stress test and refine evacuation and emergency response plans to minimise injury and loss of life during disasters.
-  Collaborate with the private sector to develop programmes and fiscal tools that provide technical know-how and financial resources to residents in need of enhanced resiliency measures for home and property.
-  Use native trees to manage heat loads, create shade for heat relief and absorb carbon, including the expansion of an urban greening project.
-  Develop and adopt a plan to address short and long-term migrant influx as a result of regional climate issues.

## 2030 - 2040 | MEDIUM - TERM PRIORITIES CONT.

-  Continue to implement the Caribbean Action Plan for Health and Climate Change with locally-appropriate solutions.
-  Government to establish a national database and reporting system for climate-related morbidities and mortalities.
-  Develop a Resilience Roadmap for each island, leveraging partnerships with CERTs, District Councils, etc., and employ a Resilience Officer for each island.








#### 4.4.5 STRATEGIES SUPPORTING RESILIENT INFRASTRUCTURE NETWORKS


Infrastructure networks that are able to withstand and recover from natural hazards made worse by climate change impacts.


##### 2023 - 2025 | SHORT-TERM PRIORITIES

- 

Reactivate the Storm Water Management Committee, ensuring membership includes NRA, HHMCI, CINWS, other Government departments and utility providers, to map and resolve flooding 'hot spots' and incidents emerging in new areas.
- 

Analyse the use of anaerobic and aerobic septic systems in the Cayman Islands to determine the more appropriate and effective technology given anticipated increases in water table over time.
- 

Incentivise the diversification of, and investment in, energy systems to include innovative renewable alternatives, such as solar-powered desalination technology, decentralised microgrids, etc. underpinned by a regulatory framework with oversight from OfReg to encourage innovation.
- 

Undertake a feasibility analysis for the expansion of centralised sewerage system(s) for the Islands, considering whether decentralised operations are appropriate for resiliency.
- 

Increase efficiencies and resiliency through innovative digital and non-digital solutions in energy, buildings, services and transportation (e.g., telecommuting, staggered work and school times) and cost-share with private sector where possible.

##### 2030 - 2040 | MEDIUM-TERM PRIORITIES

- 

Regularly undertake risk mapping to identify critical infrastructure at risk of flooding from storm surge, waves and heavy rainfall.
- 

Develop and implement comprehensive regulations for proper storm water management to include Sustainable Urban Drainage Systems (SUDS).
- 

Design, cost and phase implementation of a national level sewerage system with appropriately located and efficient pumping/lift stations and treatment facilities, including tertiary treatment and managed wetlands.
- 



Ensure telecommunications and utility providers produce annual infrastructure resiliency reports that set out targets to build added resilience and strategies for product diversification, all underpinned by a robust regulatory framework with oversight from OfReg and HMCI.
- 

Provide adequate insurance for critical infrastructure. Investigate insurance pool schemes for portions of infrastructure not currently insurable (e.g., distribution systems or replacement financing).
- 

Integrate community-based (CERT) resiliency plans and national evacuation strategies with a sustainable public transportation system, including fortified EV charging infrastructure.



## 2030 - 2040 | LONG-TERM PRIORITIES

-  Climate-proof existing and planned fuel and port terminals, critical utilities, telecommunications systems and alternative energy infrastructure for the Islands by creating redundancies such as requiring emergency/back-up power generation and distribution to ensure continuity of services.
-  Require owners of critical infrastructure and services regularly stress test and update Disaster Management and Emergency Response plans.





#### 4.4.6 STRATEGIES SUPPORTING HARMONY WITH NATURE

Amicable and holistic co-existence between humanity and nature which supports social and economic well-being.




##### 2023 - 2025 | SHORT-TERM PRIORITIES

-  Adopt and implement Conservation Plans for protected species impacted by climate change, in particular the Sea Turtle Conservation Plan and the Colonial Nesting Seabird Conservation Plan.
-  Introduce a formal mitigation policy including a focus on Biodiversity No Net Loss Policy, wildlife corridors and connectivity of habitats, for large developments and infrastructure projects, including renewable energy facilities.
-  Incentivise enhanced coastal set-backs and nature-positive adaptation measures for coastal developments.
-  Continue to support the Department of Environment's efforts in relation to coral reef restoration techniques and measures, including expanding the coral nursery programme governed by the Coral Nursery policy.
-  Establish local values for carbon sequestration and storage for carbon resources and investigate the feasibility of establishing national verified carbon credit schemes.
-  Review legislation relevant to the management of natural resources and protected species and assess the need for increased punitive measures for unauthorised loss and damage.
-  Utilise nature-based solutions in Government projects where feasible.
-  Integrate content on the value of natural systems for climate resiliency into public education campaigns.

##### 2025 - 2030 | MEDIUM-TERM PRIORITIES

-  Update the Development and Planning Regulations to establish effective control over sand and ballast.
-  Update the Coastal Works Policy to include recommendations from the Beach Erosion Committee and other agencies evaluating comprehensive coastal zone management.
-  Finance continued applied research by Government entities into temperature resistant corals and off-site conservation.
-  Reinstate the Marine Water Quality monitoring programme in key areas.
-  Establish fixed plot/long-term monitoring for terrestrial sites, to include indicators of climate change.
-  Develop and implement a plan to protect the Central Mangrove Wetlands.
-  Continue to support the Department of Environment's efforts, in collaboration with others, to research and document deep sea habitats and resources, including pelagic stocks.

## 2025 - 2030 | MEDIUM-TERM PRIORITIES CONT.

-  Continue with the Seed Banking project in association with Royal Botanic Gardens, Kew and support the Cayman Islands National Insect Collection.
-  Continue to expand the terrestrial Protected Areas system in line with the United Kingdom's 30% by 2030 commitment, ensuring that all habitat types and ecosystem services are adequately represented.
-  Expand, establish, fund, and support protected areas, green and open spaces to facilitate various ecosystem services, e.g., carbon sequestration, manage storm water, and reduce urban heat islands.













#### 4.4.7 STRATEGIES SUPPORTING INTEGRATION AND COORDINATION

Bridging the gap within and between government, the private sector and communities in achieving the vision of the Policy.

##### 2023 - 2025 | SHORT-TERM PRIORITIES

-  Establish through legislation a Climate & Energy Council and any subsidiary committees or units to ensure alignment of existing and new cross-ministerial policies and plans with this Climate Change Policy, and to develop legislation to strengthen the framework for climate change mitigation and adaptation.
-  Establish Advisory District Councils with representative age groups and leaders from vulnerable communities, and ensure they engage with the Climate & Energy Council.
-  Identify and assess mechanisms to cost-share beach re-nourishment projects with affected beach front property owners.
-  Establish a national climate resiliency framework and scorecard to be used by all government ministries to assess existing and new public policies and plans against adaptation and mitigation targets and indicators.
-  Embed the climate resilience and mitigation measures in this Policy into relevant national policies, including the Road, Transportation, Infrastructure and Development Plans.
-  Establish a Climate Resiliency Fund through legislation to fund the implementation of this Policy and the operations of the Climate & Energy Council.
-  Engage private stakeholders and firms in identifying their responsibilities and liabilities with respect to managing, responding to, and recovering from their respective climate risks.
-  Ministries and Statutory Authorities and Government Companies (SAGCs), and large private corporations to formulate climate action plans and budgetary spending with the goal of significantly reducing GHG emissions and implementing adaptation measures before 2030.
-  Establish public education programmes that assist individuals and sectors in understanding their vulnerabilities to climate change and how they can use adaptation methods to lower their risks to climate hazards


##### 2030 - 2040 | MEDIUM -TERM PRIORITIES

-  Institute a screening process (using a national climate resiliency scorecard) for expenditures to address climate and disaster risks, in order to align them with adaptation and mitigation targets.
-  Regularly update a comprehensive national risk register and ensure ministries and departments use a climate risk-based approach when developing new or revising existing policies.
-  Enhance internal Government capacity to undertake coordinated and effective adaptation and mitigation initiatives through training and knowledge transfer opportunities.

## 2030 - 2040 | MEDIUM - TERM PRIORITIES CONT.

-  Integrate mandatory educational/training opportunities in climate resiliency and sustainability into HR processes for government personnel.
-  Launch and maintain the National Climate Change Hub with open access to the resiliency scorecard, dashboards and other country-specific information and databases.
-  Ensure the objectives of future Climate Change and National Energy policies remain aligned, in particular the interim and long-term GHG abatement targets and climate mitigation strategies.
-  Develop an Aviation policy framework to reduce GHGs in this sector and capitalise on global, regional and local carbon offsetting opportunities.
-  Conduct regular reviews of this Policy and report on progress against targets, including those in accordance with commitments under international climate treaties, and revise policy measures or thresholds accordingly.
-  Ensure blue-green projects located in the Cayman Islands are finance-ready to benefit from the Commonwealth Climate Growth Fund (Cayman) LP once operational.
-  Establish public education programmes and revise school curricula to increase climate literacy, understanding of the Cayman Islands' climate treaties commitments, and individual action needed to help achieve the goals of this Policy.
-  Expand meteorological data collection and build capacity to run real-time and forecasting models, to more accurately understand and project extreme weather and climate impacts.
-  Evaluate the impact of population growth (current and projected) on key public services and infrastructure systems (e.g., water, food, energy) that are also vulnerable to climate impacts.

## 2030 - 2040 | LONG-TERM PRIORITIES

-  Continue to pursue avenues to access global climate finance for adaptation and mitigation programmes and projects.



## 5 | POLICY GOVERNANCE AND IMPLEMENTATION

Responsibility for the timely and coordinated implementation of this Climate Change Policy shall be vested with the Climate & Energy Council (CEC) that will be established through legislation and chaired by a Cabinet appointee. The functions and composition of the Council shall be set in legislation, and have representation from relevant Government agencies and statutory authorities, civil society, academia, the private sector, and utilities (see Diagram 7).

The Council shall establish Technical Subcommittees to support its work in implementing the Policy, including integrating the measures into other national policies and plans. Funding and resourcing of the work of these bodies will, where possible, be absorbed within the operational budgets of Government ministries and portfolios.

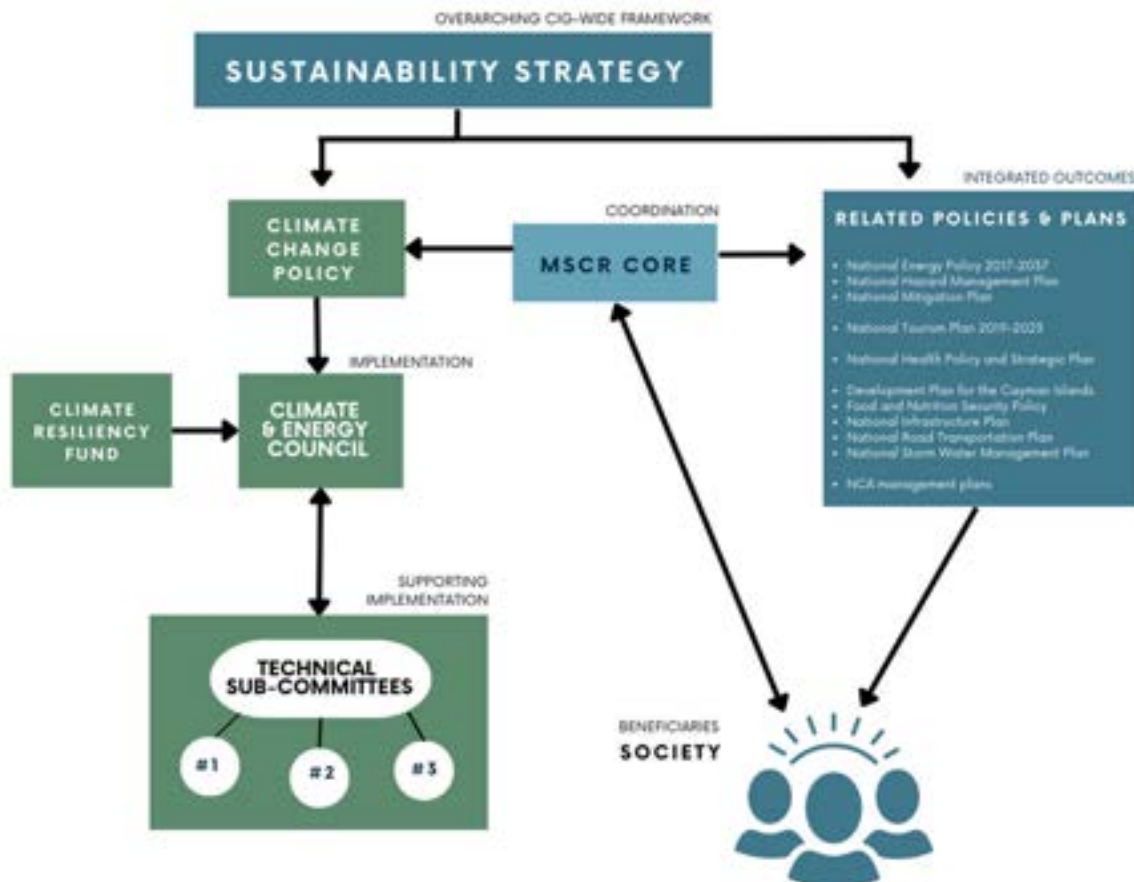
An Implementation and Monitoring Plan with agreed targets and performance indicators shall be developed upon the approval of this Policy.

A Climate Resiliency Fund shall be established for the purpose of funding the timely implementation of this and

future updates of the Policy. This Fund shall be established through legislation and administered by the Council that shall be tasked to:

- Mobilise funds from a variety of sources, including grants made to the Government of the Cayman Islands, proceeds from sales of carbon offsets or carbon trading schemes, carbon levies, incentive programs, etc.;
- Manage the funds to ensure that the resources of the Climate Resiliency Fund are efficiently utilised to support the timely and effective implementation of this and future climate change policies;
- Keep proper accounts of its transactions, and its accounts shall be audited annually pursuant to the Public Management and Finance Law; and
- Prepare and present an annual report to the Parliament within three months after the expiration of the financial year.

Diagram 7. Governance framework for the Climate Change Policy.



## 6 | POLICY MONITORING, EVALUATION & CHANGE

The Implementation and Monitoring Plan of this Climate Change Policy 2023-2040 shall be monitored by the Climate & Energy Council (CEC). Cabinet shall review the mandate, Terms of Reference (ToR) and composition of this entity with a view to better equipping it to fulfil its directive.

The Council shall report to Cabinet through the Office of the Premier on a schedule determined by its ToR, but not less than on a semi-annual basis, as well as at any other time deemed necessary. The CEC shall monitor the implementation of measures and keep this Policy under regular review and evaluation.

Monitoring, evaluation and learning systems will be needed to support adaptation actions not just metrics and indicators typically used to measure mitigation progress. To achieve effective adaptation and mitigation, nationally appropriate systems must be designed, focused on supporting and developing adaptive capacities needed for these actions.

The Council shall present to Cabinet an annual report on performance against measures, targets and indicators. This report is to be tabled in the Parliament.

Prior to the fifth anniversary of the date of this Policy, the Council shall conduct the first public review of this policy to determine its effectiveness in achieving its goals and objectives, and update the Policy and Implementation and Monitoring Plan based on the findings of the review. The report of this review shall be presented to Cabinet within one year of the beginning of the review.

The Policy will be evaluated on a 5-year periodic basis by several stakeholders, including those that have helped to craft, implement or measure progress toward the strategic aims. Adequate resources will be dedicated to the Policy's review, update, public consultation and refinement, including electronic materials and data portals for easy access by and feedback from civil society.



## 7 | CONCLUSION

The Climate Change Policy 2023-2040 is an update to the 2011 draft Climate Change Policy. It has been crafted with multi-stakeholder contributions and in line with the findings of the Climate Change Risk Assessment. Scientific data and assessments confirm the urgent need for the climate adaptation and mitigation strategies outlined herein. Results of the Climate Change Risk Assessment Public Survey confirm that the people of the Cayman Islands clearly recognise the importance of taking individual climate action, as well as the facilitative role of Government in driving and supporting such efforts and those of the private sector.

Climate change presents serious challenges to these islands and the main sectors that support society. Thoughtful planning and the implementation of measures that promote resiliency and sustainability at all levels of society will help avoid substantial losses and costs to natural and human systems. Responsive adaptation plans complemented with ample financial and societal safety nets and redundant systems will forge resiliency.

However, climate change also presents opportunities to improve the wellbeing of communities and the status of the Cayman Islands on the international stage. This Policy contains strategies that leverage innovation and our reputation as a progressive financial services jurisdiction ready to support international climate efforts and reinforce investor confidence within our shores.

Each sector (as discussed in section 3) can realise economic, social, and environmental benefits from measures that reduce vulnerability and enhance climate resiliency (Goal 1); promote sustainable and low carbon economic activity (Goal 2); and facilitate participation in a future-focused and accountable governance framework (Goal 3).

Successful implementation of this Policy over the next 17 years will require cross-ministerial and departmental cooperation and coordination, and in some cases, in-depth collaboration. The inclusion and mobilisation of both the private sector and the public at large is needed for the vision of this Policy to be realised. The establishment and revision of legislation and regulations will provide the legal basis for many of the strategies, helping to clarify roles, responsibilities, and requirements.

This Policy has attempted to address the reality through an integrated lens, and aims to establish the groundwork for building a healthy and resilient nation for the people of the Cayman Islands, now and in the future. The next step is to develop an Implementation and Monitoring Plan for delivering the Policy and cement timeframes for implementing the strategies and achieving their aims.





# APPENDICES



## 8.1 GLOSSARY

### Adaptation

The process or action of reducing vulnerability to the immediate and predicted impacts of climate change, and increasing the capacity of countries, communities and living systems to be more resilient, cope better or survive in a new environment, which means everything from bettering skills to increasing access to suitable finance to employing newer technology.

### Adaptive Capacity

The ability of governments, businesses and communities to adjust or moderate potential damages caused by climate-related hazards so as to preserve or enhance their functionality.

### Circular Economy

An economy based on the principles of designing out waste and pollution, keeping products and materials in use, and regenerating natural systems; a regenerative way of creating value and ultimately prosperity, which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible.

### Climate Change

A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.

### Global Warming Potential (GWP)

The GWP of a refrigerant is its global warming impact relative to the impact of the same quantity of carbon dioxide over a 100 year period.

### Greenhouse Gas Emissions

The release over a specified area and period of time of those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and re-emit infrared radiation. UNFCCC GHGs: Carbon dioxide (CO<sub>2</sub>), Methane (CH<sub>4</sub>), Nitrous oxide (N<sub>2</sub>O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulphur hexafluoride (SF<sub>6</sub>), Nitrogen trifluoride (NF<sub>3</sub>).

### Maladaptation

Actions that may lead to increased risk of adverse climate-related outcomes, including via increased

greenhouse gas emissions, increased vulnerability to climate change, or diminished welfare, now or in the future. Maladaptation is usually an unintended consequence.

### Mitigation

Achieved by limiting or preventing greenhouse gas emissions and by enhancing activities that remove these gases from the atmosphere, such as enhancing sinks.

### Nationally Determined Contribution (NDCs)

NDCs are commitments made by Parties to the Paris Agreement showing how they intend to reduce their greenhouse gas emissions to meet the temperature goal of the Paris Agreement.

Nature-positive solutions: aim to achieve multiple sustainability objectives, for example, that enriches biodiversity, stores carbon, purifies water and reduces pathogenic risk

### Net Zero

Achieved when anthropogenic greenhouse gas emissions to the atmosphere are balanced by anthropogenic removals over a specified period. Net emissions must be reduced to zero in order to stabilise global temperatures.

### No Regrets

Options or solutions that achieve the desired sustainable development outcomes and are in the interest of the country to pursue irrespective of climate change adaptation benefits, and where the costs of adaptation are relatively low when compared to the results of the adaptations.

### Resilience

Involves all actors (governments, communities and businesses) and systems having the capacity to anticipate climate risks, better prepare for and withstand hazards (hurricanes, floods), absorb shocks and stresses (pandemics) and more gradual events (sea level rise, biodiversity loss), and recover from their impacts or disruptions to economies, social well-being and environment in a timely and efficient manner to reshape and transform development pathways in the longer term.

## Reservoirs

A component or components of the climate system where a greenhouse gas or a precursor of a greenhouse gas is stored.

## Sinks

Any process, activity or mechanism which removes a greenhouse gas, an aerosol or a precursor of a greenhouse gas from the atmosphere.

## Sources

Any process or activity which releases a greenhouse gas, an aerosol or a precursor of a greenhouse gas into the atmosphere.

## Sustainable Development

Development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Brundtland Commission, 1987).

## UNFCCC

United Nations Framework Convention on Climate Change was agreed at the 1992 Earth Summit in Rio de Janeiro and has been ratified by 198 countries or Parties to the Convention.

## Vulnerability

The propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt.



## 8.2 CLIMATE IMPACTS EXPLAINER



Changes in storms, cyclones, winds, waves, and storm surges: In a warmer world the atmosphere and oceans hold more moisture which facilitates stronger storms. As a storm moves over warm waters, a higher rate of evaporation pulls more water vapour, and transfers heat into the cyclone.



Changes in ocean circulation: the circulation of water regulates climate by distributing heat across the planet. A warmer ocean could cause the currents to slow or stop.



Changes in freshwater input: changes in the amount of rainfall will continue to occur throughout the year. More intense rainfall events can cause flooding while drier conditions can lead to drought.



Ocean acidification: Carbon dioxide (CO<sub>2</sub>) naturally dissolves into the ocean. When too much CO<sub>2</sub> is produced, the pH or acidity of seawater increases. As the ocean gets more acidic, marine life that make hard shells and skeletons (like coral) are compromised.



Changes in salinity: less freshwater typically from rain increases the concentration of salt whereas more rainfall decreases salinity. This causes problems for plants and wildlife, especially those species that survive within a narrow salinity range. Salinity of freshwater lenses can also change due to sea-level rise, reducing the quality and availability drinking water for humans and livestock.



Sea-level rise: occurs from the expansion of water as it warms, the melting of glaciers, and changes in the ocean floor from plate tectonic movements. Changes in global and regional sea levels can amplify the impact of storm-surge in coastal areas and compromise freshwater lens.



Increasing air and sea temperature: this is directly caused by deforestation (less evaporative cooling) and the emission of greenhouse gases that have trapped heat in the atmosphere. Heat waves are dangerous to human health and livestock, while bleaching from elevated sea temperatures can kill corals.



Increasing coastal erosion: a higher sea-level and changes in nearshore currents and storm patterns can erode the coast, increasing the likelihood of severe damage to property. Chronic erosion is difficult and costly to reverse.



Decreasing dissolved oxygen (of seawater): the warmer the water is, the less oxygen it is able to hold. This is important because die-offs of marine species (e.g. fish kills) can occur where dissolved oxygen level is too low.

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Above: Members of the Climate Change Policy Review Technical Work Group, April 2023.

Below: Participants during the Climate Change Risk Assessment Technical Stakeholder Workshops, May 2022.









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**CLIMATE CHANGE  
POLICY** | 2023-2040

[www.gov.ky/sustainability/climatechangeepolicy](http://www.gov.ky/sustainability/climatechangeepolicy)

