MINISTRY OF MARITIME AFFAIRS & THE BLUE ECONOMY

Development of Barbados' Blue Economy Framework

PRESENTATION TO:

- ***5TH Meeting of the Contracting Parties (COP) to the Protocol Concerning Pollution from Land-Based Sources and Activities (LBS) in the Wider Caribbean (July 26, 2021),***
- ***11TH Meeting of the Contracting Parties (COP) to the Protocol Concerning Specially Protected Areas and Wildlife (SPAW) in the Wider Caribbean Region (July 27, 2021)***
- ***19TH Intergovernmental Meeting on the Action Plan for the Caribbean Environment Programme (CEP); and the 16TH Meeting of the Contracting Parties to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (July 28-30, 2021)***

BY: Rickardo Ward

Barbados' Institutional Structure for Environmental Management – pre 2018

- Ministry of Environment
  - Coastal Zone Management Unit (CZMU)
  - Environmental Protection Department (EPD)
  - Natural Heritage Department (NHD)
  - National Conservation Commission (NCC)
  - Policy Research, Planning and Information Unit (PRPIU)
  - Biodiversity Unit
- Other Agencies
  - Town and Country Planning
  - Division of Energy and Natural Resources
  - Ministry of Agriculture / Fisheries
  - Others

Barbados' Overarching Policy Direction – Blue and Green Economy

OVERARCHING POLICY STATEMENTS - Pillar V – Protecting and Preserving our Environment - BLP Manifesto 2018

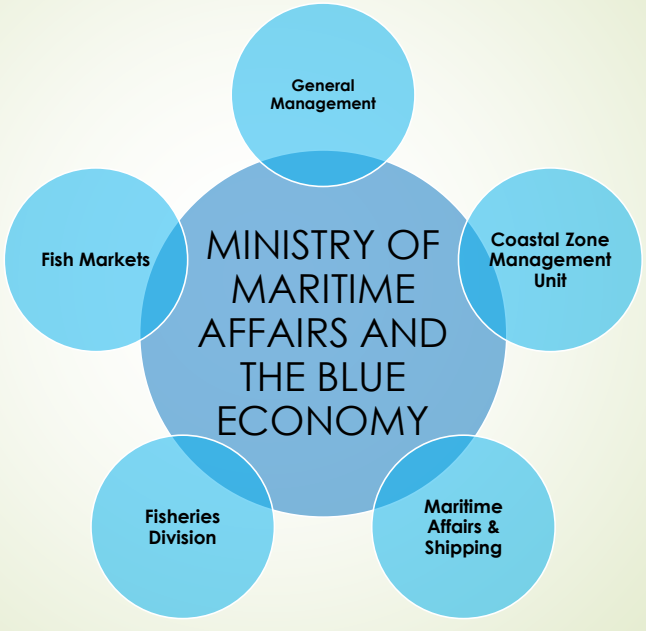
- *Barbados' **air, land, water, biodiversity and sea are beautiful and valuable and must be protected** and preserved as part of our national patrimony and for the sustainable use of Barbadians. Our environment is important to our society and economy. We must not compromise or destroy the natural resources on which our comfort, culture, way of life, economic security and growth depend.*

- ***At the international level, environmental issues are increasingly discussed in the context of the Green Economy and the Blue Economy. It is in Barbados' long-term economic, social and environmental interest to pursue these new policy directions**.*

- *When Barbados' 200-mile Exclusive Economic Zone is considered, our marine space is 400 times that of our land space. **Barbados' Blue Economy therefore has tremendous potential**. **In this Manifesto, we lay out our policy to power Barbados from renewable energy sources**. This will be part of the transition to the Green Economy.*

- *Our policies will pursue the path to sustainability. Sustainable Development has three intersecting and mutually reinforcing pillars, **society, economy and environment**. **In Barbados, our sustainable development will be anchored on the principles of the Blue and Green Economies**. These approaches will also create **new high-paid jobs and decent work. We will adopt a holistic conservation approach that considers climate and hurricane resilience from our roofs to our reefs**.*

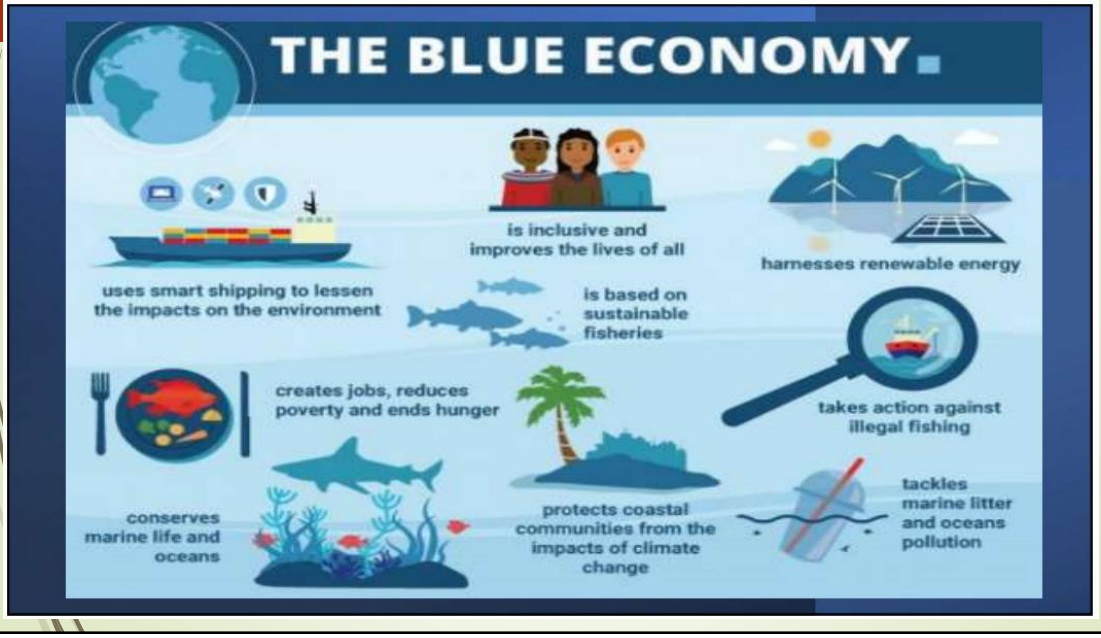
MINISTRY OF MARITIME AFFAIRS AND THE BLUE ECONOMY - MMABE (2018 -)



MMABE

vision	Mission	Overarching Objective
By 2030, Barbados is a globally recognized leader in maritime affairs and blue economy management amongst Small Island Developing States (SIDS)	To define and implement a regime of good governance of Barbados' Exclusive Economic Zone (EEZ) to enable sustainable utilization of its ocean wealth as a vehicle to facilitate long-term socio-economic growth, as well as resilience to environmental and other vulnerabilities to which the country is at risk.	To create the enabling environment that would foster the sustainable growth and development of an internationally competitive maritime and blue economic sector for Barbados.

MMABE BLUE ECONOMY DEVELOPMENT PROGRAMME



Caribbean Blue Economy Potential

The Caribbean has a huge potential to use blue economy initiatives to drive sustainable and long term resource management

- **Blue Economy estimated at US$407 billion** as of 2012, with potential to double by 2030 (World Bank)
- **EEZs of our 6 countries is vast untapped resource**
  - **Water-to-land ratio is high-leverage for reduced energy costs and potential food production**
- **Logistical position** for shipping routes
- **Islands as haven for "safe tourism"**
- **IP potential of marine biodiversity**
- **Multiple institutions focused on blue economy-related initiatives (but currently uncoordinated);**

OPPORTUNITIES IN THE BLUE ECONOMY

Global Industrial and Technological Trends and Opportunities

IDB

October 7, 2020

CARIBBEAN

- Bahamas, Barbados, Guyana, Jamaica, Suriname, and Trinidad and Tobago

Industry Sectors: Global vs Caribbean

Blue Economy INDUSTRY STATUS	Blue Economy GLOBAL SCAN	Blue Economy CARIBBEAN SCAN
Mature	Fishing; Tourism (Cruise, Coastal, Marine); Shipping; Oil & Gas	Fishing; Tourism (Cruise, Coastal, Marine); Shipping
Growth Stage	Mariculture: coastal & offshore; Maritime Monitoring & Surveillance; Ports; Renewables: offshore wind, solar	**Oil & Gas*;** Maritime Monitoring & Surveillance; Ports
Emergent	Coastal Development, Protection & Restoration; Marine Products; Deep-sea mining; Renewables: wave, current, thermal	**Mariculture: coastal & offshore;** Coastal Development, Protection & Restoration; Marine Products
Nascent/Negligible		**Renewables: offshore wind, solar;** **Deep-sea mining;** **Renewables: wave, current, thermal**

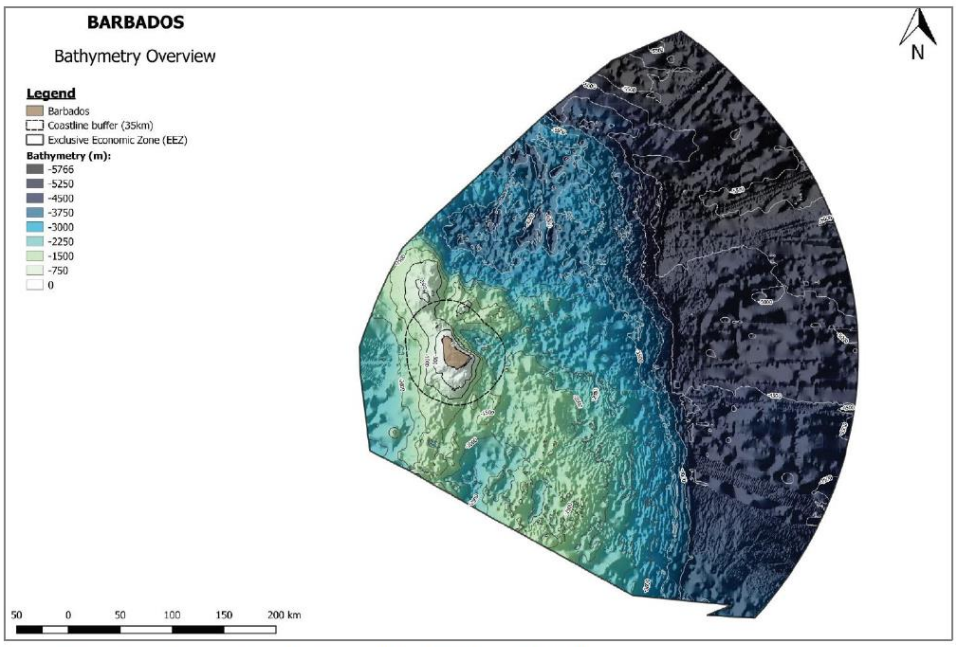
OPPORTUNITIES IN THE BLUE ECONOMY

Global Industrial and Technological Trends and Opportunities

CARIBBEAN

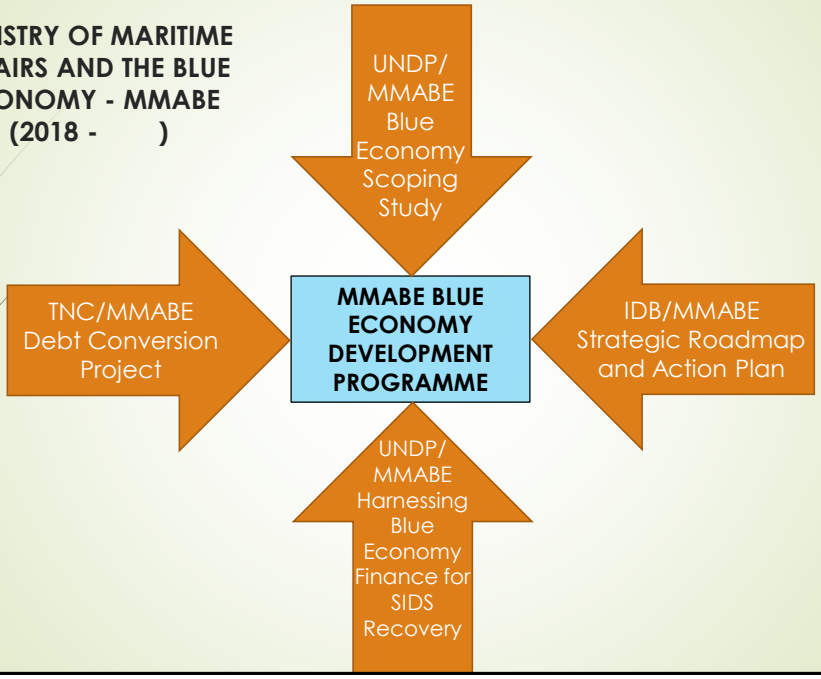
- Bahamas, Barbados, Guyana, Jamaica, Suriname, and Trinidad and Tobago

SOURCE: Toward a Blue Economy: A Promise for Sustainable Growth in the Caribbean. World Bank Group 2016						
TYPE OF ACTIVITY	OCEAN SERVICE	ECONOMIC SECTOR /INDUSTRY	INDICATIVE ANNUAL GROSS REVENUES (US$, BILLIONS IN 2012 U.S. DOLLARS)			PERCENTAGE (%) FOR ISLAND STATES AND TERITORIES
			ISLAND STATES AND TERRTORIES	MAINLAND COUNTRIES	TOTAL	
HARVESTING OF LIVING RESOURCES	SEAFOOD	Fisheries	0.37	4.62	4.99	8.01
		Aquaculture	0.04	1.86	1.9	2.15
	MARINE BIOTECHNOLOGY	Pharmaceuticals, chemicals ...etc.	**n.a.**	**n.a.**	**n.a.**	**n.a.**
EXTRACTION OF NON-LIVING RESOURCES, GENERATION OF NEW RESOURCES	MINERALS, SAND AND GRAVEL	Seabed mining	**n.a.**	**n.a.**	**n.a.**	**n.a.**
	ENERGY	Oil and Gas	5.64	34.25	39.89	16.47
		Renewables (marine)	**n.a.**	**n.a.**	n.a.	n.a.
	FRESHWATER	Desalinization	**n.a.**	**n.a.**	0.23	n.a.
COMMERCE, TOURISM AND TRADE	TRANSPORT AND TRADE	Shipping	**n.a.**	**n.a.**	311.32	n.a.
		Port infrastructure and services	**n.a.**	**n.a.**	n.a.	n.a.
	TOURISM AND RECREATION	Tourism	47.1	**n.a.**	47.1	
		coastal development	**n.a.**	**n.a.**	n.a.	n.a.
INDIRECT CONTRIBUTION TO ECONOMIC ACTIVITIES AND ENVIRONMENTS	CARBON SEQUESTRATION	Blue Carbon (Coastal vegetated habitats)	0.02	0.07	0.09	28.57
	COASTAL PROTECTION	Habitat protection, restoration	**n.a.**	n.a.	1.47	n.a.
	WASTE DISPOSAL FOR LAND BASED INDUSTRY	Assimilation of Nutrients, solid waste	**n.a.**	n.a.	n.a.	n.a.
	EXISTENCE OF BIODIVERSITY	Protection of species habitats	**n.a.**	n.a.	n.a.	n.a.
			53.17		**406.99**	



Source: Reproduced from Johnston, McGlynn and Prado 2020, Inset Added.

MINISTRY OF MARITIME AFFAIRS AND THE BLUE ECONOMY - MMABE (2018 -)



BLUE ECONOMY SCOPING STUDY Deliverables

- **A stock take document on Blue Economy in Barbados** including brief fact sheets per economic sector, mapping of all relevant stakeholders and one (1) consultation session.
- **A 'rapid assessment" document** setting out development options based on both the stocktake and knowledge of new and emerging marine sectors that could be developed; and
- **An initial 'Action Plan'** identifying most pressing priorities to initiate transition to a blue growth development strategy.

https://www.bb.undp.org/content/barbados/en/home/library/undp_publications/barbados-blue-economy-scoping-study.html

Barbados – Blue Economy Indicators

OCEAN ECONOMY IN CONTEXT	AVAILABLE INFORMATION
Land area (sq. km)	432
Coastline (km)	97
Exclusive Economic Zone (sq. km)	186,898
Shelf Area (sq. km)	342
Inshore Fishing Area (sq. km)	342
Population (2018 values)	286,641
Gross domestic product (2018 values)	US$5.145 billion
Human development index (HDI)	0.813 - high human development category (Barbados ranked 56 among 189 countries and territories in 2018)
Key Blue Economy Sectors	– Marine and coastal tourism – Marine capture fisheries – Ports and shipping – Offshore petroleum exploration – Desalination – Aquaculture
Estimated value of Barbados' blue economy	– No overall figures have been estimated – Ex-vessel value of marine capture fish production = US$7.9 million (2016 figures) – Value added of fisheries = US$25 million
Marine protected area (percentage of EEZ)	2.2 sq. km – <0.001%
Ocean health index (OHI)[1]	58 (Barbados ranks 187 among 221 countries and territories)
Tropical Coral Reefs (sq. km)	100
Value of reef related tourism	Data not available

Outlook 2016

It must be stressed that, particularly in a country the size of Barbados, **the 'blue', 'green' and 'circular' economies should be seen as a single, interlinked economic system that encompasses the entire island system and its maritime waters**.

As such, the overarching aim for the Government of Barbados should be to define a holistic approach to the sustainable exploitation of marine resources through strategies that:

1. Strengthen the management and protection of Barbados' maritime waters and the activities supported therein;
2. Further support and develop the following existing sectors: tourism and leisure; marine capture fisheries; and ports and shipping; and
3. Explore the potential opportunities to promote investment and innovation to support the development of new sectors.

- **MAJOR EXISTING BENEFICIAL USES**
  - **Fisheries** (commercial, subsistence and recreational);
  - **Tourism** (including cruise ships, recreational yachting and SCUBA diving);
  - **Shipping and port services**; and
  - The provision of **marine ecological services** that support social, environmental and economic benefits.
- **NEW & EMERGING USES**
  - aquaculture,
  - marine renewable energy and
  - "blue" biotechnology

However, while potential exists, there is only limited development experience in Barbados. Many of these future opportunities have an essential technological component that will, in some cases, require substantial capital investment.

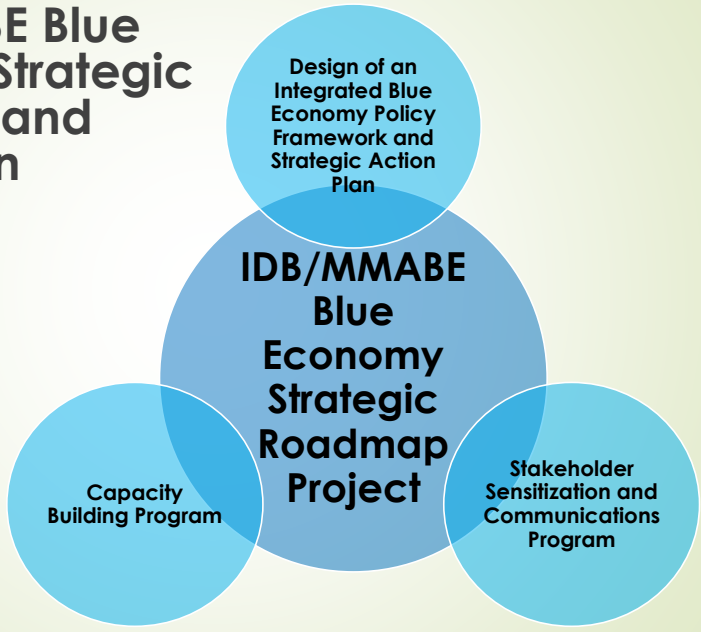
The UNDP project team recommends that a **phased approach be applied to the rolling out of the blue economy** as follows:

I. **DEEPEN/UPGRADE EXISTING MATURE AREAS**: via the use of technology (tourism, ports and shipping)– product deepening. These could be commenced immediately;

II. **SUPPORT GROWTH AREAS**: with assistance from development partners (fishing, aquaculture, coastal development) - product widening. These would typically have a short to medium-term Development horizon (1-10 years); and

III. **EXPLORE NEW AREAS**: (widening). These would typically have a long-term development horizon(15-20 years).

IDB/MMABE Blue Economy Strategic Roadmap and Action Plan



Diagnostic Report

Table A. Sector Summaries Related to Issues and Potential BE Opportunities

Sector	Policy Issues	BE Opportunities
Water & Wastewater	• Water scarcity related to drier warmer conditions, & increased losses from inefficient infrastructure and higher run-offs • High risk to groundwater supplies	• Demand for desalination plants • Need to reduce wastewater contaminant loads – increased wastewater treatment and recycling
Solid Waste	• Inadequate collection and disposal on land • The Draft Environmental Management Act along with the Draft Integrated Solid Waste Management Legislation, prepared since 1998 and 2004 respectively, have yet to be enacted	• Reduced marine impact due to control of plastics and non-biodegradable material at source – increased truck fleet and recycling sub-sector; and ban on single use plastics (alternative products) • Marine clean-up industries – recycled marine plastic and sargassum use
Fisheries	• High level of importation of seafood products • Climate change • Lack of data • Habitat degradation and pollution • Alien invasive species	• Domestic demand exceeds domestic production – room for growth • Research and skills training • Investment in infrastructure, new technologies or target species • Value chain development (processing etc) • Mariculture can be developed
Tourism	• Concentration of land use and tourism in coastal area – pressure on resources and high levels of waste generation • Declining condition of blue assets	• Rehabilitation of damaged assets • Diversification of the product offerings

Diagnostic Report

	• Lack of monitoring • Inconsistent application of environmental safeguards • Lack of enforcement and partnerships	• Alternative livelihoods strategies for vulnerable populations that are completely dependent on the sector
Energy	• Heavy reliance on imported fossil fuels for electricity generation and road transportation (fuel)	• Offshore oil and gas opportunities • Renewables – OTEC, wave and floating wind being considered (nearshore) • Waste to energy plants that use fisheries or sargassum waste • Sea-water air-conditioning
Maritime Transport	• Financial constraints that impact modernization and maintenance of infrastructure • Environmental footprint: infrastructure, energy and freshwater demand, waste disposal and risk of spills	• Investment in port infrastructure • Reforms to support investment, improved efficiencies, data exchange and environmental safeguards

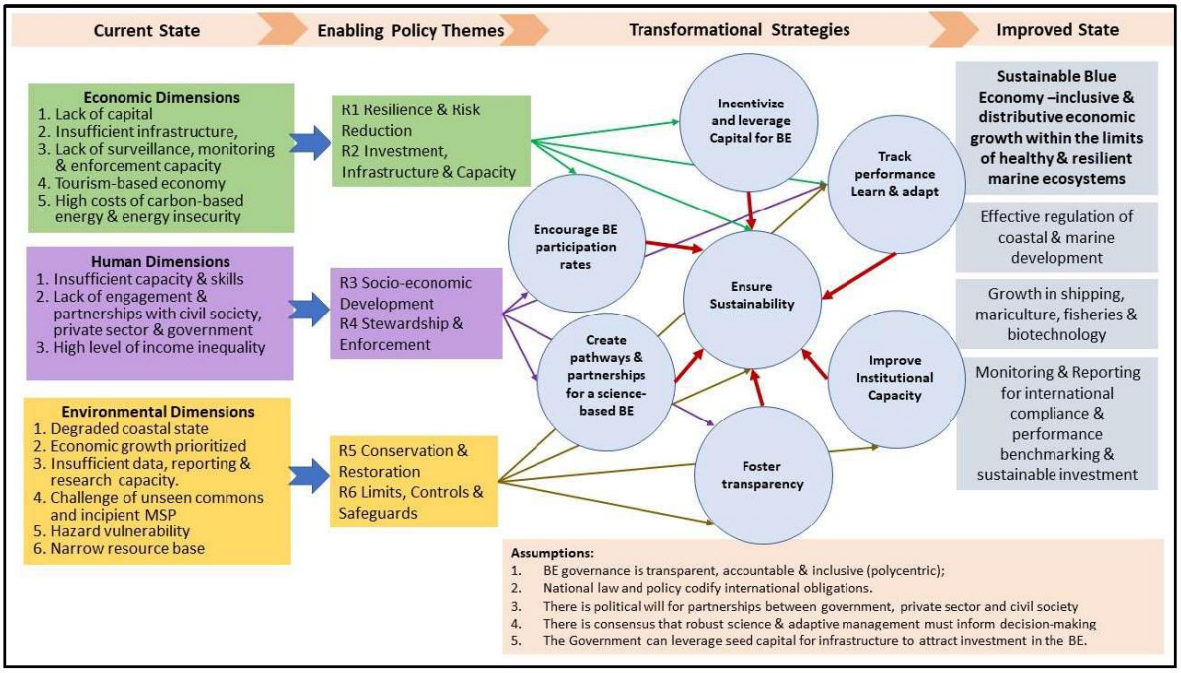
Five critical barriers to implementation of a blue economy strategy have been identified:

1. **Sustainability Deficit**. The sustainability deficit **which recognizes explicitly that the current condition of the natural asset based is significantly degraded already, and intensification of use could be detrimental without more effective management of these resources**, and rehabilitation initiatives. There is a concern that given the economic context, economic development could be prioritized over environmental protection.

2. **Coastal Concentration**. **While there is a concentration of information and governance mechanisms in the nearshore, this data availability falls off progressively further afield**. This is in part related to the intensity of industrial activities in the nearshore, but also the feasibility/costs of collecting data with increasing distance from the shoreline. This spatial gradient is also characterized by physical risk differentials between the Caribbean side and the Atlantic side of the island. **There are major knowledge gaps and high-risk assumptions about the presumed vast natural capital that can be brought into economic production**. The BE Implementation Strategy will have to explicitly come up with ways of overcoming this constraint if the goal of capitalizing on marine assets beyond the nearshore leeward side is to become a reality.

3. **Incipient Marine Spatial Planning**. **MSP is regarded fundamental to BE implementation** as it is a key mechanism for inclusive, evidence-based decision making that allows for transitioning away from fragmented sector-based management. It is seen as an effective means of integrating the environmental, human, and economic dimensions of development. However, **MSP is very much in its infancy in Barbados, and likely to be primarily focused on the nearshore zone**.
4. **Cumulative Effects Assessment**. It has been noted that **environmental assessment processes in Barbados currently fall short of international standards**. In addition to this, **there is a complete lack of cumulative effects assessment or SOE reporting that is needed to inform MSP**.
5. **Socio-spatial Complexities**. This **human aspect has the potential to impact the operationalization of the BE strategy**, and involves policy issues such as decision-making, user rights and resource allocations for hidden commons are fluid and subject to hard to track cumulative effects. **There is also a concern that heavy reliance on traditional market models may disproportionately benefit large corporations that are better able to capitalize and develop remote marine commons**.

Theory of Change for the Barbados Blue Economy



Recommended GOALs for Barbados' Blue Economy

Overarching Goal	Subsidiary Goal
The overarching goal of the BE Policy Framework in Barbados is to create and implement governance that enables inclusive and distributive economic growth within the limits of healthy and resilient marine ecosystems. *Given the current situation, the main strategy for Barbados is the* ***creation of a policy regime aimed at economic diversification and resilience primarily using its marine (not coastal) natural resource base, driven by private investment that is fostered by enabling government policies***.	• **Effective regulation/management of coastal and marine developments**; • **Growth in prioritized industries**: transportation (small to medium sized passenger ferries and/or water taxis), expansion and modernization of existing port facilities, RE projects and offshore capture fisheries and marine biotechnology. These will have to be supported by research as well as human resource development; and • **Improved capacity for monitoring and reporting** to support compliance with international sustainability targets, BE performance benchmarking and sustainable investment in the BE. This includes monitoring of both state of blue assets as well as surveillance & enforcement of standards for environmental quality (and discharges), and environmental performance of private sector entities involved in the BE.

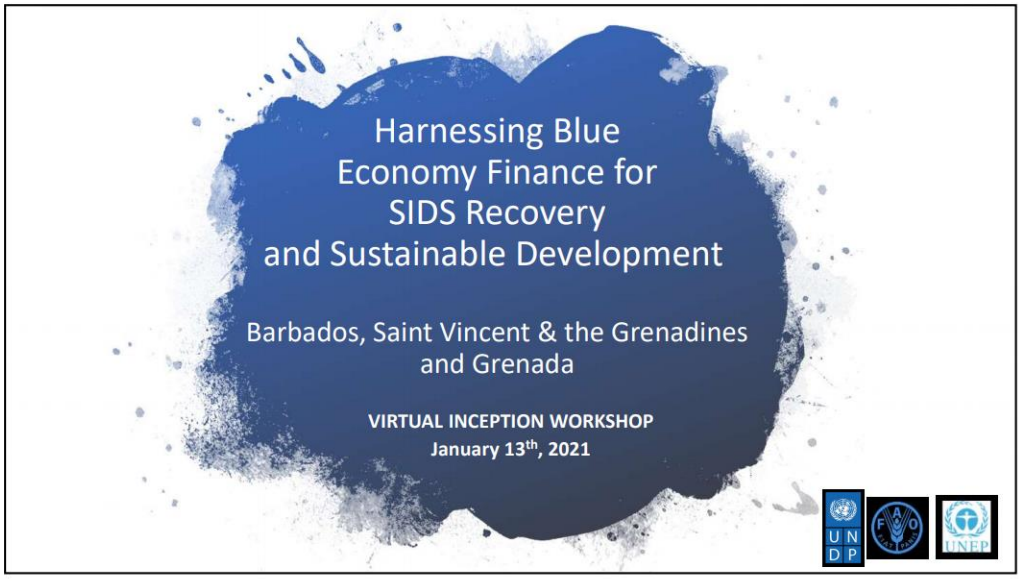
Recommendations

- 7 Transformational Strategies
- 38 Actions
- 7 Sectoral Policy Plans

Recommendations - 7 Sectoral Policy Plans	
1: TOURISM • Coastal Ecosystem Restoration & Adoption of Ecosystem-based Approach	• Enhanced Sustainable Stop-over Tourism • More Sustainable Cruise Tourism • Offshore Diversification: Marine Eco-tourism
2: MARITIME TRANSPORTATION • Sustainable Maritime Shipping" • Policy Reform • Modernization of Management Systems	• Development of Data Acquisition Systems • Infrastructure Development & Support for SMEs"
3: FISHERIES • Building Resilience into Artisanal Fisheries • Waste Management • Improving Sustainability of High-Value Capture Pelagic Fisheries • Improved Access of Artisanal Fisherfolk to High-Value Capture Fisheries	• High-Value Capture Fisheries Value-Chain Development (Pelagic Fisheries) • "Potential for accessing pelagic fisheries beyond national jurisdiction." • Mariculture Development
4: ENERGY • Investing in Blue RE: Floating Offshore Wind Farms	• "Oil and Gas Development"
5: MARINE BIOTECHNOLOGY (Excluding Food)	
6: MARITIME SERVICES	
7: MARINE NON-LIVING RESOURCES (Excluding Oil & Gas)	

The Nature Conservancy (TNC) / MMABE – Debt Conversion Project

Project elements	Status
1. The establishment of a **National Conservation Trust Fund (NCTF)**;	• Consultation Phase completed • **Cabinet has provided the go-ahead for establishing the Fund** • Draft Legal documents prepared and now under Review • Target date for establishing the Fund – January 2022
2. The design of a **Marine Spatial Plan** for the entirety of Barbados' Exclusive Economic Zone (EEZ); and	• Planning consultations have begun with CZMU as lead) • MSP Design document prepared and under review • **Conservation commitments include a 30% aspirational goal.**
3. A debt conversion deal (aka Debt-for-Nature Swap) that would, among other things, result in a sustainable financing arrangement for the operation of the NCTF.	Extensive consultations ongoing with Min. Finance; Min. Econ. Aff.; TNC, and development partners



PROJECT FACTS

- **OBJECTIVE**: To develop an enabling and supporting environment for financing the Blue Economy, through the (1) Identification of policy and regulation gaps, (2) a methodology to identify key Blue Economy opportunities, and (3) the definition of specific financing mechanisms for Blue Economy initiatives to achieve resilient growth.
- **SECTORS OF FOCUS:** (1) fisheries; (2) aquaculture (including mariculture); (3) desalination; (4) maritime transport, ports, shipping and ship building; (5) tourism; (6) coastal development; (7) ocean monitoring and surveillance; (8) waste disposal, including wastewater and agricultural runoff; and (9) maritime protected areas.
- **BUDGET AND AGENCIES INVOLVED**
- **COUNTRIES:** Barbados, Saint Vincent & the Grenadines and Grenada
- **TIMEFRAME**: 24 months implementation
- **PARTNERS:** Governments, Civil society organizations, Private sector, International Financial Institutions, Impact Investors, Regional Organizations, Academia

Joint SDG Fund contribution	USD 1,000,000,00
UNDP (lead)	USD 60,0000
FAO	USD 60,0000
UNEP	USD 20,0000
TOTAL	**USD 1,140,000**

PROJECT FACTS

- **CURRENT CHALLENGES TO FINANCING BLUE ECONOMY**
  - Limited scope for debt finance and restricted fiscal space: increasing debt levels have placed a drag on economic growth while constraining the allocation of resources for productive and new investments.
  - Declining aid flows: especially ODA to the Caribbean.
  - Limited private investment.
  - COVID-19.
- **GAPS THE JP INTENDS TO CLOSE:**
  - Ocean governance.
  - Regulation and enforcement.
  - Education and capacity building.
  - Marine research and information.
  - Regional Integration.
- **OUTPUTS AND ACTIVITIES**
- **OVERALL OUTCOME:** Countries have access to a finance framework that develops their Blue Economy in a sustainable way and with a coherent approach

Outputs	Activities
Output 1: A completed diagnostic of the key policy, regulatory, institutional and capacity constraints related to the development and financing of Blue Economy projects in the context of national SDG strategies	Rapid Assessment of national Blue Economy objectives and priorities in the context of national SDG strategies
	Gap analysis (policy, regulation, capacity) to identify the binding constraints to blue economy project development and financing in the 3 countries, with deep dives in selected priority blue economy sectors
	Survey and Benchmarking of Best practices
Output 2: National frameworks for identifying, assessing and prioritising Blue Economy investments established /strengthened	Development of tools for evaluating both national and community-level Blue Economy programmes
	Development of options for the design of an institutional mechanism for developing Blue Economy programmes
	Development of a Monitoring and Review framework for Blue Economy investments
Output 3: National Blue Economy Financing strategies drafted	Analysis of available finance (sources of funding)
	Development of robust, inclusive Blue Economy financing strategies for the public and private sectors
Output 4: A pipeline of scalable Blue Economy projects prepared in 3 countries	Development of a pipeline of national and community-level Blue Economy programmes and projects
Output 5: Capacity built in blue economy for public and finance sectors	Creation of a team of experts and a community of practice in blue economy project development and financing in the region (attending to gender inclusion)
	Training program in blue economy project development including best practice on the identification and development of viable initiatives for the public and private sector that includes modules linking gender as well as other excluded groups to the blue economy initiatives.
	Training program in blue economy financing for private and public sector and financial institutions in the country including a module on gender issues related to access and control of finance resources and gender responsive financing design.

Some Major Issues

- **Programme Development Challenges**
  - **Project implementation/coordination in a COVID 19 Environment**
  - **MMABE & Key Stakeholder appreciation of scope of the Development programme and level of interest/participation**
- **Challenges Moving Forward**
  - **Promotion / Communication – public and private sector stakeholders**
  - **Institutional development and financial support requirements**
  - **Integration into work programmes**
  - **Sustainability ??**

Thank You.