Cayman Islands

CLIMATE CHANGE POLICY | 2024-2050

Cayman Islands Government

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“The long-term prosperity of our people depends on the decisions we make today and our ability to pivot in response to a rapidly changing world.”

FOREWORD

Hon. Katherine Ebanks-Wilks, LLB, MP
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 what we must do to plan for tomorrow, particularly on small islands.

The Cayman Islands and the 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, food security, and our quality of life depend.

Our islands remain vulnerable to these direct impacts and to secondary impacts such as the negative effects on 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. Our country indeed 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 rapidly changing world.

Therefore, it is my pleasure to present this Climate Change Policy 2024-2050, 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 group of stakeholders and local and international subject experts were consulted in the drafting of this Policy's core concepts and strategic actions to ensure that current and future needs of this country are addressed.

The strategic measures outlined in this Policy aim to lower the risks that climate change poses to key sectors and vulnerable groups by reducing vulnerabilities, adapting, and embracing sustainable, low-carbon economic 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 people can live their best lives now and for future generations.

PREFACE

Neyka Webster
Acting Chief Officer | Ministry of Sustainability & Climate Resiliency

The Ministry of Sustainability and Climate Resiliency, in partnership with a multi-stakeholder Technical Working Group, is pleased to present the Climate Change Policy 2024-2050.

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 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.

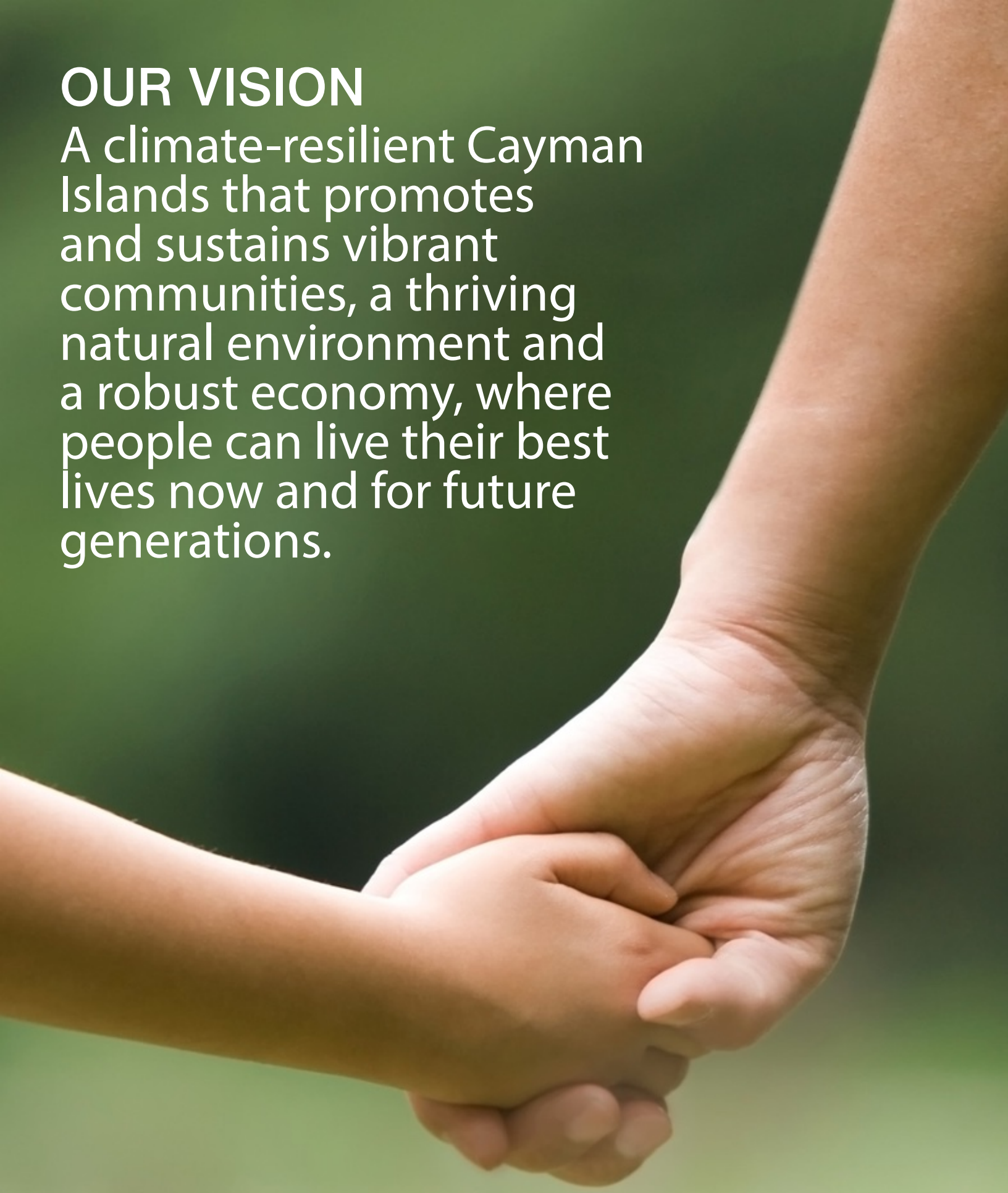
The Climate Change Policy 2024-2050 contains measures required to address the most pressing risks posed by current and continued climate changes to the people, economy and environment of the Cayman Islands. Borne from the principles of resiliency and sustainability, the Climate Change Policy 2024-2050 outlines strategic actions that have been deemed necessary to make the ambitious vision of this Policy a reality.

I would like to thank the Ministry's Senior Leadership Team, and our colleagues from other Ministries, Departments and Government agencies for attending the climate change risk assessment technical workshop, and consulting on this updated Policy through stakeholders groups. 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.



1.0 EXECUTIVE SUMMARY

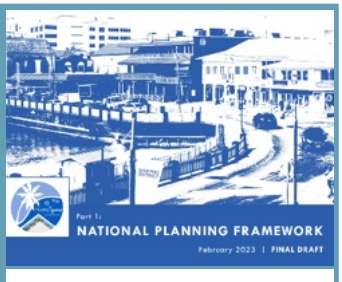
The impacts of global climate change are affecting people, communities, ecosystems and economies around the world.

Small, low-lying island nations like the Cayman Islands are already observing changes in weather events and environmental conditions that are predicted to escalate. Some of these changes include sea level rise, increases in sea and air temperatures, and changing rainfall patterns. Climate change is considered an issue of national security because of the range of critical sectors it affects. These changes have implications for the economy, properties, infrastructure, human health and safety, and biodiversity in the Cayman Islands.

The Cayman Islands Climate Change Policy 2024-2050 (*CCP* or *the Policy*) attempts to address risks to these sectors through measures that respond to adverse climate impacts in a sustainable and proactive way (adaptation), and reduce contributions to further climate change (mitigation). Delaying action will likely result in greater challenges, costs, and hardship in the future. The policy approach is to align with, or fill gaps from, other national policies and plans in mainstreaming climate change considerations.

To be successful, this Policy highlights the need for the Cayman Islands Government to lead the way on urgent climate action, while collaborating with diverse stakeholders. This Policy also recognises that, although climate change affects everyone, those who are socially or economically disadvantaged are likely to be more vulnerable and require greater assistance. Climate action must be progressed quickly, at all levels, and in a way that is fair to current and future generations.

The Policy builds on the foundations of the United Nations Sustainable Development Goals, the Global Adaptation Agenda, the Sendai Framework for Disaster Risk Reduction, the 2030 Biodiversity Pledge, and aligns with an updated National Energy Policy, Food & Nutrition Security Policy, National Tourism Plan, and an updated National Development Plan.



Bringing to life the Policy's vision of 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, will require a forward-thinking commitment to sustainability that transcends traditional notions of progress.

Guided by the Climate Change Risk Assessment 2022 (*CCRA*), extensive public consultation, and international climate action and other commitments, this Policy proposes strategic actions to achieve the following key goals:

1. **Become more resilient to climate change;**
2. **Achieve a sustainable, low-carbon economy; and**
3. **Govern climate action fairly and transparently, with future generations in mind.**

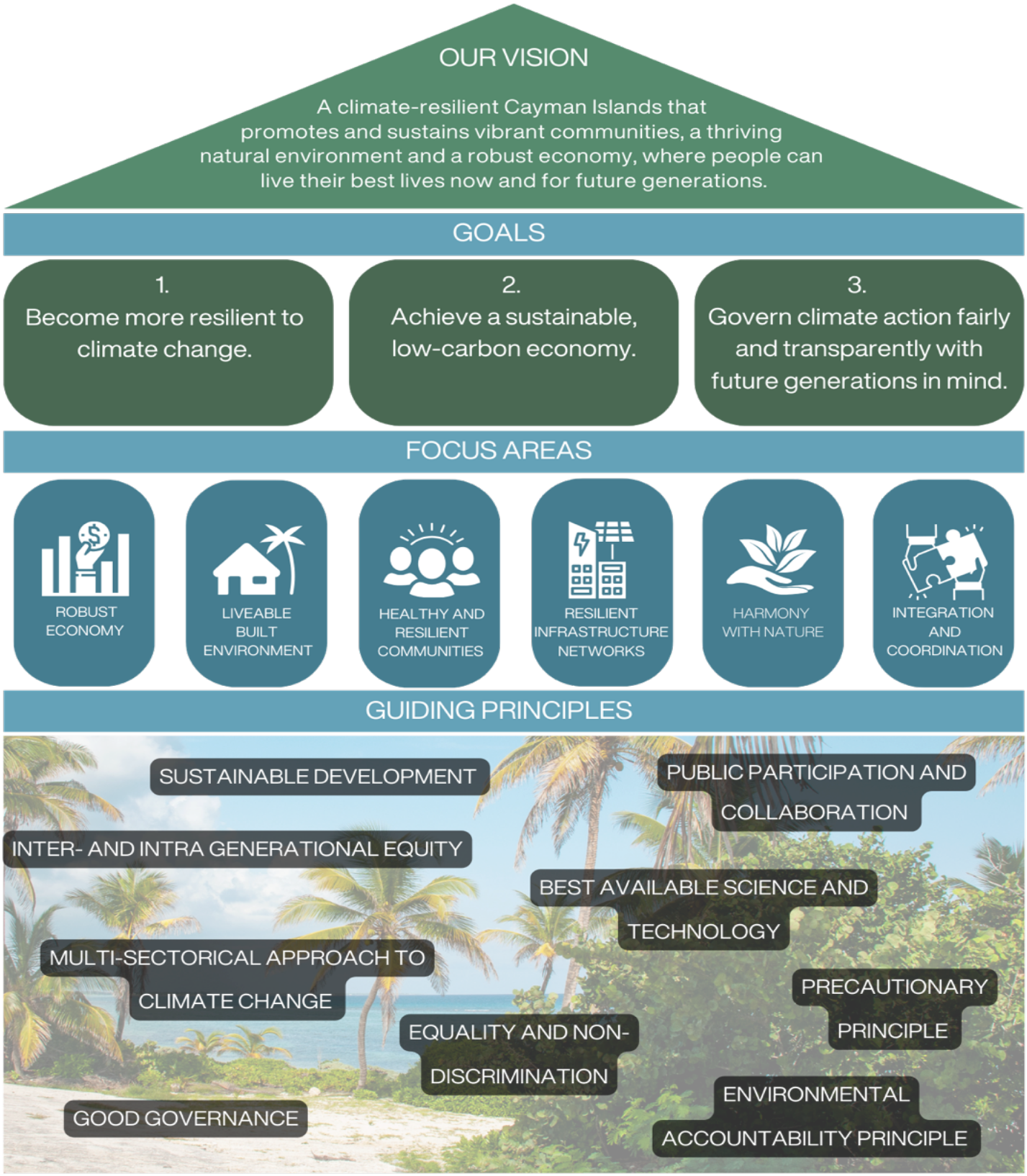
The Policy outlines strategic actions across six focus areas needed to achieve these goals over the next 26 years. It takes a comprehensive yet flexible approach to sustainability that embraces innovation and responsiveness to local challenges. Actions are geared toward responsible, equitable, and inclusive development that recognises the value of healthy ecosystems to protect critical infrastructure and property, and build resilient communities and sustainable livelihoods.

Environmental stewardship and attention to environmental justice and social equity underpin the transformation of economic activities based on responsible consumption, mindful management of materials, and clean energy for all.

Ensuring a fair and inclusive transition to this 'future of what could be' requires empathy, innovative approaches, and sensitivity in the application of top-down approaches which are vital as we do not have the luxury of time. It is hoped that the private sector and the people of the Cayman Islands will continue to partner with the Government to bring about such a transformation to our shared economy, communities, and national security.


Small island nations like the Cayman Islands are increasingly affected by the adverse impacts of climate change, many of which are already being seen across natural and human systems in our islands and have the potential to affect every sector of our economy.

POLICY OVERVIEW



2.0 INTRODUCTION

2.1 PURPOSE AND PROCESS

This Policy aims to deliver a robust strategy for responding to the current and anticipated adverse risks of global climate change on the economy, society and natural environment of the Cayman Islands over the next 26 years.

The Policy outlines a combination of actions to curb greenhouse gas emissions from activities that contribute to continued climate change (mitigation), and measures for responding to the inevitable impacts of a warming world (adaptation). When taken together, these actions are cost-efficient and more likely to result in a sustainable, low-carbon, climate-resilient future for the Cayman Islands.

This Policy builds upon the foundation established by the consensus-based *Achieving a Low Carbon Climate-Resilient Economy: Cayman Islands' Climate Change Policy* developed in 2011 under the *Enhancing Capacity for Adaptation to Climate Change (ECACC) in the United Kingdom Caribbean Overseas Territories Project (2007-2011)* with support from the Caribbean Community Climate Change Centre. The draft 2011 Policy set out priority climate adaptation and mitigation actions for the initial five years after anticipated endorsement by Cabinet.

However, the 2011 Policy remained in draft, and left longer term recommendations and interventions sitting within 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 since 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 since 2011, the Ministry of Sustainability and Climate Resiliency conducted a month-long public survey in 2022, which garnered over 1,000 respondents (see Diagram 1). The survey report provides a clearer picture of the concerns residents have about the impacts of climate change on their lives and their willingness to address those challenges.

Diagram 1. Climate Change Risk Assessment 2022 Public Survey Results.

81%

Most respondents are 'Extremely' or 'Very Concerned' that climate change will impact them in their lifetimes.

48%

Almost half of respondents believe local government is primarily responsible for tackling climate change.

94%

Most respondents 'Definitely Would' or 'Probably Would' change how they live and/or work to help reduce the effects of global climate change.

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 the Climate Change Risk Assessment (CCRA) in 2021-2022.

Funded by the United Kingdom's Conflict, Stability and Security Fund, the Cayman Islands CCRA used the same robust methodology as the UK Government has used 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/*

The risk assessment used a variety 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, economic and societal consequences.

The CCRA relied on 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 timeline for and projected climate changes affecting the Cayman Islands. Risks 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 CCRA workshop in May 2022.

The risk assessment has helped to identify gaps in the draft 2011 Climate Change 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 proposed in the draft 2011 Climate Change Policy were reviewed and revised based on focus group sessions held with key stakeholders from this sector.

2.2 POLICY CONTEXT AND LINKAGES

Local Context

This Policy 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 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 includes measures to:

- Build climate resilience at scale through food and energy security, physical development and infrastructure hardening, and institutional and individual capacity building to support robust tourism and financial services sectors; and,
- Address risks to human health and health care-related risks.

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

- 2020-2050: 11.4 to 12.6 inches, Cayman area
- 2090s: 21.7 to 28.3 inches, Cayman area

The strength of this Policy is that it better caters to climate-sensitive sectors of the economy, such as tourism and traditional agriculture, and vulnerable groups within society, such as children, the elderly, disabled, economically disadvantaged, and other at-risk groups identified through the review of the *2021 Population and Housing Census Report* or during stakeholder and focus group consultations.

A critical aspect of this Policy will be determining the right set of indicators to properly evaluate adaptation responses taken toward enhanced climate resiliency of these groups and sectors.

This Policy helps structure the creation, amendment and implementation of legislation needed to foster and sustain a climate-resilient society and robust economy. 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.*"

The Policy identifies areas where legislative action may be necessary to reinforce Government's constitutional obligations to have due regard in its decisions 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, reviewing and updating this Policy. In addition, it is suggested that a bespoke fund be established to finance the timely and ongoing implementation of adaptation, monitoring and mitigation measures set out in the implementation plan.

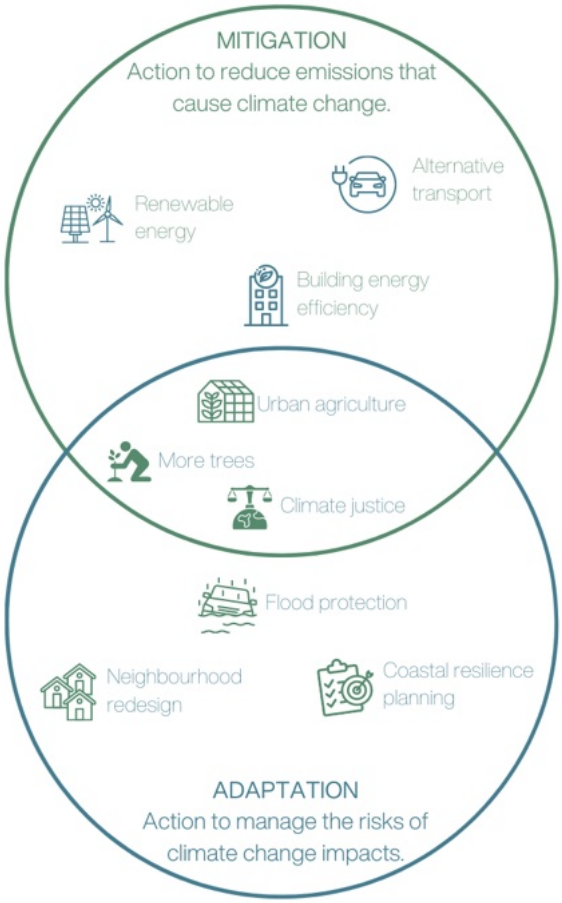
International Context

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 UK'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 obligations 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 (climate mitigation) and to deal with the adverse effects of climate change (climate adaptation) (Diagram 3). These policies and measures should be integrated with national development programmes and promote sustainable development.

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



Adapted from the City of Calgary.

The Cayman Islands is in discussions with the UK Government regarding the extension of the UNFCCC's 2015 Paris Agreement, which has three main objectives (see Diagram 4). 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 five-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 treaty affiliates contribute only 1% of total UK emissions, the Cayman Islands recognises that it has one of the highest GHG per capita footprints for a country its size. Therefore, the Cayman Islands seeks to play its part in tackling global climate change by adopting whole-economy national GHG emissions reduction targets that align the country with those of the UK.

The companion updated *National Energy Policy 2024-2045*, with targets updated from its previous 2017-2037 version, aims to achieve 100% renewable energy penetration and 100% new vehicle sales from electric vehicles by 2045.

While quantified emissions reductions from other sectors are unaccounted at this time, subsequent reviews of this Policy will aspire to reduce emissions in other sectors to achieve economy-wide reductions. In addition, interim targets will be updated upon each two-year review cycle.

This Policy, alongside the updated National Energy Policy, should serve the Cayman Islands well in joining with the international community to reach the 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).

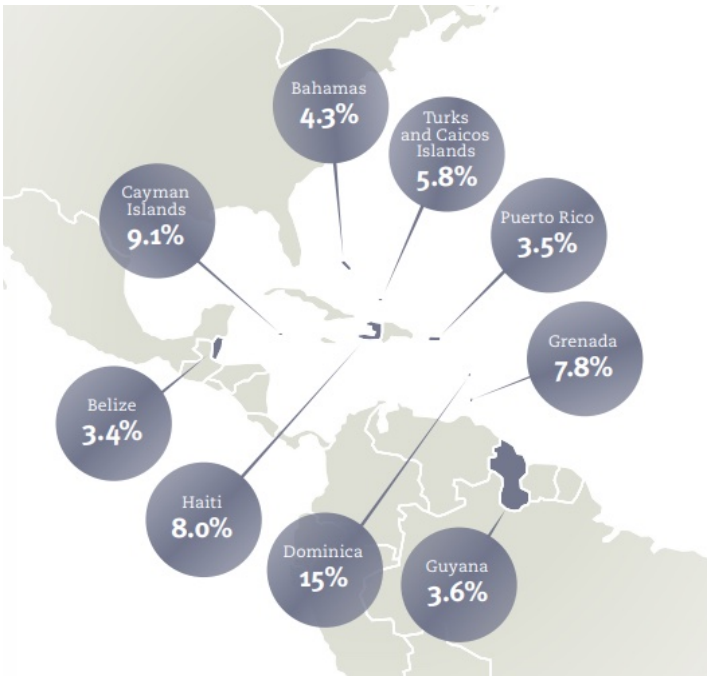

Resiliency is a competitive advantage; it reduces the risk-adjusted return, making projects more tenable for investors to minimise their risk. This, in turn, provides investor confidence in the Cayman Islands.

3.0 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; all factors that increase its exposure to climate change and variability, in particular the potentially devastating winds and floodwaters of tropical storms each year.

According to a 2010 study by the Caribbean Catastrophe Risk Insurance Facility, annual losses for the Cayman Islands from climate risks such as hurricane-induced winds, coastal flooding and inland flooding were estimated 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.

Figure 1. The most disaster-affected Caribbean nations by economic losses.



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

As of 2019, the Cayman Islands remained among the top 10 countries in the region over the last 20 years 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).

Rapid intensification of systems that develop quickly from, for example, a tropical storm to a category 4 hurricane in 24 hours used to be the exception, but is now the norm with Atlantic basin storms (especially August to October). This has shortened the response time for communities to prepare, including internal and external evacuation options, often causing regional migration in the aftermath.

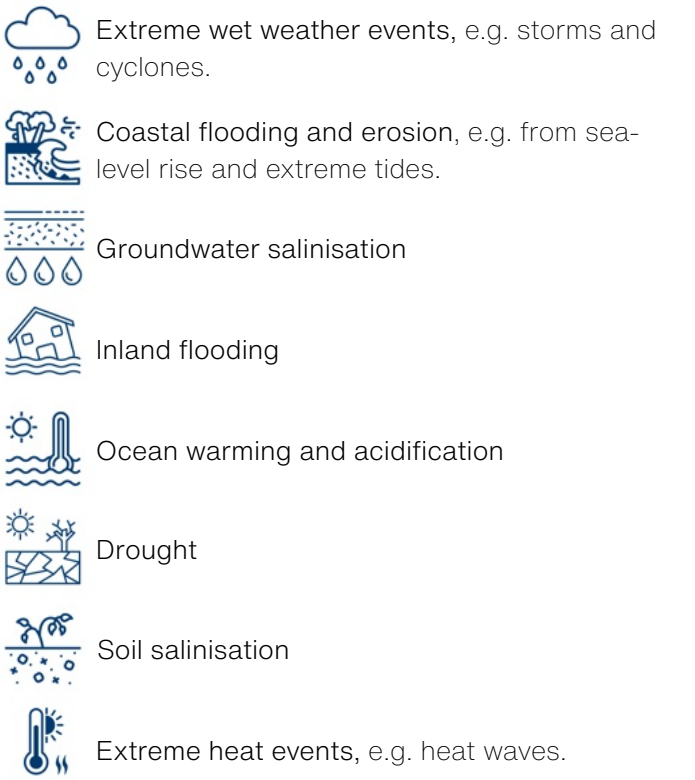
The Cayman Islands housed many storm-affected citizens of other UKOTs following the devastation of Hurricanes Irma and Maria in 2017. As climate change continues to impact the severely disadvantaged within the region, with some economies and natural systems taking 10 years to fully recover from a category 5 hurricane, the Cayman Islands may have to brace for the region's most displaced people from Cuba, Haiti and the Dominican Republic. For several decades, the Cayman Islands has contended with the challenges of repatriating or housing Cuban migrants seeking asylum or onward migration to Central America or the United States.

Climate refugees to the Cayman Islands from our closest neighbor are therefore likely, and a potential security issue with socio-political and economic implications for which contingency plans should be made. This sits alongside coping with the temporary or permanent displacement of our own citizens and residents, as well as possible outward migration and associated brain drain. These issues make climate resiliency and security a top priority for the Cayman Islands and the region.

Albeit significant, more rapidly intensifying hurricanes are only one of several climate hazards that the Cayman Islands must build resilience against (see Diagram 5). Heat waves, drought, and extreme rainfall are other acute hazards resulting from climate variability.

With global average temperature rise at 1.2°C above pre-industrial levels, and overshoot of 1.5°C now expected well before 2100, sea level rise, water

Diagram 5. Climate threats affecting the Cayman Islands.



salinisation, and ocean acidification pose existential threats to small, low-lying states like the Cayman Islands. The emergence of new weather patterns can trigger ecological changes that trickle down to societal impacts.

The CCRA assessed 50 risks across all three islands. Each island has similarities but also differences in socio-economic and environmental characteristics, resulting in some risks being more relevant to one island with respect to another.

Overall, 18 risks were deemed 'severe', suggesting agreement among local and regional experts that significant impacts are currently evident or could materialise in the near future. Of the most severe risks, nine comprised threats to biodiversity and natural habitats, and nine on society, infrastructure and buildings.

An additional 16 were deemed 'moderate' risks, given their significance but varied confidence in the anticipated timeframe or level of severity (See Table 1).

Climate vulnerability of the Cayman Islands is also influenced by factors at the national to household levels and across the biophysical, socioeconomic, political, and institutional dimension. Productive resources (e.g., built, social, and natural capitals) that are poorly managed can further weaken the islands' climate resiliency.

It is important, therefore, 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 tradeoffs minimised with an integrated approach and coordinated strategic actions that satisfy a range of scenarios, recognising their timescales and inherent uncertainties.

This situational analysis reviews 11 areas of Cayman's socio-ecological system that are at physical or economic risk from climate impacts:

1. Human settlements and infrastructure
2. Human health
3. Biodiversity
4. Tourism
5. Agriculture and fisheries
6. Financial Services
7. Energy
8. Transport
9. Business
10. Land use change
11. Waste management

The first five sectors listed above were identified in the CCRA as being at risk due to climate change.

While determining impacts on the financial services sector was not part of the CCRA's scope, risks to this sector do exist and are discussed in section 3.6. The relevant strategic actions proposed in the Policy were developed through stakeholder consultation.

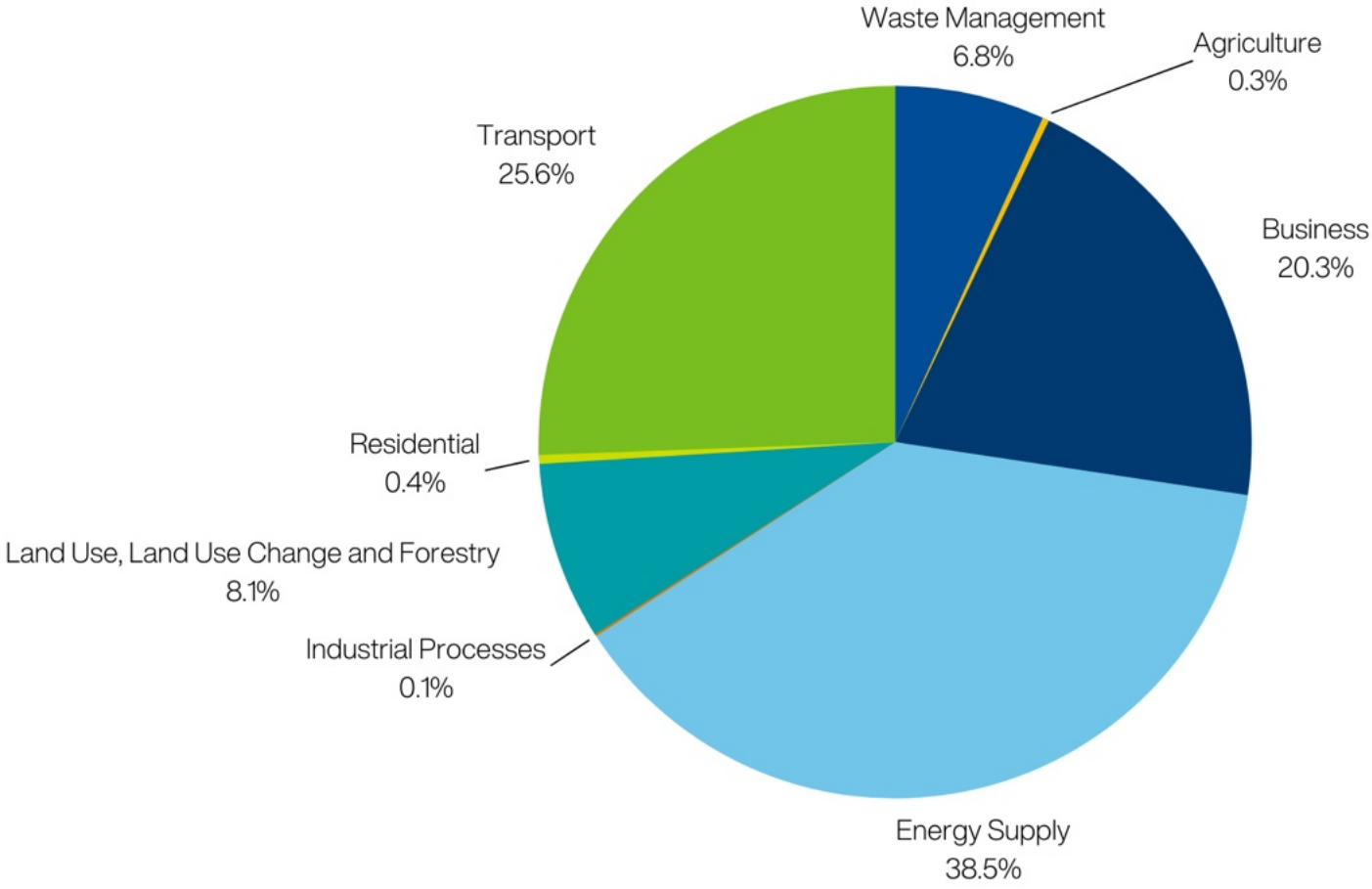
Agriculture, energy, transport, business, land use change, and waste management are among the eight sectors of Cayman's economy for which GHG emissions are estimated and reported annually to the UNFCCC. Figure 2 shows the emissions from sources where they occurred in 2019 and highlights electricity generation and transportation as major emitters. Though proportionately very small in a global context, these emissions collectively play a role in the country's high GHG emissions per capita relative to other UKOTs. The Cayman Islands' GHG footprint stood at 17.1 tCO_2e (tonnes of carbon dioxide equivalent) per person in 2019. This is higher than the UK's 7 tCO_2e per head, and on par with Canada, Saudi Arabia and the United States.

The net benefits that can be achieved by emissions reductions in the following sectors is the basis for prioritising national mitigation actions in this Policy.

Table 1. Climate change risks to the Cayman Islands as outlined in the CCRA.

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

Figure 2. Cayman Islands GHG emissions 2019 by sector.



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

3.1 HUMAN SETTLEMENTS AND 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 and disruptions across society in a single day, while sea level rise slowly erodes the coast and contaminates groundwater and fresh water lenses with saltwater.

Water and utility lines, sewage treatment, and telecommunications can fail during major storms, causing service disruptions to households and businesses and exposing communities to unsafe conditions. Stormy conditions can result in the closure of roads, ports, and airports, slowing the economy and peoples' ability to access goods and services. Flooding from intense rainfall or storm-surge events can damage inland settlements, and make roads impassable. These are among the six severe risks to human settlements and infrastructure identified by the CCRA as seen in Table 2.

Given their proximity to the coast, many people and properties are vulnerable to impacts resulting from severely compromised natural or man-made coastal defences. Cultural assets, heritage sites and historical artifacts can also be badly damaged or lost completely if not adequately protected. These are among the four moderate risks also identified by the CCRA.

Table 2. Risks to human settlements and infrastructure.

RISKS TO HUMAN SETTLEMENTS AND INFRASTRUCTURE	OVERALL RISK SCORE	RISK CATEGORY
Damage & inundation to the sewerage system and release of waste-water	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 depends on environmental conditions, including the integrity of ecosystems, as well as access to reliable and affordable health care. Observed changes in local weather trends over the past few decades are expected to continue and likely to alter daily life and the health outcomes of our people if left unchecked.

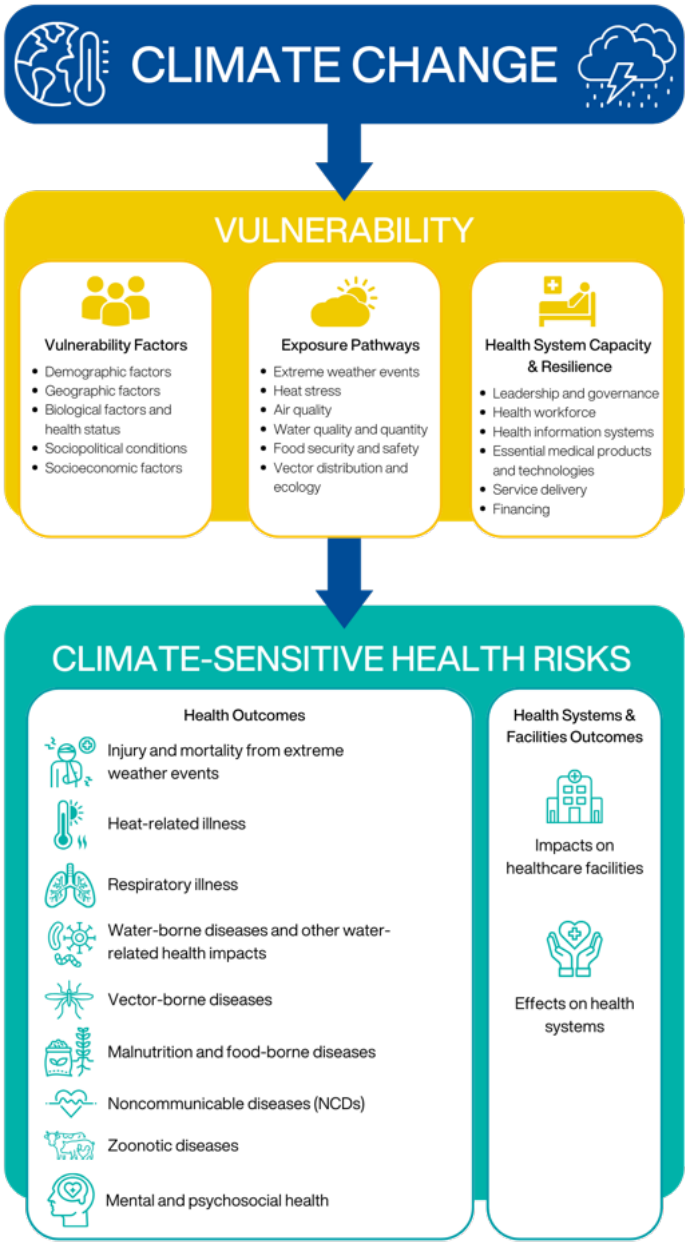
The climate risks to human health and safety in the Cayman Islands are relatively few but still significant. The primary concerns identified as moderate risks in the CCRA are the impacts of higher temperatures and humidity, and the physical dangers that people may be exposed to during more severe storms (See Table 3).

Prolonged exposure to extreme temperatures can compromise the body's ability to regulate its core temperature. This can cause illnesses, such as heat exhaustion and more severe heatstroke, and worsen chronic health conditions. With heat index values rising into the triple digits more frequently, children, pregnant women, the elderly and those who work outdoors become increasingly susceptible to heat-related health impacts rising to medical emergencies that require immediate treatment.

Heavy rainfall leading to severe flooding or stagnant water increases the chance of contracting a water-borne illness or mosquito-carrying disease. Therefore, access to medical care, especially for individuals or households in economic hardship, as well as climate-resilient accommodation are crucial (see Diagram 6).

Health care services that address the mental stresses associated with loss of income due to illness, injury or a threatened way of life may need to be expanded.

Diagram 6. How climate change vulnerabilities are linked to human health outcomes.



Source: Adapted from the World Health Organization

Table 3. Risks to human health.

RISKS TO HUMAN HEALTH	OVERALL RISK SCORE	RISK CATEGORY
Heat & 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, a foundation of our commodities, and is thus a fundamental driver of productivity across all sectors in the Cayman Islands.

Diverse, intact ecosystems are able to provide higher quality services to sustain lives and livelihoods, and buffer against climate risks. While climate change is recognised as a key threat to the diversity of life on this planet, biodiversity helps us to mitigate our contributions to climate change, and adapt to its impacts. The biodiversity and climate change crises are, therefore, inextricably connected and need to be addressed using an integrated approach.

Scientists have estimated that 37% of global climate mitigation and adaptation will come from nature or biodiversity. Worldwide, natural ecosystems absorb about half of the CO_2 emissions generated by human activities each year. In the Cayman Islands, our mangroves, dry forests and seagrass beds capture and store a significant amount of carbon in plant biomass and the soil and sediments present in these ecosystems. Along with our coral reefs and beaches, mangroves and shallow seagrass beds also help to dissipate wave energy associated with storms and hurricanes. Therefore, investing in the protection and restoration of our natural capital creates future returns on several levels, such as carbon sequestration, coastal protection, natural flood control, and societal benefits like access to nature, on-site learning and human well-being. Nature-based solutions are widely recognised as being more cost-efficient than technological or some infrastructure investments employed to tackle climate change, human health, and food and water security.

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

Cayman's marine and coastal ecosystems are highly sensitive to increasing sea temperatures and acidity and shifting coastlines, jeopardizing the long-term survival of culturally and economically important sea turtles and coral reefs. Also significant is the permanent loss of endemic species and sub-species, of which the islands hosts around 17 endemic 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.

Ensuring that our natural spaces are abundant, healthy and intact preserves quality of life for our people and their opportunities to flourish in various sectors of the economy.

Table 4. Risks to biodiversity.

RISKS TO BIODIVERSITY	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, and its importance to household income underscores the need to address the immediate and long-term climate risks to this sector. 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 in the Caribbean is climate- and nature-dependent. The natural resources that underpin tourism, and the infrastructure and services that facilitate it, are the main focus here (see Table 5). For instance, a well-known issue is the coastal erosion and subsequent retreat of beaches and shoreline; these issues are exacerbated by sea-level rise, changes in currents, and strong 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 along some coastlines. 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 are physical risks, but changes in the international market could also pose a risk. For example, the Cayman Islands' tourism sector could be put at a disadvantage if other jurisdictions offer higher quality accommodations and services because they have put adaptive measures in place, or offset carbon emissions generated by the sector's operations. Also, climate change could open new markets in jurisdictions that once had unfavourable climates.

These issues, if not addressed, could ultimately compromise the image and status of the Cayman Islands as a premier destination, and effect the long-term sustainability of this sector. The implications for the economy and the livelihoods of the individuals working in this sector are therefore paramount to address.

Table 5. Risks to tourism.

RISKS TO TOURISM	OVERALL RISK SCORE	RISK CATEGORY
Disruption & 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 AND 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. These are two severe risks identified in the CCRA (see Table 6).

Abroad, shifting crop ranges and failures could impact supply chains and local prices. Imports could be delayed during stormy weather, with ships unable to dock at local ports. 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.

The moderate risk to fisheries from increasing sea temperatures and impact to food and income security was also highlighted in the CCRA. The distribution of target species may shift as they move into cooler waters. Those who fish for subsistence, supplementary income, or recreation with few alternatives could be impacted as the characteristics of fisheries change. Valued culturally, some traditional fishing practices could be lost, while angling tourism might have the means to adapt.

Agriculture and fisheries contributed approximately 0.4% to Cayman's overall GDP in 2020. Supporting these sectors to grow sustainably and become resilient could improve food security and ecosystem health, and help preserve Caymanian culture.

Table 6. Risks to agriculture and fisheries.

RISKS TO AGRICULTURE AND FISHERIES	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 risk to the financial services sector, which is comprised of financial institutions (*FIs*) that generally facilitate investments, insurance products, and banking and lending services. In 2020, the financial and insurance services sector directly contributed 34.3%, and indirectly 50%, to the Cayman Islands' economy. Therefore, it is important to understand how climate risks drive financial risk, and how such risk manifests as macroeconomic impacts on the financial system and economy, or as microeconomic impacts on FIs and their financial assets.

Climate-related risks fall into two broad categories: physical and transition (Diagram 7). These risks can result in five types of financial risks: operational, liquidity, underwriting, credit or market (Diagram 8). Physical risks arise from the increasing severity and frequency of extreme weather events and conditions, such as one-time events like hurricanes, which can damage assets, create losses that can increase insurance premiums or become a credit liability. Such events can also disrupt business operations, production systems or supply chains, and affect market prices of goods or services. Transition risks arise from changes associated with the shift to a lower carbon economy, or require the adoption of adaptation measures. This can include rapid changes to: policies, such as the adoption of a carbon tax; technology, such as the uptake of electric vehicles; consumer preferences for more climate-friendly products; and investor attitudes towards sustainable investing (e.g. pension funds).

The negative financial implications of physical climate risk in particular can trickle down to individual households and businesses. For example, 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.

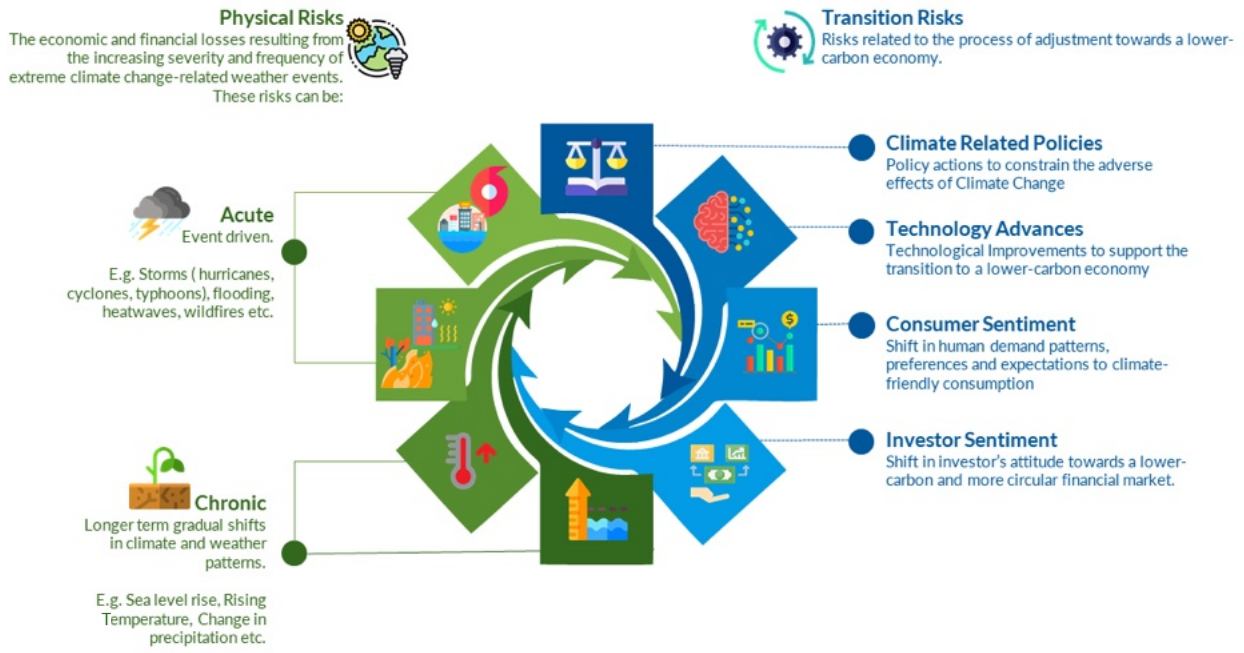
Globally, businesses and financial institutions are establishing processes to assess their risks and impacts on nature and the climate system as well as their risks from not addressing them. Organisational transition plans set out how businesses and FIs will shift modes of operation in future to align with the long-term goals of the Paris Agreement and international best practice. Large banks and lending institutions in the UK are already measuring their risks and impacts as part of their transition plans, working with borrowers and supply chains to make operations and projects more sustainable over time, including reducing GHG emissions. It is critical that these transition plans are both low-carbon and nature positive to adequately address the interconnected climate and biodiversity crises.

Given the urgency for action, perfect information is not required but frameworks are essential. There is a move toward establishing Environment, Social, and Governance (*ESG*) frameworks for financial and non-financial sustainability reporting in the Cayman Islands in line with practices in other international financial centres. The adoption of similar climate-related standards and disclosures in the jurisdiction is becoming increasingly important also. An independent regulatory environment based on globally-recognised best practice would provide the guardrails for investments and set a level playing field among FIs operating in the jurisdiction to become more climate-responsive for the benefit of corporates, consumers, businesses, investors, the climate system and biodiversity. As climate-related risk valuation and ESG disclosures become more commonplace in the Cayman Islands, opportunities arise to better quantify and manage risks in this sector and embrace service innovation to move best practice to standard practice.

In the UK and European Union, regulators have adopted directives, supervisory guidelines and risk management standards, including scenario-based tools for managing climate-related risks and uncertainty, such that markets are responding favourably to ESG solutions for transition risk, including greater sustainable and climate-resilient investment. This has driven demand for climate-savvy financial analysts and advisors, asset and portfolio managers, actuaries, and other banking and investment professionals.

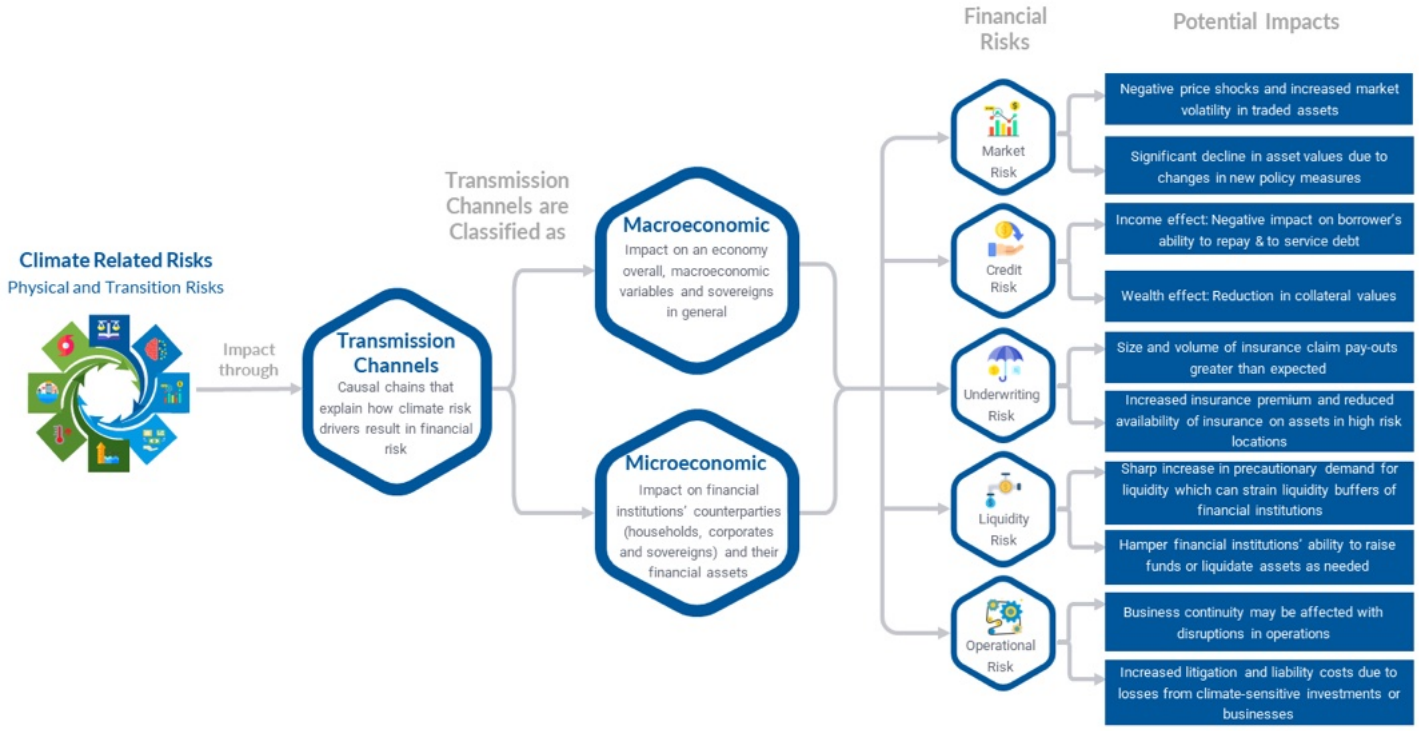
Worldwide, regulators are also planning for and facilitating sustainable investment in portfolios and projects that create climate and nature-positive outcomes. Boards and investors are now evaluating the consequences of decisions in investments on the climate system and biodiversity, and shifting away from investments and decisions that damage nature or contribute to continued climate change so that future investments and profit potential are not undermined.

Diagram 7. Climate-related physical and transition risks.



Source: Cayman Islands Monetary Authority (2020). Financial Stability Report 2020.

Diagram 8. Potential financial impacts of climate-related risks.



Source: Cayman Islands Monetary Authority (2020). Financial Stability Report 2020.

3.7 ENERGY SUPPLY

Public electricity supply from diesel-powered generation plants is the main contributor to GHG emissions in the Cayman Islands, accounting for nearly 39% of total emissions in 2019 (see Figure 2). This sector is the primary source of carbon dioxide emissions which make up the bulk of GHGs emitted in the country and worldwide. In addition to being a point source for GHG emissions, pollution from power plant smokestacks create air quality and public health concerns. Long-term exposure to diesel combustion exhaust is implicated in human cancer, heart and lung damage, and mental functioning according to the World Health Organization and other research institutions.

The National Energy Policy 2017-2037 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_2e per capita by 2030, which represents a 60% reduction on 2014 levels of 12.3 tCO_2e. The primary means of this energy transition is distributed generation solar and utility-scale solar, which together accounted for only 3% of the country's total capacity by 2021.

With rapid population increase (Figure 3) and expansion of the economy creating additional energy demands from the grid, this lag in policy implementation saw a continued upward trend in electricity-related emissions since 2014 (see Figure 4). Additionally, overall GHG emissions per capita rose to 17.1 tCO_2e in 2019, exceeding the peak emissions ascribed in the policy. A higher level of ambition for this sector and quicker paced transition rollout are needed to close this emissions gap.

The National Energy Policy 2024-2045 (*NEP*) is the counterpart to this Policy because of its positive impacts on GHG emissions reductions. It aims to increase the use of renewable energy to 100% by 2045. Significant investments in and incentivisation of a clean energy transition is clearly needed to achieve the NEP 2045 targets.

Disruption to power generation is deemed a severe risk (Table 2), especially from high winds and flooding. However, severe salt contamination of electricity lines can affect distribution systems and trigger power outages.

Figure 3. Cayman Islands population growth 1802-2021.

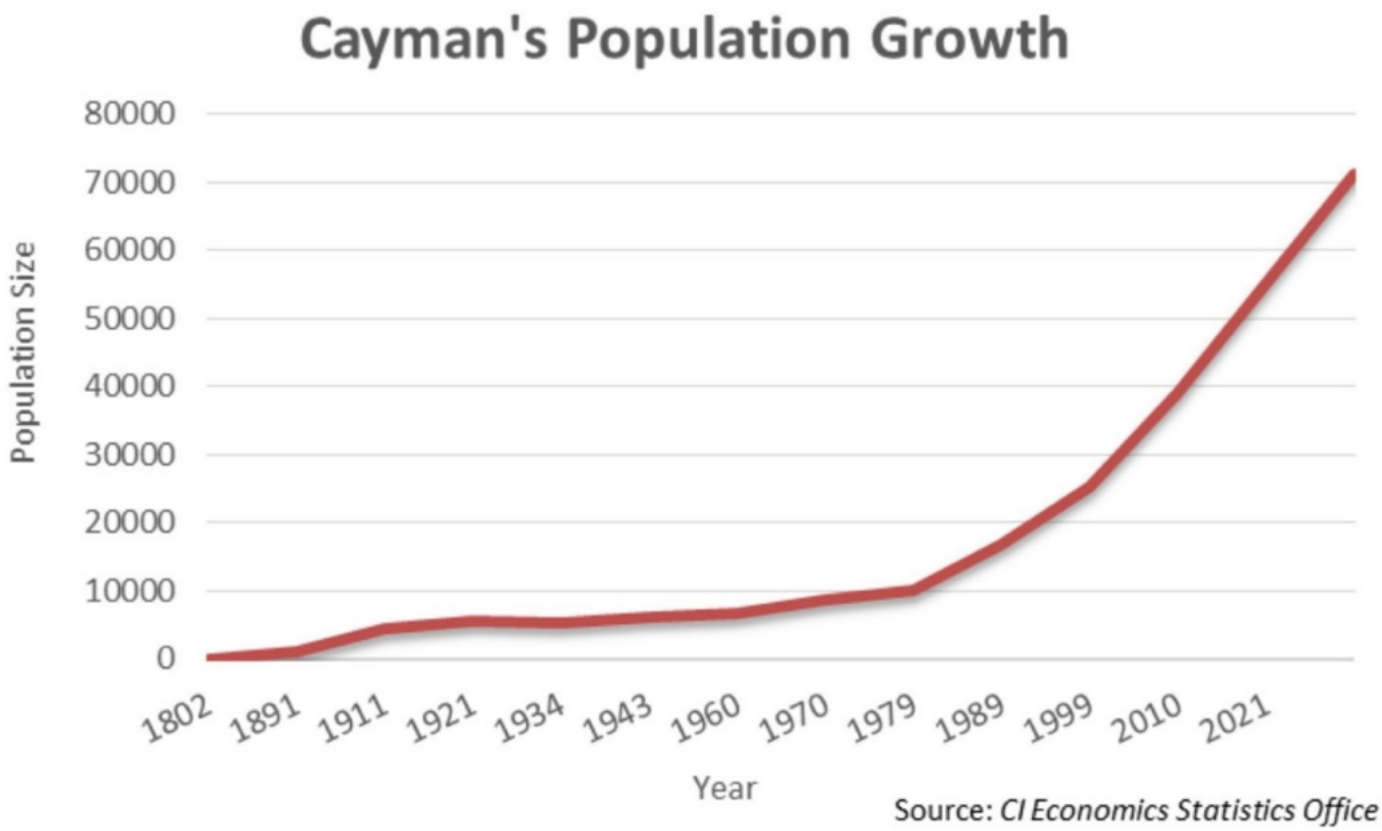
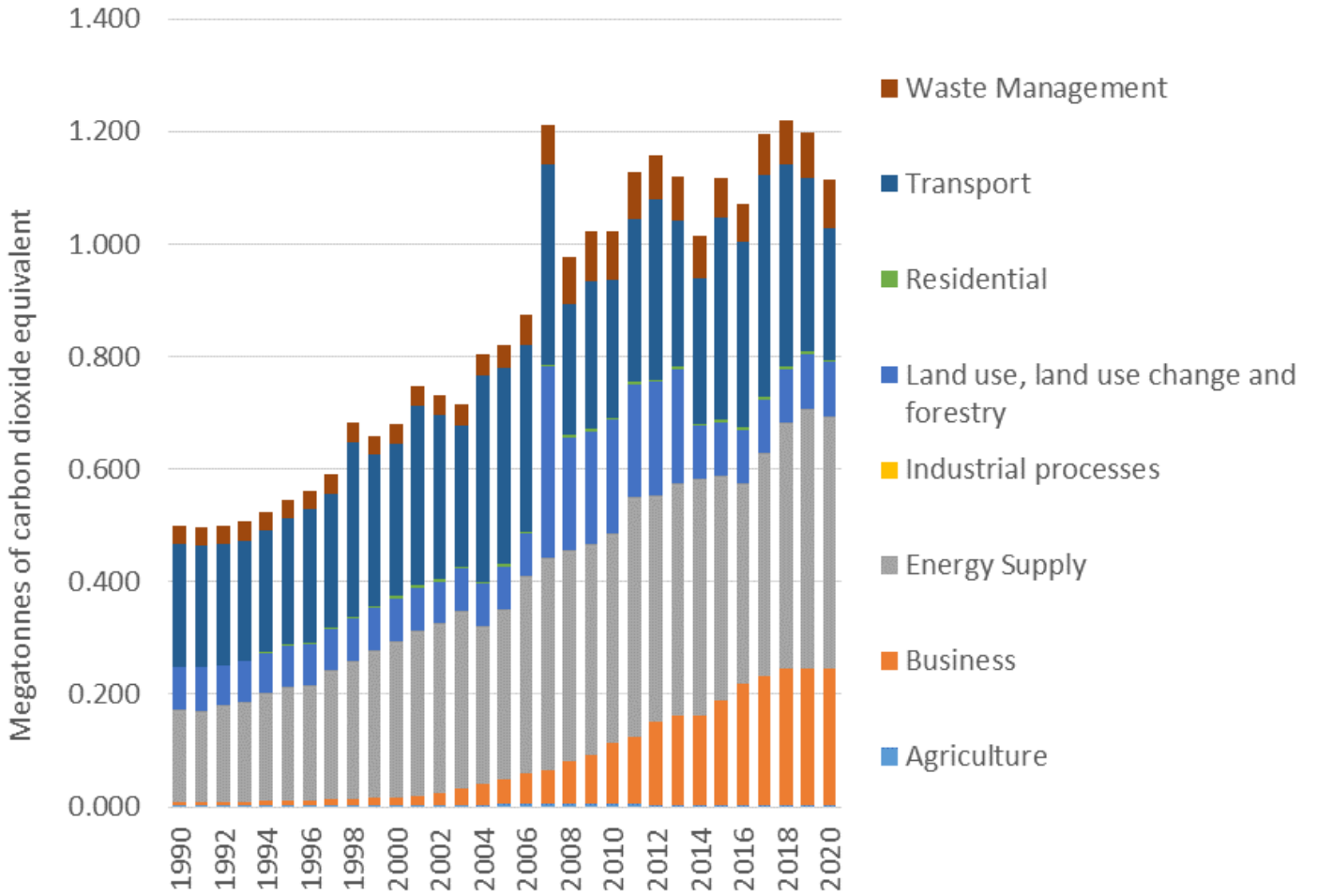


Figure 4. Cayman Islands GHG emissions by sector 1990-2020.



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

3.8 TRANSPORT

The transportation sector is the second largest contributor of CO_2 and other GHG emissions in the Cayman Islands, accounting for nearly 26% of total GHG emissions in 2019 (Figure 2). The lack of a comprehensive and reliable public transportation system facilitates the need for personal vehicles. Vehicle registrations in 2022 totaled 61,741 with over 98% being gasoline, diesel, or propane. Tailpipe pollution from internal combustion engine (*ICE*) vehicles, especially the volume of imported second hand cars, contributes to air pollution, causing health concerns for those with respiratory illnesses, especially childhood asthma sufferers.

Zero emission vehicles (*ZEVs*), on the other hand, do not produce tailpipe emissions. As of 2022, there were 347 hybrid or low-emission vehicles (*LEVs*) and 459 electric vehicles (*EVs*) on Cayman's roads, helped largely by reduced import duties for these vehicles. Given that EV options are available for virtually all vehicle classes and becoming more affordable generally, the Government continues to assess opportunities to increase their rate of adoption, promote EV conversions, and provide maintenance training to support this sector's clean energy transition. The NEP commits to achieving a full transition to zero emission vehicle new sales and imports in all categories by 2045, resulting in a 90% reduction in ground transportation emissions by mid-century.

Further greening of the grid with additional renewable energy resources offers greater potential for emissions reduction from EV use. Once the grid is 100% renewable, EV charging will be as well. A significant uptake in EVs may impact renewable energy production and storage. 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 ground transportation emissions and provide grid stability. Grid modernisation and regulatory policy will have to be changed to accommodate this.

These efforts, as well as the electrification of public transportation and commercial subsectors reliant on heavy duty vehicles, need to be scaled up at a quicker pace.

Opportunities must also be sought for the domestic aviation sector, and fishing and shipping interests to participate in climate action that reduces Cayman's GHG emissions in compliance with international regulations, while increasing cost-efficient operations. Options include the use of alternative marine fuel and sustainable aviation fuels, the latter estimated by the International Air Transport Association to contribute around 65% of the reduction in emissions needed by global aviation to reach net-zero in 2050. Carbon offsetting as a finance mechanism for these and other GHG abatement measures should be explored.

3.9 BUSINESS

The business sector is the third major emitter of greenhouse gas emissions in the Cayman Islands, accounting for 20% of total emissions in 2019 (Figure 2). Emissions are primarily generated from the use of refrigerants in stationary air conditioning systems, which also exhaust heat to urban areas. Other emissions sources are commercial and institutional Liquefied Petroleum Gas (*LPG*) usage, and commercial, industrial and transport refrigeration which produce man-made hydrofluorocarbons (*HFCs*), some of which are potent greenhouse gases.

HFCs replaced ozone depleting substances previously used as refrigerants. Most HFCs have low ozone depleting potential (*ODP*) – meaning it will not have a damaging effect on the ozone layer that is essential to prevent harmful ultraviolent radiation reaching the Earth's surface which can cause skin cancer and eye cataracts, and affect ecosystems and food chains by damaging crops, plants and micro-organisms.

Commonly occurring in the Cayman Islands is HFC-134a, found in R-134A refrigerant used in air conditioning equipment and many automotive cooling systems. 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 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.

Increased air temperatures combined with an ever-growing population and rising cooling demands will be drivers of emissions trends. As business-related economic activity continues 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_2, they are still important to curb due to their high warming potential.

Incentivising the use of suitable refrigerant alternatives is necessary to lower GHG emissions from this sector. Alternatives are readily available as the market continues to respond to mandatory phase-outs in the manufacture and export of older generation equipment and refrigerants resulting from international obligations and national environmental regulations in other jurisdictions.

3.10 LAND USE CHANGE

Land Use Change is the fourth largest contributor to greenhouse gas emissions in the Cayman Islands, accounting for 8% of total emissions in 2019 (Figure 2). Land use change describes the alteration of an area of land in its use. For example, an area that once was forest is now pasture for cattle, or a residential development. The indiscriminate and poorly planned conversion of one land use type to another is a major issue in the Cayman Islands that has implications for the release of GHG emissions, carbon storage, biodiversity, and other ecosystem services.

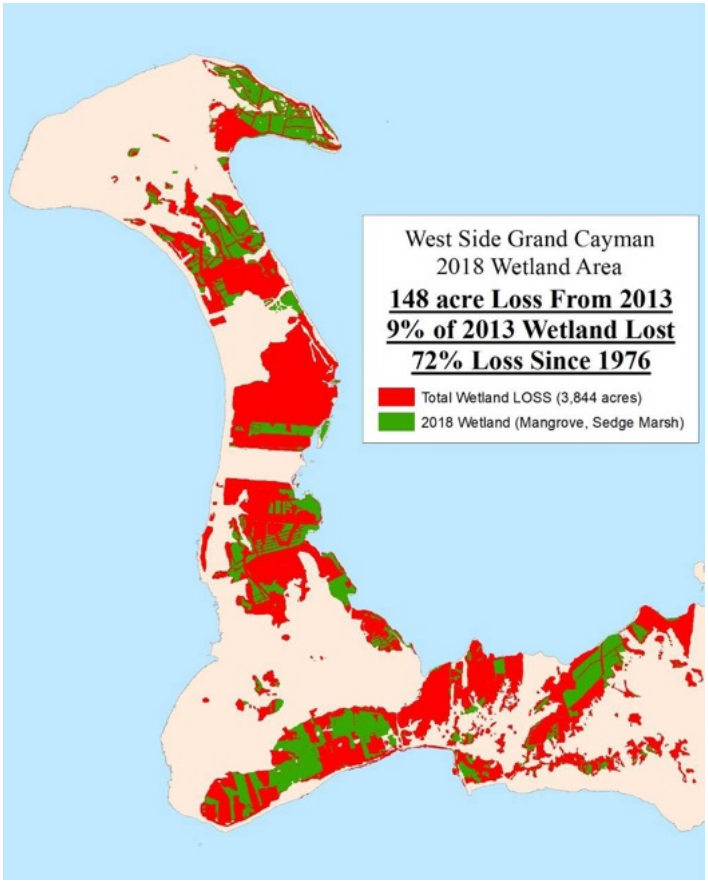
In the Cayman Islands, decades-long economic policies that promoted rapid population growth and unchecked physical development have resulted in large-scale conversion of dry forest and wetlands to urbanscape and settlements. For example, between 1976 and 2018 Grand Cayman's western peninsula saw a 72% reduction in mangrove forests largely to make way for expansive canal-style development (Figure 5).

Given population growth and related urban sprawl over the past three decades, it is unsurprising that total net emissions in this sector have also increased dramatically. By far, conversion from forests to settlements account for the largest emissions from land use change activities.

Overlooking the protective and functional value of natural environments comes at the detriment of the economy and communities. Land use change can increase vulnerability to climate impacts in a number of ways. For example, the distribution and movement of water across landscapes in some areas of Grand Cayman have changed substantially because of the way neighbourhoods and infrastructure have been developed and where they have been placed. This has caused chronic flooding in these areas. In other instances, these changes have led to the starvation of ponds and wetlands, where roads and mass filling have dammed or impeded water from feeding these areas. This has impacted their ability to remain thriving habitats for waterfowl and other species.

In order to meet international commitments and preserve vital ecosystem services for climate resiliency, land use policies that rebalance the proportion of natural areas as GHG sinks and reservoirs are urgently needed.

Figure 5. Land use change on the western side of Grand Cayman, 1976-2018.



Source: Cayman Islands Department of Environment

3.11 WASTE MANAGEMENT

Waste management practices in the Cayman Islands contributed about 7% to the overall GHG emissions calculated for the year 2019 (Figure 2). While carbon dioxide (*CO_2*) is by far the most significant GHG produced in the country by volume, methane (*CH_4*) and nitrous oxide (*N_2O*) from managed solid waste disposal and incineration, human wastewater treatment, and animal manure management are sources requiring controlled activities. Methane has 30 times more GWP than CO_2 over a 100-year period, while nitrous oxide has a GWP 273 times that of CO_2 over the same timescale.

Emissions of methane from waste disposed to and degraded in landfills occur over a long timeframe from the initial disposal of the waste, and are affected by the level of capture and utilisation of this landfill gas produced. Methane and other GHG emissions are expected to decrease when the new Integrated Solid Waste Management System (*ISWMS*) - now known as ReGen, Cayman's Energy & Recycling Centre, on Grand Cayman - becomes fully operational by 2027. Remediating the existing George Town Landfill (*GTLF*) is expected to reduce GHG emissions by 23,000 tonnes per year, the equivalent of removing 5,000 cars per year from our roads. In addition, improved techniques in residual waste landfilling, and landfill gas recovery and flaring (to convert CH_4 to less harmful CO_2) at the decommissioned GTLF and new ISWMS site will be employed.

The ReGen project takes an Energy from Waste (*EFW*) approach which will offset emissions with every tonne of waste avoided from the landfill. The EFW technology used will also produce up to 9.3 MW of surplus electrical power sent to the grid (currently representing approximately 9% of the total average electrical power consumption on Grand Cayman). This will further reduce GHG emissions through the displacement of diesel-power generation. EFW facility stack emissions will be mitigated using state-of-the art scrubbing technology to meet agreed EU Industrial Emissions standards that will limit the release of dioxins, particulate matter and other contaminants to the surrounding air, water and soil.

While prohibited, the burning of trash is known to take place on a household level, and these emissions are not included in the above GHG emissions calculation. These concerns speak to the need for greater enforcement and robust legislation that prevents undesired practices and addresses the human health implications of waste management. Legislation governing testing and reporting of air emissions in the Cayman Islands will also contribute to the accuracy of the GHG emissions inventory and progress on mitigation targets.

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.

4.0 CLIMATE CHANGE POLICY FRAMEWORK

4.1 VISION

The Policy 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 development and implementation of this Policy is 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.

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.

MULTI-SECTORAL APPROACH TO CLIMATE CHANGE

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.

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, prudent fiscal management and sufficient climate finance. Further oversight will be promoted through the adoption of global best practice, standards and financial and non-financial disclosures of Government and corporates' Environment, Social and Governance (ESG) performance, including climate risks and sustainable investing.

BEST AVAILABLE SCIENCE AND 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 is 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.

ENVIRONMENTAL ACCOUNTABILITY PRINCIPLE

In implementing this Policy, the Government shall apply the commonly accepted practice that those individuals, companies, or other entities that damage or pollute the environment will be held accountable. They will be financially responsible for cleaning up or repairing the damage they caused.

EQUALITY AND NON-DISCRIMINIATION

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 the rights of children, older persons, persons with disabilities, underprivileged and others in vulnerable

situations, and builds their adaptive capacities to climate change, including through encouraging learning and participation in decision-making.

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.

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 adverse impacts of climate change. Where there is a chance that the consequences are irreversible or maladaptive, an activity shall not be allowed.

4.3 GOALS AND OUTCOMES

The Policy has three goals that will help make the Vision for the Cayman Islands a reality by 2050:

GOAL 1: Become more resilient to climate change.

The outcome of this goal is whole of society resilience to climate change in the Cayman Islands. The priority is to substantially reduce the economic, social and psychological costs of climate impacts and sea level rise by 2040, by ensuring the adaptability of natural systems and built infrastructure to expected changes by 2030. This will require mainstreaming the goal of resiliency into legislation, national policies and all levels of planning. A climate-resilient Cayman Islands will be a safer, healthier, more attractive place for communities and businesses to flourish.

GOAL 2: Achieve a sustainable, low-carbon economy.

The focus of this goal is to achieve sustainable economic growth while justly transitioning to a low-carbon economy by 2050. Supporting sustainable livelihoods through green investments that diversify key economic sectors will maintain and uplift standards of living, reduce greenhouse gas emissions, and delay further climate change impacts. Lowering our high per capita carbon footprint can reap many benefits for households and businesses, including access to affordable energy and improved air quality, making homes and communities healthier places to live and work. The country at large will benefit from the energy security that a diverse energy sector provides with less reliance on imported fuel. These are all aspects of resiliency to climate change. This will require incentivising responsible production and consumption patterns throughout our collective supply chains, including efficient use of natural resources, and less carbon-intensive goods and services.

GOAL 3: Govern climate action fairly and transparently, with future generations in mind.

Taking action on climate change can be complex given the cross-cutting issues that require inter-disciplinary, multi-sectoral approaches to make fair decisions that provide widespread benefits over a long-time horizon. This goal requires governance frameworks, processes and tools by 2026 that guide informed decision-making, the smart allocation of resources, and the alignment of organisational responsibilities, including a sustainable approach to operations.

4.4 FOCUS AREAS AND STRATEGIC ACTIONS

To achieve the three goals, 74 strategic actions have been crafted and categorised into six focus areas:

1. Robust Economy | Aim: *Diversifying economic sectors and providing access to financial and technical resources to foster sustainable livelihoods.*
2. Liveable Built Environment | Aim: *Planning holistically and building climate-resilient structures and sites to safeguard citizens, businesses and cultural heritage.*
3. Healthy & Resilient Communities | Aim: *Improving the health and safety outcomes of communities.*
4. Resilient Infrastructure Networks | Aim: *Enhancing the capacity and functionality of critical infrastructure and its networks to withstand extreme weather events.*
5. Harmony with Nature | Aim: *Safeguarding the integrity of nature and its ecosystem services to support a robust economy and healthy communities.*
6. Integration and Coordination | Aim: *Developing government processes and capacity to take urgent climate action.*

Each strategic action is placed in one of four timeframes to begin the necessary work streams: 2024-2026, 2026-2030, 2030-2040, and 2040-2050.

The placement of strategic actions in these timeframes is based on a balancing of different factors (e.g., feasibility, existing work streams, level of associated risk).

Timelines will be further refined in implementation planning with key stakeholders. As implementation progresses, some strategic actions may move to earlier or later timeframes, and more narrow timeframes may be added. Reassessing timelines will be an important part of the five-year policy review process.

The Policy identifies measures considered to be 'quick wins.' These are relatively easy and

economical to implement, and will have visible and immediate impacts that stakeholders generally agree are good outcomes. They are denoted by "QW" in the following Strategic Actions section, and are initiatives that are already underway or some aspect is anticipated to be completed by 2026. Many focus on closing data and knowledge gaps, and increasing climate risk management and literacy across stakeholder groups.

4.5 POLICY TOOLS

The following policy tools may be used to achieve the strategic actions outlined in this Policy:

Invest | For example, Government can fund research and development in innovation to boost greener technology and infrastructure.

Regulate | For example, Government can regulate to control emissions and ban polluting activities and chemicals that are toxic for people and the environment.

Incentivise and Disincentivise | For example, Government can incentivise and disincentivise in a way that drives decarbonisation and resiliency, for instance through subsidies or duties.

Lead by Example | For example, Government can lead the way with green procurement, training and offsetting emissions associated with official travel.

Inform and Educate | For example, Government can step up educational programmes and campaigns to raise awareness, and encourage businesses and consumers to act responsibly.

5.0 STRATEGIC ACTIONS

5.1 ROBUST ECONOMY

Diversifying economic sectors and providing access to financial and technical resources to foster sustainable livelihoods.

The following fourteen (14) strategies support this aim:

2024-2026

5.1.1 Develop the Cayman Islands Monetary Authority's capacity to manage and supervise emerging risks associated with climate change.

5.1.1.1 Develop robust supervisory tools/guidance to manage identified climate risks to ensure resilience of financial systems in line with international standards and initiatives.

5.1.2 Identify climate-related financial exposures to the financial services sector to assess vulnerabilities and determine appropriate responses to, and opportunities arising from, climate change:

QW

5.1.2.1 Develop a financial services framework which supports collaboration and innovation in development of new products, services and solutions to manage climate related exposures, enhance adaptation and increase resilience to climate change.

5.1.3 Partner and collaborate with key stakeholders to develop alternatives for adequate catastrophe insurance coverage for businesses and residents of the Cayman Islands.

5.1.3.1 Consider purchase of additional insurance coverage products, e.g. to address risks like excessive rainfall or drought.

5.1.4 Foster a climate-resilient tourism sector:

QW

5.1.4.1 Reintroduce a sustainable tourism certification scheme that promotes responsible consumption, reduces GHG emissions, and maintains biodiversity.

5.1.4.2 Develop and adopt climate-adaptive Management Plans for those protected areas that attract regular visitors such as Stingray City/Sandbar.

5.1.4.3 Apply appropriate decision-making tools to future tourism accommodation, product proposals, and national marketing strategies that ensure climate-resilient natural assets.

5.1.4.4 Provide opportunities for visitors to offset their carbon and ecological footprints.

5.1.5 Support the growth of green jobs and climate services:

5.1.5.1 Identify sectors and expanding businesses needing an upskilled work force to provide services (e.g. transition planning, etc.) and keep pace with global employment trends.

5.1.5.2 Partner with the private sector to provide training and educational opportunities that meet the needs of employers.

5.1.6 Implement a National Sargassum Management Strategy:

QW

5.1.6.1 Finalise the National Sargassum Response Plan.

5.1.6.2 Find commercial uses for locally collected sargassum.

5.1.7 Support a climate-resilient agricultural sector that enhances food security, and reduces biodiversity impacts and economic losses:

5.1.7.1 Revise agriculture subsidies to support Ecosystem-based Adaptive agriculture, especially regenerative practices to improve soils, ecosystems, crop yields and nutrient densities.

5.1.7.2 Refine the Agricultural Business Information System to include climate resilient metrics and GHG emissions abatement.

5.1.7.3 Incentivise rainwater catchment and grey water re-use in agriculture production systems and domestic/commercial irrigation systems.

5.1.7.4 Diversify production towards more climate-resilient and resource-efficient crops and livestock.

2026-2030

5.1.8 Develop a national policy to reduce food waste going to landfill.

5.1.9 Develop a national growth strategy that maintains a high quality of life for citizens, preserves cultural heritage, and sustains ecosystem services.

5.1.9.1 Develop and adopt a plan to address migrant influx and outflow of people to the Islands due to climate impacts.

5.1.10 Provide access to financial and technical resources for small and medium size businesses in terminal decline.

5.1.10.1 Identify SMEs predicted to be most impacted by long-term climatic changes.

5.1.10.2 Provide opportunities for sustainable economic diversification within these sectors.

5.1.10.3 Support programmes that retrain those workers to enter other areas of the economy.

5.1.11 Require financial institutions domiciled and registered in the Cayman Islands to regularly monitor, conduct stress/scenario testing to assess their resilience to climate change and transparently disclose their climate risks, dependencies and impacts within their risk management and corporate governance frameworks.

5.1.12 Ensure the Cayman Islands Government has adequate catastrophe insurance coverage for predicated climate impacts:

5.1.12.1 Consider whether Government assets and public infrastructure have adequate coverage.

5.1.12.2 Review Caribbean Catastrophe Risk Insurance Facility (CCRIF- SPC) policies to ensure value for money.

2030-2040

5.1.13 Develop an aviation policy framework to reduce greenhouse gases in this sector and capitalise on global, regional and local carbon offsetting opportunities:

5.1.13.1 Plan for the transition to sustainable aviation fuels use by Cayman Airways and other airlines refuelling in the Cayman Islands if deemed cost-efficient.

5.1.13.2 Investigate whether Cayman Airways is eligible to participate in the International Civil Aviation Organization's Carbon Offsetting and Reduction Scheme for International Aviation.

5.1.13.3 Ensure that proceeds finance accelerated decarbonisation and resiliency within this sector.

5.1.14 Develop a maritime travel and shipping policy framework to reduce greenhouse gas emissions from this sector and capitalise on global, regional and local carbon offsetting opportunities:

5.1.14.1 Modernise maritime assets through purchase of new inter-island freight transport vessels with wind propulsion and solar electric backup systems.

5.1.14.2 Plan for the transition to sustainable marine fuel use if deemed cost-efficient.

5.1.14.3 Ensure that proceeds finance accelerated decarbonisation and resiliency within this sector.

5.2 LIVEABLE BUILT ENVIRONMENT

Planning holistically and building climate-resilient structures and sites to safeguard citizens, businesses and cultural heritage.

The following thirteen (13) strategies support this aim:

2024-2026

5.2.1 Support the expansion of renewable energy programmes to under-resourced communities:

5.2.1.1 Apply rebates and direct resources.

5.2.2 Revise coastal construction setbacks per coastline characteristics of all three islands:

QW 5.2.2.1 Complete the Coastal Setback Reference Line reassessment.

5.2.2.2 Revise the Development and Planning Regulations.

5.2.2.3 Quantify Government's liability of amending this measure (land development potential, compensation/acquisition of parcels).

5.2.3 Ensure future building stock is appropriately sited outside of existing high-risk areas and predicted hazardous locations:

5.2.3.1 Complete necessary multi-hazard risk mapping to identify high-risk areas.

5.2.3.2 Reform the National Development Plan and Development and Planning Act and Regulations to include development controls and resiliency design standards, including developments in high risk areas.

5.2.3.3 Incentivise private sector investment in the use of climate-resilient design standards.

5.2.4 Create an open-source, Geographic Information Systems (GIS)-based interactive tool for users to assess and make decisions based on locational risk from climate hazards.

5.2.5 Integrate hazard vulnerability and climate risk assessments into national development planning processes:

5.2.5.1 Ensure that the mandate is in the updated National Development Plan.

5.2.5.2 Ensure that all Environmental Impact Assessments include climate change considerations in the Terms of Reference.

5.2.5.3 Require that Hazard Management Cayman Islands (HMCI) is a part of the primary review agencies for development proposals.

5.2.5.4 Invest in local coastal engineering modelling and analysis capacity in the public sectors.

5.2.6 Increase the allocation of resources to monitor and enforce the regulation of land-use activities.

2026-2030

5.2.7 Require and incentivise mixed use developments to have resilient affordable housing that includes renewable energy.

5.2.7.1 Review and update Concession Policy.

5.2.8 Develop and implement comprehensive stormwater management legislation, including establishing effective institutional frameworks and regulations:

5.2.8.1 Convene a working group (e.g. Stormwater Management Committee) to collaborate on the development of legislation.

5.2.8.2 Conduct soil and substrate surveys to gain a better understanding of drainage and water conveyance mechanisms.

5.2.8.3 Build public sector capacity to allow for critical review and evaluation of new-to-Cayman methods, especially innovative solutions to reduce the reliance on deep wells.

5.2.8.4 Incentivise site-specific stormwater management programmes and flood control methods,

including the use of Sustainable Urban Drainage Systems (SuDS).

5.2.9 Require all new commercial buildings and residential structures to be designed for installation of renewable energy systems (e.g., 'solar-ready').

5.2.10 Incentivise the retrofitting of existing buildings to include energy-efficient technologies and best practices:

5.2.10.1 Revise energy efficiency standards and the building code.

5.2.11 Further incentivise policies to phase out import and sale of internal combustion engine (ICE) vehicles.

5.2.12 Work collaboratively to identify at-risk archaeological, cultural and heritage sites, and prioritise their resiliency:

5.2.12.1 Increase or earmark financial resources for climate risk assessments and necessary enhancements, including Government purchase and/or preservation of most vulnerable sites.

5.2.12.2 Amend planning or other legislation to preserve specific structures/sites on the Heritage Register.

5.2.12.3 Incentivise and reward private sector and civil society preservation of Caymanian architecture, art, creative spaces, and other cultural and heritage assets.

2030-2040

5.2.13 Adopt the use of sustainable refrigerant alternatives.

5.3 HEALTHY AND RESILIENT COMMUNITIES

Improving the health and safety outcomes of communities.

The following twelve (12) strategies support this aim:

2024-2026

5.3.1 Develop and regularly stress test emergency management and evacuation strategies that prioritise vulnerable populations:

5.3.1.1 Update the National Evacuation Plan and National Mitigation Plan within the National Hazard Management Plan.

5.3.1.2 Ensure the national flood emergency framework and area flood prevention plans incorporate the needs of Community Emergency Response Teams (CERTs) and appropriate actions by healthcare resilience partners.

5.3.2 Ensure sufficient social support programmes are in place for adaptation:

5.3.2.1 Review disbursement criteria from the National Disaster Fund and update as needed.

5.3.2.2 Enhance needs-based support programmes.

5.3.3 Develop comprehensive legislation and regulations for the control and prevention of air, water and land pollution:

5.3.3.1 Create measurable standards that can guide development and public health.

5.3.4 Promote climate-resilient retrofits that facilitate in-home sheltering:

5.3.4.1 Collaborate with the private sector to develop programmes that provide financial resources to residents in need of resiliency measures for home and property.

QW

5.3.4.2 Promote and incentivise building weatherisation and remediation programmes.

5.3.5 Evaluate the need and feasibility of relocating households and neighbourhoods based on vulnerability

assessments of communities (particularly flooding):

5.3.5.1 Identify funding streams to finance relocations.

5.3.6 Support the implementation of the Caribbean Action Plan for Health and Climate Change with locally-appropriate solutions.

QW

2026-2030

5.3.7 Launch community greening projects, especially in underserved communities:

QW

5.3.7.1 Assess the proximity of underserved and vulnerable communities to green space.

5.3.7.2 Use native trees to manage heat loads and create shade for heat relief.

5.3.8 Ensure underserved communities have access to solutions that address climate risks to mental and physical health:

5.3.8.1 Identify existing disparities in, and barriers to, health care access.

QW

5.3.8.2 Develop resiliency plans to ensure continuity of key services in underserved communities, including improving digital access to information.

5.3.8.3 Develop targeted education and outreach programmes to address health and safety risks.

5.3.9 Assist businesses to develop programmes that reduce heat-related health impacts on staff:

5.3.9.1 Identify the industries that are most vulnerable to heat-related risks.

5.3.10 Develop heat wave plans, including in underserved communities:

5.3.10.1 Develop guidance on the heat risks.

5.3.11 Retrofit existing shelters and design new shelters for multi-use purposes to withstand category 5 hurricanes and facilitate post-disaster recovery:

QW

5.3.11.1 Include passive survivability criteria.

5.3.12 Government to establish a national database and reporting system for climate-related morbidities and mortalities.

5.4 RESILIENT INFRASTRUCTURE NETWORKS

Enhancing the capacity and functionality of critical infrastructure and its networks to withstand extreme weather events.

The following eleven (11) strategies support this aim:

2024-2026

5.4.1 Resolve flooding hot spots, and avoid the creation of new hot spots in planned development and road networks:

5.4.1.1 Activate the Stormwater Management Committee to assess and develop solutions for these areas, ensuring membership includes the National Roads Authority, Hazard Management Cayman Islands, Department of Environment, National Weather Service, Water Authority - Cayman, and other Government departments and utility providers as needed.

5.4.1.2 Use outputs from the Flood Sensor Network and other tools to develop flood mitigation and prevention strategies for existing and new areas.

QW

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

5.4.1.4 Increase investment in regional stormwater management solutions and flood prevention strategies.

5.4.2 Ensure that onsite wastewater treatment systems are designed, operated and maintained in such a manner that they will not be impacted by sea level rise as projected for the next 50 years.

5.4.3 Incentivise the diversification of, and investment in, energy systems to include innovative renewable alternatives:

5.4.3.1 Include alternatives such as solar-powered desalination technology or microgrids.

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

5.4.4.1 Develop a plan for the design, costing and implementation of a national level sewerage system including an options review for the collection, conveyance, and treatment system.

5.4.5 Introduce a suite of creative digital and other solutions that increase efficiencies and reduce transport-related greenhouse gas emissions (e.g., telecommuting, staggered school times, public transport).

2026-2030

5.4.6 Ensure providers of fuel, critical utilities, and telecommunications demonstrate progress towards resiliency measures in their annual reports.

5.4.7 Facilitate adequate insurance for critical infrastructure:

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

5.4.8 Ensure transportation systems and networks adequately provide community access to evacuation routes in the context of a comprehensive national transportation plan.

5.4.9 Develop charging infrastructure to support electric vehicle adoption.

2030-2040

5.4.10 Climate-proof existing and planned fuel terminals and ports, critical utilities, telecommunications systems and alternative energy infrastructure:

5.4.10.1 Create redundancies such as requiring emergency/back-up power generation and distribution to ensure continuity of services.

5.4.11 Require owners of critical infrastructure and services to assess climate risks to their organisations and update their Disaster Management and Emergency Response plans:

5.4.11.1 Develop climate scenarios for stress testing.

5.5 HARMONY WITH NATURE

Safeguarding the integrity of nature and its ecosystem services to support a robust economy and healthy communities.

The following fourteen (14) strategies support this aim:

2024-2026

5.5.1 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.

5.5.2 Implement a formal environmental mitigation policy for large developments and infrastructure

projects, including renewable energy facilities.

5.5.3 Invest in coral reef restoration; expansion of the coral nursery programme; and applied research into temperature resistant corals:

QW 5.5.3.1 Finance continued applied research by Government entities into temperature resistant corals and off-site conservation.

5.5.4 Determine local values for carbon sequestration and storage in order to establish verified carbon credits.

QW

5.5.5 Review and implement legislation relevant to the management of natural heritage, natural resources and protected species and assess the need for increased punitive measures for unauthorised loss and damage:

QW 5.5.5.1 Implement Coastal Works Fees Regulations.

5.5.5.2 Update the Development and Planning Regulations to establish effective control over sand and ballast from shoreline.

5.5.6 Require the assessment of nature-based solutions in Government-funded projects:

QW 5.5.6.1 Ensure business cases have criteria that consider the cost-benefit of using nature-based solutions.

5.5.7 Use natural capital accounts in public sector decision-making.

2026-2030

5.5.8 Incentivise enhanced coastal setbacks and nature-based solutions for coastal developments:

5.5.8.1 **Develop and implement** mangrove replanting/rehabilitation programme.

5.5.9 Update the Coastal Works Policy to include comprehensive coastal zone management:

5.5.9.1 Assess recommendations from the Beach Erosion Committee and other agencies.

5.5.9.2 Identify and assess mechanisms to cost-share beach re-nourishment projects with affected beachfront property owners.

5.5.10 Establish long-term monitoring programmes and indicators for climate change:

5.5.10.1 Establish fixed plot/long-term monitoring for terrestrial sites.

5.5.10.2 Reinstate the Marine Water Quality monitoring programme in key areas.

5.5.11 Invest in research of deep sea habitats and resources, including pelagic stocks.

5.5.12 Preserve endemic plant species through seed banking:

QW 5.5.12.1 Continue with the Seed Banking project in association with Royal Botanic Gardens Kew and support the Cayman Islands National Insect Collection.

5.5.13 Expand the terrestrial Protected Areas system in line with the United Kingdom's 30% by 2030 commitment, ensuring that the Central Mangrove Wetland has protection.

5.5.14 Preserve intact and semi-urban wetlands for their flood management capacity:

QW 5.5.14.1 Using GIS, conduct a spatial analysis of the flood capacity of intact and semi-urban wetlands.

5.5.14.2 Revise the national development plan to recognise and preserve this green infrastructure network.

5.5.14.3 Assess the potential of wetlands restoration to enhance green infrastructure services.

5.6 INTEGRATION AND COORDINATION

Developing government processes and capacity to take urgent climate action.

The following ten (10) strategies support this aim:

2024-2026

5.6.1 Establish a national climate resiliency framework for government ministries and departments to assess existing and new policies, plans, and expenditures:

5.6.1.1 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.

5.6.1.2 Embed the climate adaptation, resilience and mitigation measures in this Policy into relevant national policies.

5.6.1.3 Map the allocation of resources.

5.6.2 Incentivise educational and training opportunities in climate resiliency and sustainability into human resource processes for government personnel.

5.6.3 Establish public education programmes on culturally based climate action:

5.6.3.1 Making use of artistic and cultural voices, deliver 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.

5.6.4 Integrate cross-cutting climate change issues in the academic curriculum at all levels:

5.6.4.1 Revise school curricula to increase climate literacy on risks and impacts, the Cayman Islands' climate treaties commitments, and individual action needed to help achieve the goals of this Policy.

2026-2030

5.6.5 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.

5.6.6 Enhance internal Government capacity to undertake coordinated and effective adaptation and mitigation initiatives through training and knowledge transfer opportunities.

5.6.7 Require public sector entities to formulate and report climate action plans.

5.6.8 Establish a national climate change website with open access to resources:

5.6.8.1 Share country-specific climate change reports, research publications, vulnerability maps and databases.

5.6.8.2 Track and report progress of this Policy using suitable resiliency scorecard or dashboards.

5.6.8.3 Include accessible educational material and links to programmes and plans related to and implemented under this Policy.

5.6.9 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.

2030-2040

5.6.10 Ensure the Public Service Pension Board is making sustainable investment choices:

5.6.10.1 Conduct due diligence of investments and create transition plans to decarbonise portfolios.

SUMMARY OF 'QUICK WINS'

5.1.2 Identify climate-related financial exposures to the financial services sector to assess vulnerabilities and determine appropriate responses to, and opportunities arising from, climate change.

5.1.4.1 Reintroduce a sustainable tourism certification scheme that promotes responsible consumption, reduces GHG emissions, and maintains biodiversity.

5.1.6 Implement a National Sargassum Management Strategy.

5.1.7.3 Incentivise rainwater catchment and grey water re-use in agriculture production systems and domestic/commercial irrigation systems.

5.1.12 Ensure the Cayman Islands Government has adequate catastrophe insurance coverage for predicated climate impacts.

5.2.2.1 Complete the Coastal Setback Reference Line reassessment.

5.3.4.2 Promote and incentivise building weatherisation and remediation programmes.

5.3.6 Support the implementation of the Caribbean Action Plan for Health and Climate Change with locally-appropriate solutions.

5.3.7.1 Assess the proximity of underserved and vulnerable communities to green space.

5.3.11 Retrofit existing shelters and design new shelters for multi-use purposes to withstand category 5 hurricanes and facilitate post-disaster recovery.

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

5.5.1 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.

5.5.3.1 Finance continued applied research by Government entities into temperature resistant corals and off-site conservation.

5.5.4 Determine local values for carbon sequestration and storage to establish verified carbon credits.

5.5.5.1 Implement Coastal Works Fees Regulations.

5.5.12.1 Continue with the Seed Banking project in association with Royal Botanic Gardens Kew and support the Cayman Islands National Insect Collection.

5.5.14.1 Using GIS, conduct a spatial analysis of the flood capacity of intact and semi-urban wetlands.

5.6.1.1 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.

5.6.2 Incentivise educational and training opportunities in climate resiliency and sustainability into human resource processes for government personnel.

5.6.3.1 Making use of artistic and cultural voices, deliver programmes that assist individuals and sectors in understanding their vulnerabilities to climate change and using local solutions to lower their risks to climate hazards.

5.6.4.1 Revise school curricula to increase climate literacy on risks and impacts, the Cayman Islands' climate treaties commitments, and individual action needed to help achieve the goals of this Policy.

5.6.5 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.

5.6.8.1 Share country-specific climate change reports, research publications, vulnerability maps and databases.

6.0 POLICY GOVERNANCE AND IMPLEMENTATION

Responsibility for the timely and coordinated implementation and review of this Policy shall be vested with the Climate Change Council (*CCC*), the functions and composition of which shall be set in legislation. It shall promote a cohesive national response to urgent climate action set out in this Policy, and have oversight of policy implementation and periodic review in respect of other national policies and sectoral plans.

The Ministry with climate change responsibility will serve as a secretariat to the Council. The Ministry will establish and maintain a climate change unit responsible for coordinating the implementation of facets of the Policy across ministries, portfolios, agencies, and other non-government organisations with specific responsibility for actions in furtherance of the Policy goals, and provide technical support and guidance, as needed. The Ministry for climate change will identify any additional positions or organisational structures that may support Policy implementation.

The mandate to maintain continuity of implementation across ministries and successive administrations will be embedded in each Chief Officer's performance agreement through objectives issued by the Deputy Governor.

An Implementation and Monitoring Plan detailing strategic actions within specified timeframes shall be developed upon the approval of this Policy. In addition to targets and performance indicators for monitoring and measuring progress, the Plan shall set out agencies and organisations tasked with or supporting the implementation of strategic actions. Strategic actions of the both the CCP and NEP will be streamlined.

Funding and resourcing of the work of implementing this Policy will, where possible, be absorbed within the operational budgets of Government ministries and portfolios. Human and financial resources will be used efficiently by taking advantage of work streams that dovetail.

A Climate Resiliency Fund will be established through legislation to fund the timely implementation of this and future updates of the Policy, including the work of the CCC and financing the incentives and investment-related strategic actions. Funds can be derived from a variety of sources, such as proceeds from sales of carbon offsets, grants made to the Cayman Islands Government, levies on carbon-intensive products, etc.

This Fund shall be administered by the Council that shall be tasked to:

(a) Mobilise and manage funds to ensure that resources are used efficiently;

(b) Keep proper accounts of its transactions, which shall be audited annually pursuant to the Public Management and Finance Act; and

(c) Prepare and present an annual report to the Parliament within three months after the expiration of the financial year.

7.0 POLICY MONITORING, EVALUATION AND CHANGE

The Implementation and Monitoring Plan of this Policy shall be monitored by the CCC. 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.

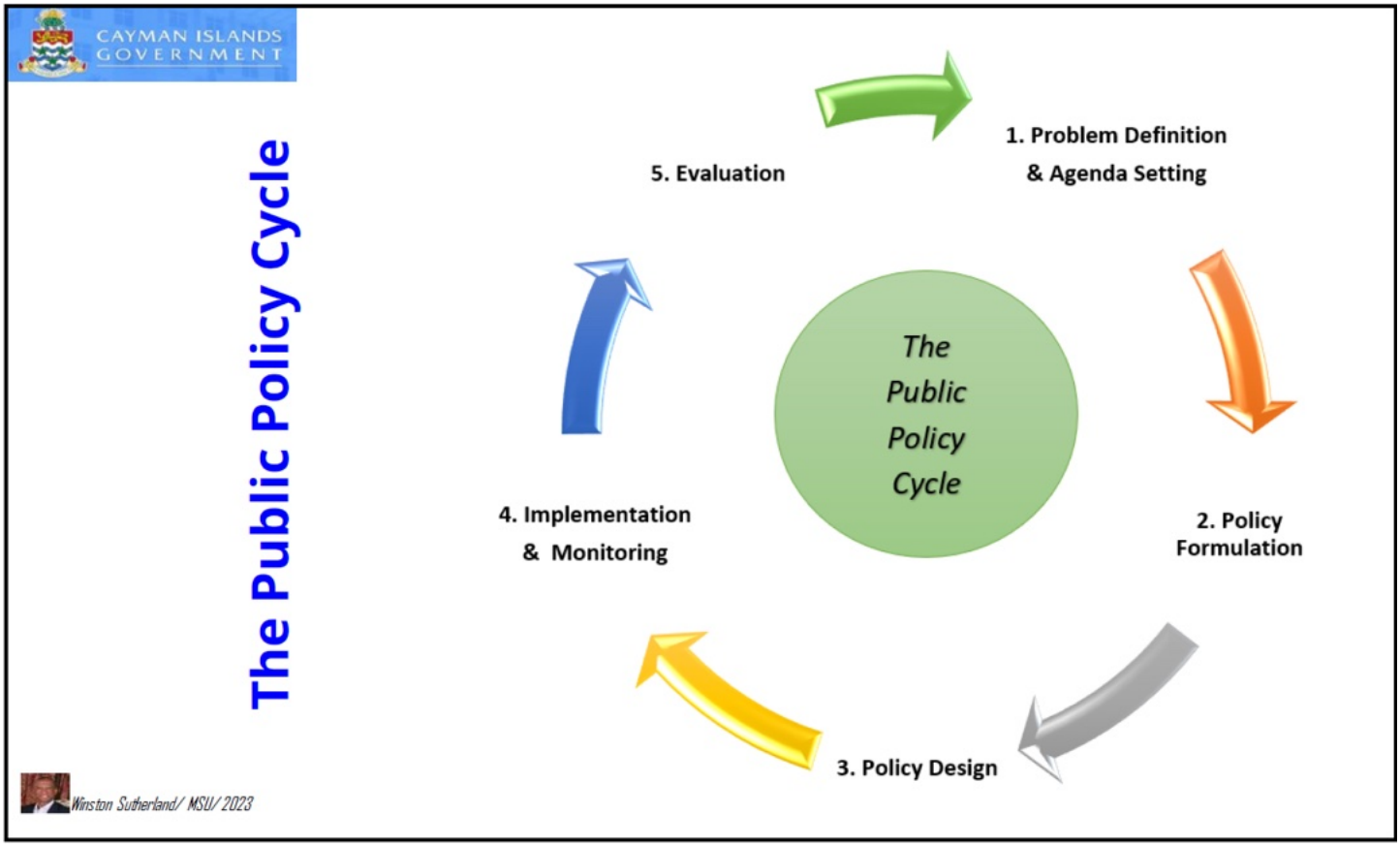
The Council shall report to Cabinet through the responsible Minister on a schedule determined by its ToR, but not less than on a semi-annual basis, as well as at any other time deemed necessary. The CCC shall monitor the implementation of measures and keep this Policy under regular review and evaluation.

Monitoring, evaluation and learning processes will be needed to support adaptation actions, in addition to metrics and indicators used to measure adaptation and 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 second 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 two-year periodic basis by several stakeholders, including those that have helped to craft, implement or measure progress toward the goals. 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. Continued alignment with the NEP in particular is expected.



8.0 CONCLUSION

The Climate Change Policy 2024-2050 is an update to the 2011 draft Climate Change Policy. It has been crafted with multi-stakeholder contributions and is in line with the findings of the Cayman Islands Climate Change Risk Assessment 2022. Scientific data and assessments warrant the climate adaptation and mitigation strategic actions outlined in this Policy. 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. This sentiment was reflected in the public consultation on this Policy.

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 well-being of communities and the status of the Cayman Islands on the international stage. This Policy contains strategic actions 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 a sustainable, low-carbon economy (Goal 2); and facilitate participation in a future-focused and accountable governance framework (Goal 3).

Sensible guiding principles and a suite of tools (discussed in Section 4) have been used to craft strategic actions (Section 5) that are environment and climate-conscious, yet people-focused and health-conscious.

Successful implementation of this Policy over the next 26 years (Sections 6 and 7) 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 strategic actions.

This Policy has attempted to address the shifting climate 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 Policy will be supported by an Implementation and Monitoring Plan that will cement targets and timeframes for implementing strategic actions, and clarify roles, responsibilities and requirements for successful outcomes.

9.0 APPENDICES

9.1 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 and natural systems to adjust or moderate potential damages caused by climate-related hazards so as to preserve or enhance their functionality, which requires the means and tools to reskill or upskill, employ appropriate technology, traditional knowledge or nature-based solutions, and access suitable finance.

Carbon sequestration: a naturally occurring process of storing carbon in a carbon pool, either geologic or biologic, which can be enhanced or achieved with technology (e.g. carbon capture and storage).

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): a measure of how much impact a chemical can cause relative to the impact of the same quantity of carbon dioxide over a specified period. Carbon dioxide has a GWP of 1 over all time periods, being the reference gas.

Greenhouse gas (GHG) 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_2), Methane (CH_4), Nitrous oxide (N_2O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulphur hexafluoride (SF_6), Nitrogen trifluoride (NF_3).

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 (NDC): 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-based solutions: use natural features and processes 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.

Ozone Depleting Potential (ODP): a measure of how much damage a chemical can cause to the ozone layer of the atmosphere compared with a similar mass of trichlorofluoromethane (CFC-11) which has an ODP of 1.0.

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 the 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 or adapt.

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