



The Bermuda Difference

bringing expertise, resource, and finance
to the world's biggest challenge

The UN conference of parties ('COP'),
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COP 28



Deputy Premier & Minister of Home Affairs

The Hon. Walter H. Roban JP, MP

Forward

The environment, particularly in its maritime aspect, is at the heart of national life and economic policy. We welcome COP28 as a further opportunity to share and to build on our unique and vital contribution to the planet in this area.

Many will know that Bermuda is a small island of approximately 57 square kilometres. What some may not know is that despite our size, we are a large ocean state with an exclusive economic zone of over 400,000 square kilometres. We are also the only land mass within the Sargasso Sea and have championed the conservation of this unique ecosystem for the past 12 years, arising from the Hamilton Declaration (named after our capital) which committed five governments, including the US and UK, to joint action. Since then, a further five governments have signed up to this covenant.

Bermuda has committed to a world-leading Economic Exclusive Zone representing 20% of our marine estate, in which there can be no harvesting of resources nor other economic activity. We are already seeing significant recovery in the spawning grounds, with a further focus on essential fish habitats in train. We are proud to be part of the UK's Blue Shield oceanic protection programme, as one of the UK's Overseas Territories which together account for 85% of the UK's biodiversity.

We are also fully focused on our land carbon footprint and will have replaced our entire bus fleet with electronic vehicles ahead of the 2024 deadline, are set to achieve an 85%

reduction in net emission by 2035, and on track still for achieving net zero by 2050. We have installed hectares of solar planning, as well as advance in planning for wave energy and other sustainable energy forms, drawing from the wealth of our climate and natural habitat.

Our world-leading insurance and financial services sector plays an ever-growing part in providing security and mitigation for those most affected by climate change, underwriting a third of the world's catastrophe insurance, with over \$100bn in insurance assets on the island alone.

As the proverb goes, "We do not inherit the earth from our ancestors; we borrow it from our children". The time for action is now.

A handwritten signature in black ink, appearing to read 'Matthew', with a long horizontal stroke extending to the right.



1. Overview and our mission – leading and participating

Bermuda sits at the heart of one of the world’s great oceans, the North Atlantic, and is a global hub for climate focused finance and mitigation expertise. We view our mission as to provide vital support to our own environment, on and offshore, and to those partner countries most hit by the impact of climate change.

We have long punched above our weight over the last 60 years, becoming the ‘world’s risk capital’, and we now plan to become the world’s climate risk capital.

We are acutely aware of the multiple species dependent on our good custody, ranging from the North Atlantic salmon to the onshore snail.

We are fortunate to be able to invest in our own carbon neutral strategy, while supporting others internationally through our expertise in business and environment.

As a leading member of the British Overseas Territories, we are part of an eco-system which accounts for 85% of the UK’s biodiversity.

We have direct custody of one of 464,000 sq km of one of the world’s great oceans, nearly a quarter of which we have designated for total conservation.

In 2018, we committed fully to focus on net zero by 2050, with an 85% reduction in carbon

2. The policy framework

footprint by 2035, with which we are on track. Our Net Zero priorities are focused on:

- Our Integrated Resource Plan (IRP) goal is to decarbonise energy generation to 85% by 2035;
- Decarbonise transport public, commercial and private by 2035;
- Making requisite planning building code provisions to decarbonise construction and raise commercial conservation and efficiency levels;
- Imbed conservation and efficiency into residential development;
- Focus on better demand side management amongst residents, through an effect future tree planting policy spread over the island for sustainable tree coverage



Bermuda has introduced, the 'Bermuda Ocean Prosperity Programme' which will develop the 'Marine Spatial Plan'. The Marine Spatial Planning will develop and legally adopt an enforceable, comprehensive, Exclusive Economic Zone (EEZ)-wide plan designed to sustainably manage resources and fully protect 20% of Bermuda's waters as no-take fisheries replenishment zone. Bermuda's ambition looking forward is to be a thriving 'Blue Economy' with the diversification of its national revenue and strengthen the sustainable use of ocean resources and economic growth, improved livelihoods and jobs, and continued ecosystem health. A blue economy fund will be introduced to support enhanced marine protection and ocean industries that are still maturing, such as fishing in the EEZ.

Bermuda has introduced strategies for the restoration of seagrass and mangroves in addition to increasing our protected species to include sharks and manta rays to better manage imbalances in Bermuda's marine ecosystems. On land, the Government is introducing an island-wide tree planting strategy to remove invasive species, increase shade, and improve biodiversity.

Bermuda has developed a strategy for the elimination of single-use plastics which has now been released for public consultation. Engagement has already begun with key stakeholders and the public in general. The Ministry of Home Affairs is working in partnership with the Ministry of Public Works to begin educating the public through lectures and social media campaigns highlighting the policy and encouraging reduction in the use of single use plastics.

Bermuda is not immune or isolated from the impacts of climate change. Bermuda has commissioned a climate study which is nearing completion, and we will provide the information to prioritise mitigation solutions. Our island is exposed to sea level rise, increasingly severe and frequent storms, and to changes in ocean currents and weather patterns. Isolated, beautiful, and unique, Bermuda is home to the most northerly coral reef system in the world, which is a critical habitat for marine biodiversity. Bermuda is also the only landmass in the Sargasso Sea, a floating rainforest of Sargassum seaweed that is a home and spawning site for several species of threatened and endangered marine wildlife. We are a treasure trove of environmental wealth, a capital of ocean conservation, and a key player on the global stage of financial risk management.

As an island community vulnerable to the effects of climate change, and as a global capital of climate related financial risk management, we are determined that Bermuda will participate in the international response to ensure our collective safety and prosperity.

To that end, Bermuda is committed to increasing our protection of our fragile ecosystem, reducing our carbon footprint, and mitigating the impact of climate change. The work has already begun.

The first Integrated Resource Plan (IRP) was published in 2019 and aimed for 21 MW of utility scale solar PV and up to 30 MW of distributed generation- meaning residential rooftops and installations under 500 kW each- by 2025. Thus far, we have 6MW of utility-scale solar, and just over 11 MW of distributed generation. Studies are being conducted to assess the feasibility of 60 MWs of wind power via an offshore wind farm, and though the IRP had originally contemplated the integration of biomass, we recognize that it is no longer considered the 'green' technology it was at the time of publishing.

The Regulatory Authority is required to revise the IRP once every five years, or sooner as directed by the Minister responsible for Energy. Submissions are being prepared right now to use as the basis on which the new IRP will be built, and it is likely that other technologies will replace biomass in that iteration.

Reflecting our culture in business and government, we focus on actions most of all. Across the key areas of endeavour, we have delivered significant progress over the last years:

- In 2022, Bermuda ratified amendments to the Electricity Act 2016 that allowed innovators in energy generation technology a means by which they can beta test in Bermuda. Previously, the Electricity Act prohibited innovators, and so the Act was amended to accelerate the development of technologies, such as ocean swell or floating solar, that could contribute to our net-zero goals.
- Also in 2022, the first Fuels Act was passed, which brought much tighter regulation and oversight to the fuels industry in Bermuda. The Fuels Act is the 'omnibus' act under which all fuels are regulated, providing greater oversight in a 'one stop shop' with the regulation of the sector moving to the Regulatory Authority in 2023. Fossil fuels will still be needed for some time to come, and recognizing this, it was of paramount importance that there was a means by which any new fuel types could be carefully regulated, and existing fuel use would be under closer and careful scrutiny.

3. The North Atlantic

Overview

We have a unique place in the Atlantic and as lead trustee for the Sargasso Sea. We are committed to the Marine Protected Areas, covering some 90,000 sq km of 400,000 sq km of ocean over which we have lead custody, and actively examine the possibilities of growing this network of areas.

Protection of fisheries is of course at the heart of this, but so is the beauty of the wider environment and bio-diversity, as well as human-made treasures such as shipwrecks. Increasingly, we must also measure off the needs of wave renewable energy and our role as a key cable hub for trans-Atlantic communications.

Bermuda has witnessed the significant decline of fish stocks for decades, within and without our territorial waters. We admit to over-fishing in the 70s and 80s, driven by tourism and other factors, which resulted in the banning of fishing pots in the 70s. and we now have some of the highest stocks across all species such as Black grouper, Red hind and shallow water snappers, since the 1990s.

The recoveries have been strongest in spawning grounds, and with that in mind Bermuda is in the final stages of drafting an integrated Marine Spatial Plan ('MSP') for the entirety of its Economic Exclusive Zone, focused on Essential Fish Habitats, in the areas proposed as fully protected Marine Protected Areas ("MPAs"), while ensuring a viable and sustainable local fishery. The outcomes of the MSP include requiring Environmental Impact Assessments ("EIAs") for developments, improving monitoring and enforcement. Other goals focus on reducing marine pollution.

We will balance this with looking to expand Blue Economy opportunities in marine tourism, ocean-based renewable energy and offshore fishing to create jobs and benefit all of Bermuda, placing additional demands on the marine environment without the insurance policy of MPAs is unwise.

Blue Shield Programme

We were delighted to have been picked as a flagship partner in Blue Shield, a maritime domain awareness programme established by the UK for British Overseas Territories in 2021. The programme provides comprehensive tools to the Overseas Territories to defend their seas against illegal activities and offers a suite of support, including innovative technology and surveillance techniques.

The Blue Shield Programme is the latest project funded by the Blue Belt programme, which actively protects and enhances over 4 million square kilometres of ocean globally.

The programme identifies and analyses activities taking place within the maritime domains of Bermuda and other participating Territories that may impact the health and sustainability of our biodiverse marine environment. It provides a complete picture of marine activities, which allow improved management of our waters. The activities surveyed include:

- Illegal, unreported, and unregulated (IUU) fishing;
- Illegal ballast exchanges and dumping at sea;
- Commercial and recreational vessel activity; and
- Shipping activity.

Through establishing compliance and enforcement frameworks, Blue Shield actively monitors activity, assisting us to ensure environmental regulations are met. Where necessary, Blue Shield also helps Bermuda to undertake enforcement action against non-compliance.

Blue Shield supports Bermuda and other Territories through specialist training for on-island staff to build local capacity and be given access to innovative surveillance and enforcement techniques.

These include:

- Using the latest satellite surveillance data to monitor maritime activity across our entire Exclusive Economic Zone.
- Deployment of bespoke underwater camera equipment to monitor and protect ocean wildlife. The data from which will be analysed by the University of Western Australia.
- Assessments within the EEZ using Automatic Identification Systems (AIS) and satellite surveillance data to identify shipping trends and risks will help focus enforcement activity in our large 465,000 square kilometres EEZ.
- Passive acoustic units, which, once deployed underwater, can monitor the sounds of vessels with GPS positioning systems turned off; and
- Enforcement training to build in evidence collection, case file management, and specialist satellite surveillance technology.

Maritime domain awareness is currently provided to Overseas Territories, which are part of the Blue Belt; however, this vital capability is now available via the Blue Shield to all interested Overseas Territories.

The Sargasso Sea

Bermuda is also the only land mass within the Sargasso Sea. And although isolated, we are fundamentally connected to broader Atlantic ecosystems and have championed the conservation of this unique ecosystem for the past 12 years.

In 2014 we hosted a major international meeting at which five governments, the Azores, Monaco, USA and UK, and Bermuda, signed the Hamilton Declaration on Collaboration for the Conservation of the Sargasso Sea. The Signatories of this political declaration agreed to collaborate and protect this important high seas area for the benefit of future generations. Since then, five more governments consisting of the Bahamas, British Virgin Islands, Canada, Cayman Islands and the Dominican Republic have also joined.

The Hamilton Declaration established the Sargasso Sea Commission, and the current Commission is comprised of seven distinguished expert volunteers committed to high seas conservation who, although serving in their personal capacity, are appointed by the Bermuda Government on the recommendations of the other Signatories.

The role of the Sargasso Sea Commission is to “encourage and facilitate voluntary collaboration toward the conservation of the Sargasso Sea”. Since its inception, the Commission has raised the Sargasso Sea’s profile, elevating it to the world stage and promoting recognition of this incredible open ocean ecosystem, the basis of which is the golden Sargassum seaweed, from which the sea is named.

Hundreds of species - some endemic - are supported by the Sargassum at various stages of their life cycle. Flying fish lay their eggs, and juvenile dolphinfish shelter within it, while huge game fish feed beneath it. The Sargasso Sea also acts as a migratory corridor for several sharks, rays, and cetaceans species. It is also the only known spawning ground for two species of endangered anguillid eel.

The Sargasso Sea Commission has just secured two separate but complementary grants, one from the Global Environment Facility and another from the French Facility for Global Environment.

Under these projects, the Sargasso Sea Commission will undertake the first ecosystem diagnostic analysis of a high seas system. They will also work with stakeholders to create a plan for the conservation and stewardship of the Sargasso Sea going forward.

The protections outlined in the Fisheries (Protected Species) Amendment Order 2022, the Fisheries Amendment Regulations 2022 and the Protected Species Notice of Intention 2022 show Bermuda’s commitment to the global effort to protect important vulnerable migratory species and will also facilitate better monitoring including in these key areas:

- Illegal, unreported, and unregulated (IUU) fishing;
- Illegal ballast exchanges and dumping at sea;
- Commercial and recreational vessel activity; and
- Shipping activity

To date this has been very challenging but advances in technology, combined with assistance from our neighbours, as well as better integration of our local assets, mean that it is now possible to monitor and manage our EEZ almost in real time.

We have incorporated this responsibility in to our role as a global cable hub, with a single area that incorporates all the existing deep water submarine cable routes, and which is designed to have as minimal impact on current and future use of the area while allowing sufficient scope for the development of the submarine cable sector to the best industry standards.

We plan to be a leader in wave energy. Wave power could produce theoretically 100% of the island's current electricity consumption. The Department of Environment and Natural Resources or DENR led this initiative. It held multiple consultations with stakeholders, including the Ministry of Transport and Ministry of Public Works, the Marine Resources Board, and the Commercial Fisheries Council. DENR had to ensure that the location would:

- provide the needed amount of wave energy
- produce minimal disruption to shipping lanes
- strike a balanced approach with the fishing industry in that area;
- have no impact on whales that may be migrating through the area or on areas where commercially important fish species may spawn;
- not harm protected species, including coral and seagrass; and
- avoid impact to any marine heritage.

The pilot project aims to build a 40MW wave park to provide about 10% of Bermuda's energy needs. Our plan is to include wave energy, making our commercial partners eligible to apply for a utility-scale licence, taking its rightful place in the landscape of energy in Bermuda.

4. On island

The Department of Planning is the Steward for encouraging resilient and sustainable development while zealously protecting portions of our environment for future generations. The Bermuda Plan which is reviewed every 5 to 10 years identifies conservation land including Nature, woodland, agricultural Reserves and Parks which absolutely cannot be developed in addition to coastal reserves where there is limited development. Coastal reserves will change with the publishing of the Climate study to mitigate the effects of Climate Change.

We have a proud history of conservation which dates back to the 1600s when we announced measures to protect our turtles and other rare species, perhaps the first such measure taken at that time.

There are other indigenous species that we are trying to protect with robust legislation, including the Fisheries Act 1972, Protection of Birds Act 1975, Protected Species Act 2003, Endangered Animals and Plants Act 2006, and the Invasive Alien Species Act 2021. There is a public effort to grow and plant more native and endemic plants, including our Bermuda cedar and Palmetto as these will be better able to withstand the impacts of climate change. We have a very robust plant protection system as well to protect Bermuda against the importation of plant varieties, pests and diseases that could damage our environment and agriculture industry. Another example, within the last 20 years, was a parasite that attacked our citrus plants; again, caused by pests that had come in via importation. We also have programmes to protect and replenish mangroves coral and seagrass, as critical habitats for marine life and birds.



Clearly the needs of the fauna and flora must be measured against the needs of our communities for sustainable energy, so we live in synergy with nature.

In 2011 we laid out the vision for the future in respect to all facets of energy on island and in the immediate seas around. Two years later, in 2013, the Regulatory Authority was established, which is independent and self-funded in all respects. The role of the ministry is in direction on policy, which supports investor confidence. In 2019 the Regulatory Authority published Bermuda's first integrated Resource Plan or 'IRP', a roadmap to guide all energy developments for the foreseeable future.

These amendments lay the groundwork for innovative energy development and testing in Bermuda, with the ultimate goal of reducing the cost of sustainable energy for local consumers. The Regulatory Sandbox was created for new and innovative technologies not currently included in the IRP, reflecting a balanced and cautious approach to commercial deployment.

We committed in 2021 to creating a green energy fund called Community Solar, helping fund solar installations, following amendments of the electricity act of 2016.

We will have replaced the entire bus fleet with electronic vehicle versions (EVs) across the island ahead of the 2024 deadline.

We have taken a robust view on single use plastic (SUP), with a commitment to a progressive approach to eliminating their import and use. Since announcing the intention to eliminate SUPs, which has a support rate of some 75% of our people, use has started to rapidly fall as retailers and businesses voluntarily look to find alternatives.

These responses offered ideas on how Bermuda retailers can better do business in order to reduce the need for single-use plastics. Such suggestions include but not limited to:

- bringing your own containers;
- offering discounts for recycling; and
- returning containers.

Meanwhile, the third sector has also backed the government's plans and groups such as Beyond Plastic Bermuda have been running outreach and awareness campaigns as well as supporting business champions who commit to ending the use of single use plastics.

5. Mitigation and carbon offset

The Ministry of Home Affairs established a cross-ministerial Climate Task Force in 2022 to engage with the potential impact of climate change on the island. We engaged with Smith Warner International for an independent study to carry out assessment of the physical, economic, and fiscal risks that climate change might post and where necessary invest further in measures to improve its resilience.

The study is almost complete and will be presented to Cabinet in the coming months and will provide the government with the information to focus our efforts to reducing our vulnerability to extreme weather events, sustainable development, and improving coastal and ocean management (source: Bermuda business review 2023/24). At the same time, the government is undertaking a full-scale review of the Building Codes in partnership with the European Union's Green Overseas programme, to ensure that our infrastructure is even better equipped to deal with climate change, through amending the codes to improve energy efficiency and climate resilience.

6. Resilience and business partnership

Bermuda is respected as providing already one third of the world's catastrophe insurance underwriting capacity and we are building on this base now with on-island insurance assets of over \$100billion for the first time in our history. We have led the way in attracting properly risk-assessed assets from the private equity and other sectors. Our goal, simply, is to be 'the world's risk capital'. Additionally, our on-island business community has proven strong in support of our net zero targets:

- We have seen widespread installation of solar panelling across the business community. We are as keen on collecting our sunshine as our rainwater.
- Bermuda will be creating a green energy fund in public private sector partnership which will help fund solar installations across our communities, benefitting those that cannot afford to invest under the existing incentives.
- Careful observance of new legislative frameworks to monitor our air with respect to emissions now bears comparison with world leaders including in the EU.
- Our private sector is at the forefront of planned developments in wave energy and wind power, with its global network of finance and expertise.

We are planning to meet or beat all internationally agreed targets, whether as signatories to the Paris Agreement or not, with the key support of our business community.

7. The challenges and responses for the coming decade

As an island, we know well the continuing challenges and responsibilities of our unique geographic situation and our duty to other low-lying territories less well-placed than ourselves.

In the near future our focus will be on improving the island's resilience to climate change through our Climate Change Study and Marine Spatial Plan

We view the COP process and participation as at the core of our international partnerships in this.