Ocean Governance Study for Trinidad and Tobago

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More information on the DOALOS-Norad Programmes of Assistance can be obtained at: www.un.org/oceancapacity/norway

Division for Ocean Affairs and the Law of the Sea Capacity-Building Programme

The Division for Ocean Affairs and the Law of the Sea (DOALOS) of the Office of Legal Affairs of the United Nations has been providing information, advice and assistance to States and intergovernmental organizations in the field of oceans and the law of the sea since the adoption of the United Nations Convention on the Law of the Sea in 1982.

DOALOS provides assistance to States through the Capacity-Building Programme, and financial assistance through the voluntary trust funds it administers. Assistance is developed on an as-needed basis, working closely with beneficiaries and donors, as well as relevant intergovernmental organizations and development partners. Developing States are given priority, in accordance with the terms of reference of each project or fund.

The technical cooperation projects of the Division include a range of capacity development activities at the multilateral, regional and bilateral levels. Assistance to States, upon their request and in accordance with their needs, includes activities with respect to the application and implementation of the provisions of the Convention and related Agreements, the development and implementation of ocean governance frameworks, the ocean-related aspects of the 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs), and sustainable ocean-based economies (blue economy).

The Division coordinates several fellowship programmes and provides training courses on a wide range of issues relating to ocean affairs and the law of the sea, including through the United Nations – Nippon Foundation Capacity-building Programmes, the Hamilton Shirley Amerasinghe Memorial Fellowship programme, as well as through *ad hoc* training courses, briefings and contributions to training programmes organized by national, intergovernmental, and non-governmental organizations.

The Division further administers several voluntary trust funds and assistance funds, which facilitate the work of United Nations bodies and processes in the field of oceans and the law of the sea, it ensures the participation of developing countries in such bodies and processes, and it supports the implementation of UNCLOS and related agreements by developing States. The Division also assists States concerning their voluntary contributions to the funds, their applications for assistance under the funds, administering awards made to States, and the related reporting procedures for each fund.

For more information, please visit the capacity-building website of the Division www.un.org/oceancapacity/
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Programmes of Assistance to meet the strategic capacity needs of developing States in the field of ocean governance and the law of the sea

The Programmes of Assistance project provides capacity development and technical assistance for developing States to reinforce their capacity to implement the United Nations

Convention on the Law of the Sea (UNCLOS) and related Agreements, and to better harness the benefits of the blue economy, including through more effective implementation of the 2030 Agenda for Sustainable Development.

Funding for the project is provided by the Government of Norway as part of its Oceans for Development programme, which is managed by the Norwegian Agency for Development Cooperation (Norad). The project activities are implemented by the Division for Ocean Affairs and the Law of the Sea, drawing on its long-standing experience in delivering responsive programmes of assistance in ocean affairs and the law of the sea.

The project comprises four main categories of activities:

- Regional consultations, through which the Division consults with regional intergovernmental organizations and others to gain insight in ongoing regional programmes and activities on ocean governance and to identify capacity-building needs and priorities in the region;
- Customized training courses, to reinforce the capacity of government officials and relevant stakeholders in the implementation of ocean governance strategies at the regional and national levels;
- National Ocean Governance Studies (OGS), to help beneficiary States gain strategic insights in their legal and institutional frameworks relating to ocean affairs and the law of the sea and related capacity-building needs; and
- Technical Assistance, to facilitate beneficiary States implement findings of their Ocean Governance Studies or related work

This report was produced under the third project activity. Through the OGS, States are assisted in the identification of their key national ocean governance frameworks; in enhancing their implementation of the Convention and related agreements as well as the 2030 Agenda for Sustainable Development and its Sustainable Development Goals; and in developing effective policies for relevant ocean sectors, including in strengthening their blue economy strategies.

The OGS provide a high-level overview of the beneficiary State's legal and institutional frameworks on ocean affairs and the law of the sea, including in priority sectors identified by the beneficiary State, as well as a prioritized inventory of capacity-building needs. Gender and oceans, as well as the blue economy, are the two cross-cutting issues addressed in the studies.

Where possible, the OGS are conducted by consultants from the beneficiary State or the region. The project also seeks to involve early career ocean academics or professionals to build capacity of local researchers. The work of the consultants, including ensuring broad national stakeholder engagement, is facilitated by beneficiary State National Focal Points, who also facilitate the State's review of the work undertaken by the consultants and its dissemination once complete.

Participation in an OGS is open to States included on the list of countries eligible for official development assistance maintained by the Development Assistance Committee of the Organisation for Economic Co-operation and Development.

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List of Abbreviations

ACS	Association of Caribbean States
Carib SMART	Caribbean Sustainable Maritime Transport
CARICOM	Caribbean Community
CBD	Convention on Biological Diversity
CEC	certificate of environmental clearance
CERMES	Centre for Resource Management and Environmental Studies
CFTDI	Caribbean Fisheries Training and Development Institute
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CLME	Caribbean Large Marine Ecosystem
CMoU	Memorandum of Understanding on Port State Control in the Caribbean Region
CRFM	Caribbean Regional Fisheries Mechanism
DOALOS	Division for Ocean Affairs and the Law of the Sea, Office of Legal Affairs of the United Nations
DMRF	Department of Marine Resources and Fisheries
E&P	exploration and production
ECLAC	Economic Commission for Latin America and the Caribbean
EEZ	exclusive economic zone
EIA	environmental impact assessment
EMA	Environmental Management Authority
EPPD	Environmental Policy and Planning Division
ESA	environmentally sensitive area
FAO	Food and Agricultural Organization of the United Nations
GBF	Kunming-Montreal Global Biodiversity Framework
GDP	gross domestic product
GEF	Global Environment Facility
GHG	greenhouse gas
GMN Project	Global Maritime Technology Cooperation Centre Network
GORTT	Government of the Republic of Trinidad and Tobago
ICZM	integrated coastal zone management
ILO	International Labour Organization
IMA	Institute of Marine Affairs
IMO	International Maritime Organization
IOC-UNESCO	Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization

IOCARIBE	International Oceanographic Commission Sub-Commission for the Caribbean and Adjacent Regions
ISO 9001	International standard for a quality management system of the International Organization for Standardization
IUU	illegal, unregulated, and unreported
LBS Protocol	Protocol Concerning Pollution from Land-Based Sources and Activities
LME	large marine ecosystem
MALF	Ministry of Agriculture, Land and Fisheries
MARPOL	International Convention for the Prevention of Pollution from Ships
MEEI	Ministry of Energy and Energy Industries, Trinidad and Tobago
MPA	marine protected area
MSD	Maritime Services Division of the Ministry of Works and Transport (Trinidad and Tobago)
MSP	marine spatial planning
MSR	marine scientific research
MTCC	Maritime Technology Cooperation Centre
NBSAP	National Biodiversity Strategy and Action Plan
NDS	National Development Strategy
NEP	National Environmental Policy of Trinidad and Tobago
OSVs	offshore supply vehicles
PNA	protected national area
PSC	production sharing contract
REMPEITC	Regional Marine Pollution Emergency, Information and Training Centre—Caribe
SAMOA	SIDS Accelerated Modalities of Action
SAR	International Convention on Maritime Search and Rescue
SDGs	Sustainable Development Goals
SIDS	small island developing State
SMART	sustainable maritime transport
SOLAS	International Convention for the Safety of Life at Sea
SPAW	Protocol Concerning Specially Protected Areas and Wildlife
STCW	International Convention on Standards of Training, Certification and Watchkeeping for Seafarers
THA	Tobago House of Assembly
TTCG	Trinidad and Tobago Coast Guard

UEM	upstream effluent management
UNCLOS	United Nations Convention on the Law of the Sea
UN-DESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UTT	University of Trinidad and Tobago
UWI	University of the West Indies
WTO	World Tourism Organization

Executive Summary

The twin island archipelagic State of Trinidad and Tobago is located in the southeastern part of the Caribbean, just northeast of the South American country of Venezuela and south of Grenada, Saint Vincent and the Grenadines, and Barbados. Trinidad and Tobago ratified UNCLOS on 25 April 1986 and is considered an archipelagic State in accordance with Article 46 of UNCLOS. Trinidad and Tobago has developed a solid ocean-based economy and relies on the natural resources and economic activities in its exclusive economic zone. However, the exploration and exploitation of these marine resources are subject to a fragmented ocean governance model.

To strengthen the ocean governance framework based on UNCLOS, this Ocean Governance Study of Trinidad and Tobago analyses the country's legal and institutional frameworks for ocean governance through a review of related sectors. Two priority sectors were selected for in-depth analysis by the Government of the Republic of Trinidad and Tobago through a consultative process with public and private sector stakeholders. The first is the maritime sector, with a particular focus on offshore installations. The second is coastal and marine tourism with a particular focus on cruise shipping.

Trinidad and Tobago is a party to several regional and international legal instruments governing the ocean. At the national level, multiple laws and institutions have responsibility for managing ocean resources. However, several laws are outdated.

Ocean governance in Trinidad and Tobago is administered by several institutions. The Ministry of Foreign and CARICOM Affairs has primary responsibility for Law of the Sea matters on behalf of the Republic of Trinidad and Tobago. In this regard, the Treaties, International Agreements, and Legal Division negotiates maritime delimitation agreements as well as bilateral fisheries access agreements with neighbouring coastal States. The Maritime Services Division of the Ministry of Works and Transport is the regulator of merchant shipping and matters related thereto, while the Ministry of Energy and Energy Industries is the primary regulator for the development of non-living marine resources through the Petroleum Act and the Minerals Act. Living marine resources are managed by the Fisheries Division of the Ministry of Agriculture, Land and Fisheries, the primary implementer of the Fisheries Act. The Environmental Management Authority also plays an important role through the designation of environmentally sensitive areas and species and the certificate of environmental clearance process. Through that process, the development, exploration, and exploitation of marine and coastal areas is monitored and environmental requirements are enforced. The Department of Marine Resources and Fisheries of the Tobago House of Assembly also oversees various aspects of ocean governance, including marine resource management, recreational and tourism operations, and management of marine protected areas.

Following a review of the existing legal and institutional framework construct for ocean governance in Trinidad and Tobago and consultations with stakeholders, the following areas were identified for short-, medium- and long-term interventions for capacity building.

Short term:

- Approval of the draft Integrated Coastal Zone Management Policy

- Approval of the Shipping Bill
- Approval of the Shipping (Marine Pollution Prevention) Bill
- Creation of an inter-ministerial committee for ocean governance
- Enhanced implementation of existing legislation
- Creation of 500 nautical mile exclusion zones around offshore installations

Medium term

- Creation of a registry for offshore installations
- Creation of a marine spatial plan
- Creation of a head tax on cruise ships or ocean tax
- Becoming a Party to the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits of the Convention on Biological Diversity
- Enactment of the Draft Forestry, Protected Areas, and Wildlife Conservation Bill

Long term

- Advocate for and support the creation of a harmonized regional ocean policy for the Caribbean region to improve governance of shared marine resources.

On an institutional level, the establishment of an inter-ministerial committee for ocean governance that would have oversight of all matters relating to ocean governance is necessary. The proposed mechanism should pursue three main initiatives:

1 Coordinate and facilitate the development of a national strategy for ocean and coastal sustainability. This would include mandating public engagement in policy formulation.

2 Review current and prospective policies and regulations affecting ocean governance and coastal issues and ensure that synergistic sustainable blue economy opportunities are factored into those policies.

3 Periodically review the application and implementation of international instruments relating to ocean governance that are applicable to Trinidad and Tobago.

4 Make recommendations to improve policy and regulations regarding ocean governance.

In addition, the inter-ministerial committee for ocean governance would facilitate a coordinated response when unforeseen emergencies arise.

1. Introduction

According to the World Bank and the European Union, Trinidad and Tobago is a high-income economy with a total area of 12, 262 square kilometres (water–7,134; and land–5,128) and a population of approximately 1,370,000 (CSO 2022). It is part of the Caribbean Community (CARICOM), a regional integration organization geared towards strengthening intraregional trade in the English-speaking Caribbean. Although Trinidad and Tobago has the most industrialized economy in the English-speaking Caribbean, being surrounded by a vast ocean, it is a small island developing State (SIDS). The exclusive economic zone (EEZ) of Trinidad and Tobago equals about four times the country's land size (See Fig. 1.1). Trinidad and Tobago is endowed with oil and gas resources in its EEZ and has been able to exploit these and benefits from other ocean-related industries, notably shipping, coastal and marine tourism, and fisheries.

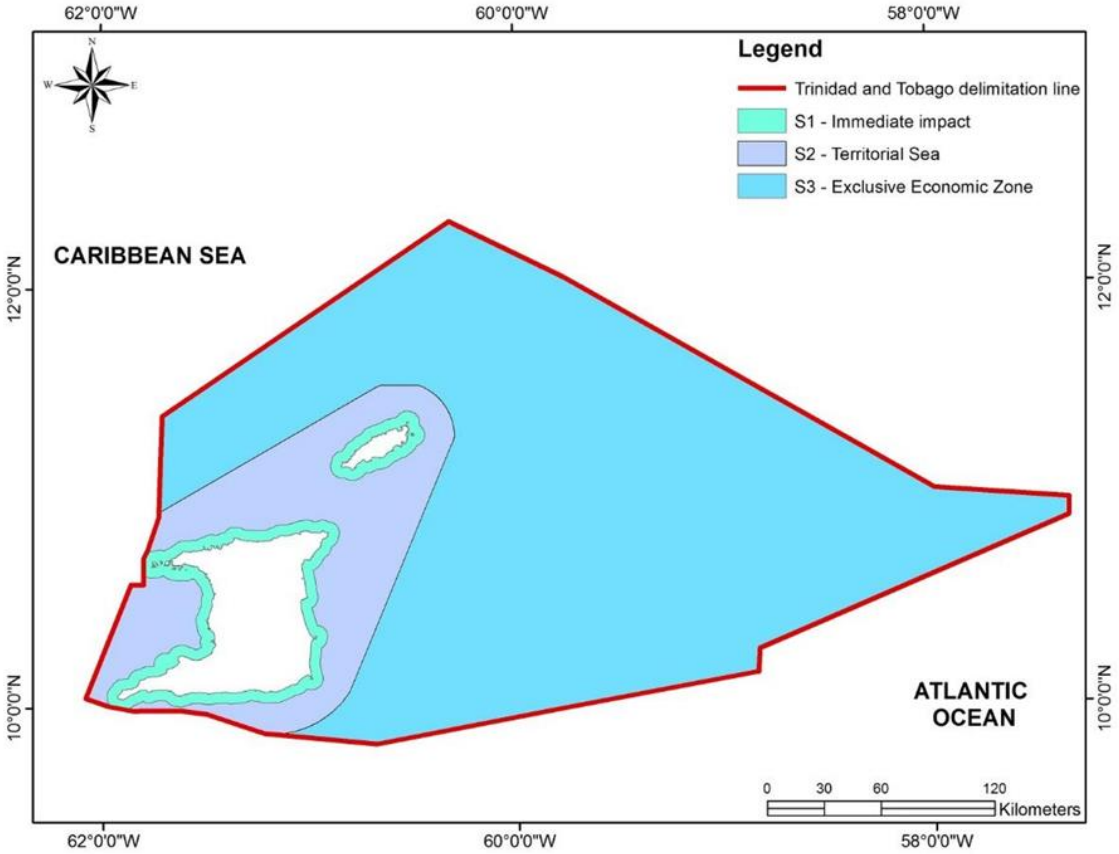


Figure 1.1. Maritime boundaries (archipelagic baselines and EEZ) of Trinidad and Tobago

***Source*: Draft ICZM Policy Framework 2020.**

To a large extent, the size of Trinidad and Tobago's EEZ determines the opportunities and economic activity that can be generated from its ocean space. The conservation and sustainable use of the ocean and its resources has dominated development discussions for decades (EMA 2018). This ocean governance study provides a high-level overview of the country's legal and institutional frameworks for ocean affairs in the context of UNCLOS, analysing priority sectors identified by the beneficiary State, and identifies a prioritized inventory of capacity-building needs that would enable and facilitate a more sustainable use of ocean resources.

1.1. UNCLOS and other ocean-related multilateral frameworks

The United Nations Convention on the Law of the Sea (UNCLOS), which was adopted in 1982 and came into force in 1994, sets out the legal framework within which all activities in the oceans and seas must be carried out (General Assembly Resolution 76/72). In seventeen parts and nine annexes, the Convention provides for the rights and obligations of States regarding:

I. Introduction

II. Territorial sea and contiguous zone

III. Straits used for international navigation

IV. Archipelagic states

V. Exclusive economic zone

VI. Continental shelf

VII. High seas

VIII. Regime of islands

IX. Enclosed or semi-enclosed seas

X. Right of access of landlocked States to and from the sea and freedom of transit

XI. The Area

XII. Protection and preservation of the marine environment

XIII. Marine scientific research

XIV. Development and transfer of marine technology

XV. Settlement of disputes

XVI. General provisions

XVII. Final provisions

As a framework convention, UNCLOS has been heralded by many as the "constitution for the ocean" due to its expansive coverage of a wide range of issues relating to ocean governance, its universal character, and the fact that many of its provisions represent a codification of customary international law.

After UNCLOS came into force, two implementation agreements were concluded. First, the Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 was adopted in 1994 and entered into force in 1996, and second, the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks was adopted in 1995 and entered into force in 2001. In March 2023, negotiations were finalized on a draft Agreement under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction. The Agreement, or BBNJ Agreement (Biodiversity Beyond National Jurisdiction) as it is now called, was adopted by consensus, on June 19, 2023 and opened for signature on September 20, 2023. This landmark treaty will enter into force after ratification by 60 states.

1.2. UNCLOS maritime zones and regimes

The Convention is significant for the various maritime zones and regimes it created. Under UNCLOS, States are entitled to a territorial sea of up to 12 nautical miles, a contiguous zone (adjacent to the territorial sea) of 24 nautical miles, and an EEZ of 200 nautical miles, all of which can be claimed from baselines from which the breadth of the territorial sea is measured (Arts. 3, 4, 5, 33 and 57). Furthermore, coastal States are entitled to a continental shelf of up to 200 nautical miles from the baselines (Art. 76(1)). If the outer edge of the continental margin extends further seaward, the continental shelf can be extended to up to 350 nautical miles from the baselines on the basis of a recommendation by the Commission on the Limits on the Continental Shelf (Art. 76 (4)–(8)).

A coastal State enjoys sovereignty over its internal waters, which refers to waters on the landward side of the baseline of the territorial sea (Art. 8).

Similarly, an archipelagic State, constituted by one or more archipelagos, has sovereignty over the waters enclosed by archipelagic baselines (Art. 49). An archipelago is defined as a group of islands, including parts of islands, which are "*so closely interrelated that such islands, waters and other natural features form an intrinsic geographical, economic and political entity, or which historically have been regarded as such*" (Art. 46 (b)). Archipelagic States are permitted to draw archipelagic baselines (Art. 47) from which the breadth of their maritime zones will be measured (Art. 48).

UNCLOS further reflects the specific rights and duties given to archipelagic States over their land and water territory. Article 53 allows the archipelagic State to "designate sea lanes . . . suitable for the continuous and expeditious passage of foreign ships . . . through . . . its archipelagic waters and the adjacent territorial sea." Ships of other States are allowed to transit through such archipelagic sea lanes.

In the territorial sea, the coastal State exercises sovereignty, which extends to the seabed, subsoil, and the airspace above the territorial sea (Art. 2). Subject to the provisions of the Convention, ships of all States enjoy the right of innocent passage through the territorial sea (Art. 17).

Within its contiguous zone, the coastal State may exercise the control necessary to prevent and punish infringement of customs; fiscal, immigration, or sanitary laws; and regulations that have occurred within its territory or territorial sea (Art. 33).

In the EEZ, the coastal State has sovereign rights for the purposes of exploring and exploiting, conserving, and managing living or non-living natural resources of the waters superjacent to the seabed and of the seabed and its subsoil and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents, and winds (Art. 56). Under Article 56, the coastal State also has jurisdiction regarding "the establishment and use of artificial islands, installations and structures" (Art. 56(1)(b)(i)), "marine scientific research" (Art. 56(1)(b)(ii)), and "the protection and preservation of the marine environment" (Art. 56(1)(b)(iii)).

Further, the coastal State has exclusive sovereign rights to explore and exploit the natural resources on its continental shelf, including minerals and other non-living resources and living organisms belonging to sedentary species (Art. 77). The Convention also gives coastal States

jurisdiction over their continental shelf with regard to the establishment and use of artificial islands, installations and structures; drilling of the continental shelf; cables and pipelines constructed or used in connection with exploration of the continental shelf and exploitation of its natural resources or to the operations of artificial islands, installations and structures; marine scientific research; and the prevention, reduction, and control of pollution of the marine environment arising from or in connection with seabed activities (arts. 80, 81, 79, 246, 214).

All parts of the sea that are not included in the EEZ, the territorial sea, or the internal or archipelagic waters of a State are known as the high seas. The high seas may only be used for peaceful purposes (Art. 88). In the high seas, all States are granted freedom of navigation, freedom of overflight, freedom to lay submarine cables and pipelines, freedom to construct artificial islands and other installations, freedom of fishing, and freedom of scientific research, subject to the provisions of the Convention and other rules of international law. These freedoms must be exercised with due regard for the interests of other States in their exercise of the freedom of the high seas (Art. 87).

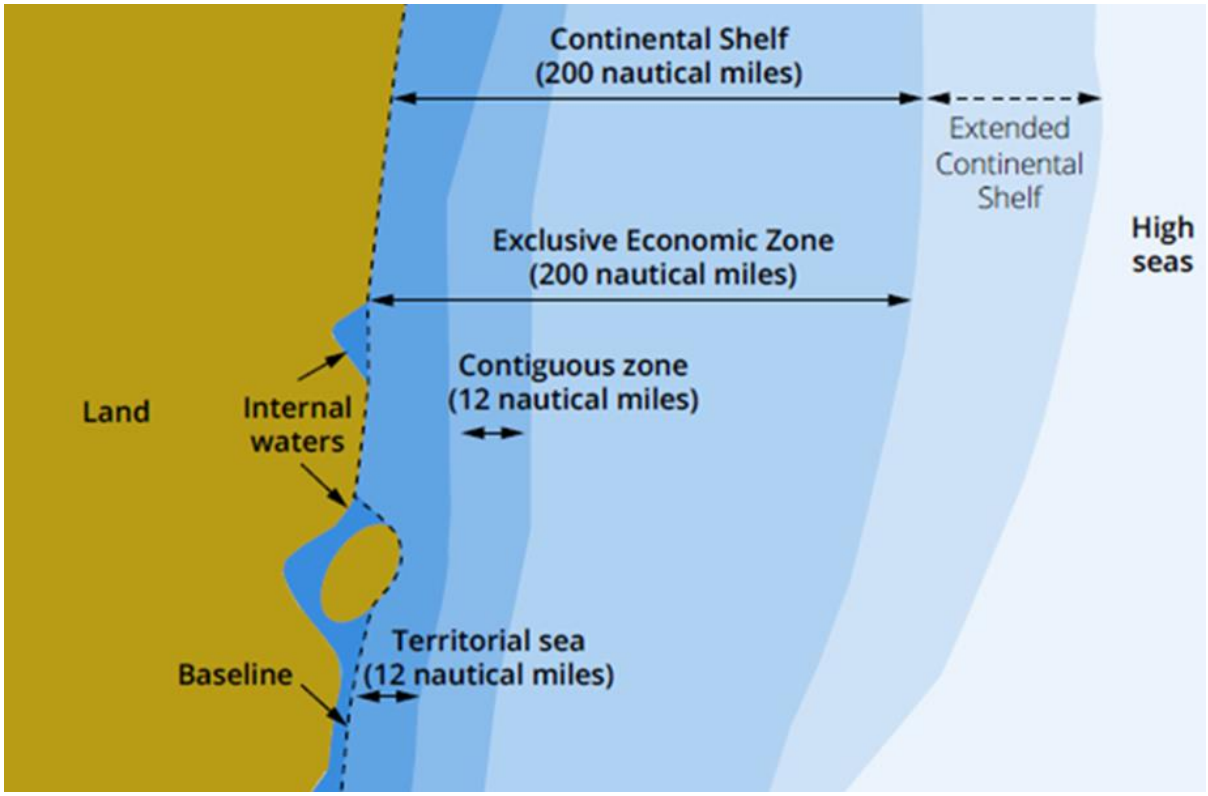


Figure 1.2. Illustration of the various maritime zones

***Source*: House of Lords, 2022.**

The seabed and ocean floor and subsoil thereof beyond the limits of national jurisdiction constitute "the Area." No State can claim or exercise sovereignty or sovereign rights over any part of the Area or its resources, nor can any State or natural or juridical person appropriate any part thereof. On the contrary, all rights in the resources of the Area are vested in humankind as a whole and must be carried out for the benefit of humankind. Like the high seas, the Area may only be used for peaceful purposes.

Notwithstanding the sovereign rights granted to coastal States in the EEZ to explore and exploit living and non-living resources, they also have an obligation to conserve and manage natural

resources. On the high seas, all States have an obligation to cooperate in respect of conservation and management of living resources, including marine mammals (Art. 118). Further, all States have a general obligation to protect and preserve the marine environment under Article 192 and are required to take measures "individually or jointly as appropriate . . . to prevent, reduce and control pollution of the marine environment from any source, using for this purpose the best practicable means at their disposal and in accordance with their capabilities" (Art. 194 (1)). Article 194 (3) further notes that the measures taken by the coastal State shall address all sources of pollution of the marine environment, including:

- The release of toxic, harmful or noxious substances, especially those which are persistent, from land-based sources, from or through the atmosphere or by dumping.
- Pollution from vessels, in particular measures for preventing accidents and dealing with emergencies, ensuring the safety of operations at sea, preventing intentional and unintentional discharges, and regulating the design, construction, equipment, operation and manning of vessels.
- Pollution from installations and devices used in exploration or exploitation of the natural resources of the seabed and subsoil.
- Pollution from other installations and devices operating in the marine environment, in particular measures for preventing accidents and dealing with emergencies, ensuring the safety of operations at sea, and regulating the design, construction, equipment, operation and manning of such installations or devices.

Those measures should also include "those necessary to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life" (Art. 194 (5)).

Various dispute resolution mechanisms are available to States Parties to the Convention. Article 279 echoes the Charter of the United Nations, requiring States Parties to settle any dispute concerning the interpretation or application of UNCLOS by peaceful means. States are free to settle disputes by peaceful means of their own choice (Art. 280), subject to their potential obligations under general, regional, or bilateral agreements (Art. 282) and the obligation to exchange views (Art. 283). For example, one State Party may invite the other party or parties to resolve the dispute through conciliation in accordance with Article 284.

If no settlement has been reached through the above-mentioned means, disputes concerning the interpretation or application of the Convention shall, at the request of any party to the dispute, be submitted to the court or tribunal with jurisdiction (Art. 286). Article 287 provides that States shall be free to choose, by a written declaration, one or more of the following means for the settlement of such disputes:

The International Tribunal for the Law of the Sea;

The International Court of Justice;

An arbitral tribunal constituted in accordance with Annex VII; or

A special arbitral tribunal constituted in accordance with Annex VIII.

Trinidad and Tobago has declared that in the absence of or failing any other peaceful means, their choice of means, in order of priority, for the settlement of disputes concerning the interpretation or application of the Convention is as follows: first, the International Tribunal for the Law of the Sea established in accordance with Annex VI; and second, the International Court of Justice.

Trinidad and Tobago has also made a declaration under Article 298 indicating that the country does not accept any of these compulsory procedures entailing binding decisions with respect to disputes concerning the interpretation or application of articles 15, 74 and 83 relating to sea boundary delimitations (territorial sea, EEZ, and continental shelf) as well as those involving historic bays or titles.

1.3. National frameworks implementing UNCLOS

Trinidad and Tobago ratified UNCLOS on 25 April 1986. While Trinidad and Tobago had already claimed a territorial sea and a continental shelf prior to 1986, following ratification of UNCLOS, it claimed the status of an archipelagic State and therefore generated its EEZ from its archipelagic baselines. Some key national legislation has subsequently emerged and now forms the legislative basis on which the country governs the management of the ocean and its resources. The key legislation is set out in table 1.1.

Table 1.1. Key national legislative instruments creating maritime zones in accordance with UNCLOS

Legislation	Objective	Ministry Responsible
Territorial Sea Act, 1969 (Chap. 1:51)	This Act includes provisions with respect to the territorial sea of Trinidad and Tobago. The Act delimits the territorial sea of Trinidad and Tobago at 12 nautical miles from the nearest point of the baseline. Section 5 provides a definition of the baseline, and section 7 for a definition of the low-water line.	Ministry of Foreign and CARICOM Affairs
Territorial Sea (Amendment) Act, 1986 (Act No. 22)	The Act amends the Territorial Sea Act (Chap. 1:51). It provides new definitions of “contiguous zone” (sect. 2), “internal waters” (sect. 4), “closing lines” (sect. 4), and “low-water line” (sect. 7(1) and for new measurement and definition of the baselines (sect. 5). A new section 6A on enforcement measures in the contiguous zone was also added. These changes resulted from the enactment of the Archipelagic Waters and Exclusive Economic Zone Act, 1986 (Chap. 51:06).	Ministry of Foreign and CARICOM Affairs
Archipelagic Waters and Exclusive Economic Zone Act, 1986 (Chap. 51:06) -	This Act declares Trinidad and Tobago to be an archipelagic State, describes the various matters with respect to archipelagic waters (Sects. 2–8) and provides for the establishment of a 200-nautical-mile EEZ. The Act also provides that the breadth of the maritime zones of Trinidad and Tobago established through earlier legislation are to be measured from the archipelagic baselines.	Ministry of Foreign and CARICOM Affairs

	Under section 19 of the Act, in the EEZ, Trinidad and Tobago, has (1) sovereign rights over the exploration and exploitation, conservation, and management of the living and non-living resources of the waters super-adjacent to the seabed and of the seabed and its subsoil, and (2) jurisdiction over the protection and preservation of the marine environment. This Act establishes the right of the State to manage the living resources of the EEZ, including scientific research other than by nationals. Under the Act regulations may be made to implement the provisions of the Act in respect of protection and preservation of the marine environment, and the prevention, reduction, and control of pollution of that environment.	
Continental Shelf Act, 1969 (Chap. 1:52)	The Act defines the continental shelf and claims rights of Trinidad and Tobago with respect to the delimited area. It also provides for the exploration and exploitation of the continental shelf; giving effect to certain provisions of the Conventions on the High Seas (Geneva; 29 April 1958); and for matters connected with those purposes. The Act also defines the offence of discharge of oil in designated areas of the continental shelf.	Ministry of Foreign and CARICOM Affairs
Continental Shelf (Amendment) Act, 1986 (Act No. 23)	The Continental Shelf Act was amended in 1986 by Act 23 of 1986 to introduce "continental margin" as "a submerged prolongation of the land mass of Trinidad and Tobago consisting of the seabed and the subsoil, the slope and the rise of the continental shelf" (sect. 2).	Ministry of Foreign and CARICOM Affairs

While the Archipelagic Waters and Exclusive Economic Zone Act, 1986 (Chap. 51:06) is consistent with the Convention, no mention is made of navigation in the territorial sea. However, Article 12 of this Act does acknowledge that in archipelagic waters "passage is innocent so long as it is not prejudicial to the peace, good order or security of Trinidad and Tobago and in conformity of the Convention and such other relevant rules of international law."

A comprehensive list of national legislation, policies, and committees as they relate to ocean governance in Trinidad and Tobago is illustrated in table 1.2.

Table 1.2. Trinidad and Tobago maritime legislation, policy, and committees

Maritime zones	
Legislation	Archipelagic Waters and Exclusive Economic Zones Act, 1986 (Chap. 51:06) Continental Shelf Act, 1969 (Chap. 1:52) Continental Shelf (Amendment) Act, 1986 (Act No. 23) Territorial Seas Act, 1969 (Chap. 1:51) Territorial Sea (Amendment) Act, 1986 (Act No. 22)

Living resources, including fishing and mariculture	
Legislation	Agriculture Society Act, 1919 (Chap. 63:01) Animals (Diseases and Importation) Act, 1954 (Chap. 67:02) Caribbean Fisheries Training and Development Institute Act, 1975 (Chap. 39:53) Caribbean Fisheries Training and Development Institute Act, 1975 (Chap. 39:53) Conservation of Wild Life Act, 1958 (Chap. 67:01) Control of Importation of Live Fish Act, 1950 (Chap. 67:52) Environmental Management Act, 2000 (Chap. 35:05) Relevant subsidiary legislation includes: Certificate of Environmental Clearance Rules Water Pollution Rules Environmentally Sensitive Species Rules Environmentally Sensitive Area Rules Fisheries Act (Chap. 67:51) Fishing Industry (Assistance) Act, 1955 (Chap. 85:03) Institute of Marine Affairs Act, 1976 (Chap. 37:01) Land Acquisition Act, 1994 (Chap. 58:01) Livestock and Livestock Products Board Act, 1997 (Chap. 67:05) National Agricultural Marketing and Development Corporation Act, 1991 (Chap. 63:05) Port Authority Act, 1961 (Chap. 51:01) Shipping Act, 1987 (Chap. 50:10) State Lands Act, 1918 (Chap. 57:01) The Marking of Ships Act, 1945 (Chap. 50:09) Tobago House of Assembly Act, 1996 (Chap. 25:03)
Draft	The Fisheries Management (No. 2) Bill, 2020, of 2021 Draft Fisheries Management Policy (2016)
Policy	Aquaculture Strategic Plan 2018–2023 Caribbean Community Common Fishery Policy, 2014 National Environmental Policy, 2018 National Biodiversity Strategy and Action Plan, 2017–2022 Vision 2030: The National Development Strategy of Trinidad and Tobago 2016–2030

Committees	Joint Select Committee—The Fisheries Management (No. 2) Bill, 2020, of 2021 Integrated Coastal Zone Management Committee Integrated Coastal Zone Management Inter-Ministerial Committee
Safety and security of shipping	
Legislation	Bills of Lading Act, 1864 (Chap. 50:03) Carenage Pier Act, 1948 (Chap. 51:03) Carriage of Goods by Sea Act, 1926 (Chap. 50:02) Commission of Inquiry Act, 1958 (Chap. 514) Customs Act, 1938 (Chap. 78:01) Defence Act, 1962 (Chap. 14:01) Droghers Act, 1914 (Chap. 50:07) Fisheries Act, 1916 (Chap. 67:51) Harbours Act, 1880 (Chap. 50:06) La Brea Jetty and Tramway Act, 1894 (Chap. 51:04) Marking of Ships Act, 1945 (Chap. 50:09) Motor Launches Act, 1926 (Chap. 50:08) Occupational Safety and Health Act, 2004 (Chap. 88:08) Oil Pollution in Territorial Waters Act, 1951 (Chap 37:03) Pilotage Act, 1939 (Chap. 51:02) Port Authority Act, 1961 (Chap. 51:01) Protection of Wrecks Act, 1994 (Chapter 37:04) Shipping Act, 1987 (Chap. 50:10) Shipping (Ship and Port Facility Security) Regulations, 2004 Shipping (Distress Signals and Prevention of Collisions) Regulations Submarine Areas of the Gulf of Paria (Annexation) Order, 1942 West Indies Shipping Corporation Act, 1977 (Chap. 50:04)
Policies	Ministry of Labour and Small Enterprise Development Strategic Plan (2017–2020) Vision 2030: The National Development Strategy of Trinidad and Tobago, 2016–2030 Yachting Policy, 2017–2021
Committees	Inter-Ministerial Committee to develop the National Maritime Policy and Strategy for Trinidad and Tobago Joint Select Committee on The Shipping Bill, 2020, of 2021 Standing Committee for the development of the Maritime Sector of 2016

Draft	Shipping Bill, 2020 The Draft National Maritime Policy and Strategy, 2021 The Shipping (Marine Pollution) Bill, 2004
Non-living resources and offshore installations	
Legislation	Environmental Management Act, 2000 (Chap. 35:05) Certificate of environmental clearance Waste management Water pollution Environmentally sensitive species; Environmentally sensitive areas Minerals Act, 2000 (Chap. 61:03) National Petroleum Company Act, 1969 (Chap. 62:04) Occupational Safety and Health Act, 2004 (Chap. 88:08) Oil Pollution of Territorial Waters Act, 1951 (Chap. 37:03) Petroleum Act, 1969 (Chap. 62:01) Petroleum Regulations Petroleum Production Levy and Subsidy Act, 1974 (Chap. 62:02) Petroleum Taxes Act, 1974 (Chap. 75:04) Petrotrin Vesting Act, 1993 (Chap. 62:07) State Lands Act, 1918 (Chap. 57:01)
Policies	Framework for the Development of Renewable Energy (2011) Natural Gas Master Plan 2015 National Oil Spill Contingency Plan, 2013 Vision 2030: The National Development Strategy of Trinidad and Tobago 2016–2030 National Environmental Policy, 2018 Trinidad and Tobago Upstream Effluent Management Policy
Committees	Integrated Coastal Zone Management Committee Integrated Coastal Zone Management Inter-Ministerial Committee The Committee on Energy Affairs of 2015
Draft	Shipping Bill, 2020 The Draft National Maritime Policy and Strategy 2021 The Shipping (Marine Pollution) Bill 2004
Coastal and marine tourism	
Legislation	Chaguaramas Development Authority Act, 1972 (Chap. 35:02) Hotel Development Act, 1963

	Immigration Act, 1969 (Chap. 18:01) Planning and Facilitation of Development Act, 2014 Marine Areas (Preservation and Enhancement) Act, 1970 (Chap. 37:02) Tourism Development Act, 2000 (Chap. 87:22) and Subsidiary Legislation Tourism Development (Prescribed Forms) Regulations (LN 258/2000) Tourism Development Miscellaneous Provisions Act, 2000 Tobago House of Assembly Act, 1980 (Chap. 25:03)
Policies	National Tourism Policy, 2021–2030 Vision 2030: The National Development Strategy of Trinidad and Tobago, 2016–2030 Yachting Policy, 2017–2021
Committees	Integrated Coastal Zone Management Committee Integrated Coastal Zone Management Inter-Ministerial Committee National Maritime Policy and Strategy Inter-Ministerial Committee
Draft	Draft Integrated Coastal Zone Management Plan, 2020 The Draft Maritime Policy and Strategy, 2021
Preservation of the environment	
Legislation	Basel Convention (Regional Centre for Training and Technology Transfer) Act, 2008 (Chap. 35:49) Conservation of Wildlife Act, 1958 (Chap. 67:01) Control of Importation of Live Fish Act, 1950 (Chap. 67:52) Environmental Management Act, 2000 (Chap. 35:05) and Subsidiary Legislation Certificate of Environmental Clearance Rules Water Pollution Rules Environmentally Sensitive Species Rules Environmentally Sensitive Area Rules Fisheries Act, 1916 (Chap. 67:51) Institute of Marine Affairs Act, 1976 (Chap. 37:01) Litter Act, 1973 (Chap. 30:52) Marine Areas (Preservation and Enhancement) Act, 1970 (Chap. 37:02) Marine Areas (Preservation and Enhancement) Regulations Minerals Act, 2000 (Chap. 63:03)

	Oil Pollution of Territorial Waters Act, 1951 (Chap. 37:03) Pesticides and Toxic Chemicals Act, 1979 (Chap. 30:03) Petroleum Act, 1969 (Chap. 62:01) Petroleum Regulations Planning and Facilitation of Development Act, 2014 Water and Sewage Act, 1965 (Chap. 54:40) Waterworks and Water Conservation Act, 1944 (Chap. 54:41)
Drafts	Forestry, Protected Areas and Wildlife Conservation Bill, 2015 Tobago Marine Parks Bill The Shipping (Marine Pollution) Bill, 2004 Draft Integrated Coastal Zone Management Framework, 2020
Policies	Comprehensive Coastal and Environmental Study for Milford Bay Pigeon Point Rehabilitation Project (Tobago) National Biodiversity Strategy and Action Plan, 2017–2022 National Environmental Policy, 2018 National Policy and Programmes on Wetland Conservation for Trinidad and Tobago, 2002 National Protected Areas Policy, 2017–2022 National Protected Areas Systems Plan, 2018 National Wetland Policy, 2002 The Draft Maritime Policy and Strategy, 2021 National Climate Change Policy, 2011 Vision 2030: The National Development Strategy of Trinidad and Tobago, 2016–2030
Committees	Land Reclamation Committee Integrated Coastal Zone Management Committee Integrated Coastal Zone Management Inter-Ministerial Committee
Marine scientific research	
Legislation	Institute of Marine Affairs Act, 1976 (Chap. 37:01) Marine Areas (Preservation and Enhancement) Act, 1970 (Chap. 37:02) Petroleum Act (Chap. 62:01) Petroleum Regulations
Policy	National Environmental Policy, 2018 National Biodiversity Strategy and Action Plan, 2002) Vision 2030: The National Development Strategy of Trinidad and Tobago, 2016–2030

Committee	Sub-Committee on Marine Scientific Research of the Inter-Ministerial Committee on the Law of the Sea
Draft	The Draft Maritime Policy and Strategy, 2021

1.3.1. Ocean governance instruments to which Trinidad and Tobago is party

UNCLOS requires States to give effect to international rules and standards contained in complementary international instruments of binding character established through competent international organizations or diplomatic conferences. Such complementary international instruments need to be implemented by States to fulfil their obligations under UNCLOS. States are also required to cooperate to conclude new instruments implementing the framework obligations contained in UNCLOS.

Trinidad and Tobago ratified the 1994 Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea on 28 July 1995. By ratifying that Agreement, Trinidad and Tobago undertook to implement Part XI of the Convention in accordance with the provisions of the Agreement (Art. 1), which are to prevail in the event of any inconsistency with Part XI (Art. 2). Section 1 of the Annex deals with the work of the International Seabed Authority (the Authority) whose functions are to organise and control activities in the Area established in Part XI, particularly with a view to administering its resources.

Trinidad and Tobago has been a party to the 1995 United Nations Fish Stocks Agreement since September 2006. Based on the principle that States are required to cooperate with each other in the conservation and management of living resources on the high seas (UNCLOS, art. 118), the Fish Stocks Agreement provides the framework for the conservation and management of straddling and highly migratory fish stocks, including regarding the establishment of regional fisheries management organizations and arrangements as the primary vehicles for cooperation between States. The Fish Stocks Agreement also promotes cooperation to help developing States, in particular least developed countries and SIDS, to conserve and manage straddling fish stocks and highly migratory fish stocks, and to develop their own fisheries and participate in high seas fisheries for such stocks.

Trinidad and Tobago is a Party to a range of other international treaties and legal instruments, as illustrated in table 1.3. Additional treaties that Trinidad and Tobago is not a party to but are related to ocean governance are illustrated in table 1.4. Treaties and other international legal instruments adopted under the auspices of the International Maritime Organization (IMO) are listed separately in section 1.3.2 below.

Table 1.3. Treaties and other instruments and initiatives related to ocean governance to which Trinidad and Tobago is a party

Treaties related to ocean governance (excluding the IMO)	Trinidad and Tobago's status
Convention on the Territorial Sea and the Contiguous Zone, 29 April 1958	11 April 1966 (succession)
Convention on the High Seas, 29 April 1958	11 April 1966 (succession)
Convention on Fishing and Conservation of the Living Resources of the High Seas, 29 April 1958	11 April 1966 (succession)

Treaties related to ocean governance (excluding the IMO)	Trinidad and Tobago's status
Convention on the Continental Shelf, 29 April 1958	11 July 1968 (accession)
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 3 March 1979	19 January 1984 (accession)
The United Nations Convention on the Law of the Sea of 10 December 1982	25 April 1986 (ratification)
Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region or Cartagena Convention, 24 March 1983, and its three protocols.	24 January 1986
Protocol Concerning Co-operation and Development in Combating Oil Spills in the Wider Caribbean Region (the Oil Spills Protocol), 24 March 1983	24 January 1986 (ratification)
Protocol Concerning Specially Protected Areas and Wildlife (SPAW) in the Wider Caribbean Region, 18 January 1990	10 Aug 1999 (ratification)
Protocol Concerning Pollution from Land-Based Sources and Activities, 6 October 1999	28 March 2003 (ratification)
Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat, 2 February 1971	21 April 1993 (accession)
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, 22 March 1989	18 February 1994 (accession)
United Nations Framework Convention on Climate Change (UNFCCC), 9 May 1992	24 June 1994 (ratification)
Agreement relating to the Implementation of Part XI of the Convention of 10 December 1982	28 July 1995 (simplified procedure)
Convention on Biological Diversity, 5 June 1992	1 August 1996 (ratification)
Kyoto Protocol to the United Nations Framework Convention on Climate Change, 11 December 1997	28 January 1999 (ratification)
Ban Amendment to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, 22 September 1995	12 January 2000 (ratification)
Cartagena Protocol on Biosafety to the Convention on Biological Diversity, 29 January 2000	5 October 2000 (accession)
Stockholm Convention on Persistent Organic Pollutants, 22 May 2001	13 December 2002 (accession)
Protocol on the Privileges and Immunities of the International Seabed Authority, 27 March 1998	10 August 2005 (ratification)
Agreement for the Implementation of the Provisions of the Convention of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (UN Fish Stocks Agreement), 1995	13 September 2006 (accession)
Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, 10 September 1998	16 December 2009 (accession)
Doha Amendment to the Kyoto Protocol, 8 December 2012	6 August 2015 (acceptance)
Paris Agreement, 12 December 2015	22 February 2018 (ratification)
Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas, 24 November 1993	24 October 2019 (acceptance)
Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, 22 November 2009	24 October 2019 (accession)

Table 1.4. Other relevant instruments and initiatives related to ocean governance (excluding the IMO)

Instrument or initiative	Founding date
United Nations Environment Programme (UNEP) Regional Seas Programme	1974
Caribbean Environment Programme (CEP)	1981
Agenda 21	1992
Barbados Small Island Developing States (SIDS) Programme of Action	1994
Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (GPA)	1995
Johannesburg Plan of Implementation	2005
GEF Caribbean Large Marine Ecosystem (CLME) Project (2009–2012)	2009
RIO + 20	2012
SIDS Accelerated Modalities of Action (SAMOA) Pathway (outcome document of the Third International Conference on Small Island Developing States held in Samoa in September 2014)	2014
Sustainable Development Goals	2015
UNDP/GEF CLME+ Project (2015-2020)	2015
Caribbean Regional Oceanscape Project	2017

The bilateral agreements and other documents related to ocean governance (excluding the IMO) are as follows:

- The delimitation of the maritime boundary between Great Britain and Venezuela under the 1942 Treaty relating to the Submarine Areas of the Gulf of Paria
- Agreement between the Government of Trinidad and Tobago and the Government of the Republic of Venezuela on the Delimitation of Marine and Submarine Areas (First Phase agreement; 1989)
- Port-of-Spain Accord on the Management and Conservation of the Caribbean Environment (1989)
- Treaty between the Republic of Trinidad and Tobago and the Republic of Venezuela on the Delimitation of Marine and Submarine Areas (1990)
- Award of the Arbitral Tribunal Constituted pursuant to article 287, and in accordance with Annex VII, of the UNCLOS in the Matter of an Arbitration between Barbados and the Republic of Trinidad and Tobago (2006)
- Treaty between the Republic of Trinidad and Tobago and Grenada on the Delimitation of Marine and Submarine Areas (2010)

The treaties related to ocean governance to which Trinidad and Tobago is not a party are as follows:

- Convention on Long-range Transboundary Air Pollution, 13 November 1979, and the relevant protocols
- Convention on Environmental Impact Assessment in a Transboundary Context, 25 February 1991
- Convention on the Protection and Use of Transboundary Watercourses and International Lakes, 17 March 1992
- Convention on the Transboundary Effects of Industrial Accidents, 17 March 1992
- Agreement on the Privileges and Immunities of the International Tribunal for the Law of the Sea, 23 May 1997
- Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, 25 June 1998
- International Convention on Arrest of Ships, 12 March 1999
- Basel Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and their Disposal, 10 December 1999
- Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes and to the 1992 Convention on the Transboundary Effects of Industrial Accidents, 21 May 2003
- Amendment to Annex B of the Kyoto Protocol to the United Nations Framework Convention on Climate Change, 17 November 2006
- Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity, 29 October 2010
- Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety, 15 October 2010
- Minamata Convention on Mercury, 10 October 2013
- Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean, 4 March 2018

1.3.2. IMO Conventions to which Trinidad and Tobago is party

Trinidad and Tobago is party to several key IMO Conventions, as illustrated in table 1.5 below. The conventions play a significant role for the safety and security of shipping and the

prevention of marine and atmospheric pollution by ships. These conventions detail minimum international standards, and it is imperative that the conventions Trinidad and Tobago is a Party to are implemented in domestic law to facilitate greater maritime oversight by the local maritime administration.

Several Conventions have yet to be implemented in Trinidad and Tobago. These include, inter alia, the International Convention for the Regulations of Pollution from Ships (1973/78), the Maritime Labour Convention (2006), and the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships (2009). The Maritime Labour Convention of 2006 is the most important international convention, as it relates to seafarer well-being and sets out comprehensive rights and protections for seafarers, aiming to ensure decent working conditions, fair treatment, and social security for those employed in the maritime industry. Given Trinidad and Tobago's attempt to penetrate the market for international seafarers, it is necessary that this convention become part of the core regulatory framework of the country. An examination of the impact of ratification of each of the core IMO Conventions is outside the remit of this study. However, implementation of these Conventions is required to bring Trinidad and Tobago's flag and port state control measures in line with contemporary international standards and best practices.

Table 1.5. IMO Conventions: Trinidad and Tobago status as of 22 April 2023

Convention	Status
Convention on the International Maritime Organization (1948)	27 April 1965
Convention on Facilitation of International Maritime Traffic (FAL), (1965)	16 March 1967 (acceptance)
International Convention for the Safety of Life at Sea, as amended (1974) (SOLAS 1974)	15 February 1979 (accession)
International Convention on Load Lines (1966)	24 August 1966 (acceptance)
International Convention on Tonnage Measurement of Ships (1969)	15 February 1979 (accession)
Convention on the International Regulations for Preventing Collisions at Sea (1972) (COLREG 1972)	15 February 1979 (accession)
International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) as amended, including the 1995 and 2010 Manila Amendments	3 February 1989 (accession)
Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation (1988)	27 July 1989 (accession)
Protocol for the Suppression of Unlawful Acts Against the Safety of Fixed Platforms Located on the Continental Shelf (1988)	27 July 1989 (accession)
Protocol of 1992 to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971	6 March 2000 (accession)
Convention on Limitation of Liability for Maritime Claims (1976)	6 March 2000
1992 Protocol relating to the International Convention on Civil Liability for Oil Pollution Damage	6 March 2000
International Convention on Oil Pollution Preparedness, Response and Co-operation (1990)	6 March 2000 (accession)
International Convention on Maritime Search and Rescue (SAR) (1979)	4 May 1989 (accession)
1996 Protocol for the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 (1996 London Protocol)	6 March 2000 (accession)

Convention	Status
International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (1969)	6 March 2000 (accession)
International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto and by the Protocol of 1997 (Annex I/II)	6 March 2000 (accession)
International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto and by the Protocol of 1997 (MARPOL) (Annex III)	6 March 2000 (accession)
International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto and by the Protocol of 1997 (MARPOL) (Annex IV)	6 March 2000 (accession)
International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto and by the Protocol of 1997 (MARPOL) (Annex V)	6 March 2000 (accession)
International Convention on the Control of Harmful Anti-fouling Systems on Ships (AFS), (2001)	3 January 2012 (accession)
International Convention for the Control and Management of Ships' Ballast Water and Sediments (2004)	3 January 2012 (accession)
Protocol of 1988 Relating to the International Convention for the Safety of Life at Sea, 1974	7 June 2012 (accession)
Protocol of 1988 Relating to the International Convention of Load Lines	7 June 2012 (accession)
International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto and by the Protocol of 1997 (MARPOL) (Annex VI)	7 June 2012 (accession)
Agreement concerning Specific Stability Requirements for RO-RO Passenger Ships Undertaking Regular Schedule International Voyages Between or to or from Designated Ports in North-West Europe and the Baltic Sea (1996)	Not ratified
International Convention for Safe Containers (1972)	Not ratified
Amendments to the International Convention for Safe Containers (1993)	Not ratified
The Torremolinos International Convention for the Safety of Fishing Vessels, 1977, superseded by the 1993 Torremolinos Protocol (1993)	Not ratified
Cape Town Agreement of 2012 on the Implementation of the Provisions of the 1993 Protocol relating to the Torremolinos International Convention for the Safety of Fishing Vessels	Not ratified
International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (1995)	Not ratified
Special Trade Passenger Ships Agreement (1971)	Not ratified
Protocol on Space Requirements for Special Trade Passenger Ships (1973)	Not ratified
Convention on the International Maritime Satellite Organization (1976)	Not ratified
Operating Agreement in the International Mobile Satellite Organization, as amended (1976)	Not ratified
Amendments to the Convention on the International Maritime Satellite Organization (2006)	Not ratified
Amendments to the Convention on the International Maritime Satellite Organization (2008)	Not ratified
Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (1972)	Not ratified
1973 Protocol relating to Intervention on the High Seas in Cases of Marine Pollution by Substances Other than Oil	Not ratified
International Convention on Civil Liability for Oil Pollution Damage (1969)	Not ratified
1976 Protocol relating to the International Convention on Civil Liability for Oil Pollution Damage	Not ratified
Protocol of 1976 to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971	Not ratified

Convention	Status
Protocol of 2003 to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1992	Not ratified
Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material (1971)	Not ratified
Athens Convention relating to the Carriage of Passengers and Their Luggage by Sea (1974)	Not ratified
Protocol to the Athens Convention relating to the Carriage of Passengers and Their Luggage by Sea, 1974 (1976)	Not ratified
Protocol to the Athens Convention relating to the Carriage of Passengers and Their Luggage by Sea, 1974 (1990)	Not ratified
Protocol to the Athens Convention relating to the Carriage of Passengers and Their Luggage by Sea, 1974 (2002)	Not ratified
Protocol of the Convention on Limitation of Liability for Maritime, 1976 (1996)	Not ratified
Protocol of 2005 to the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation, 1988 (SUA 2005)	Not ratified
Protocol of 2005 to the Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf (SUA Prot. 2005)	Not ratified
International Convention on Salvage (1989)	Not ratified
International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (1996)	Not ratified
Protocol of 2010 to the International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 1996	Not ratified
Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances (2000)	Not ratified
International Convention on Civil Liability for Bunker Oil Pollution Damage (2001)	Not ratified
Nairobi International Convention on the Removal of Wrecks (2007)	Not ratified
The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships (2009)	Not ratified

1.4. United Nations ocean governance agencies and agreements of relevance to Trinidad and Tobago

As a framework convention, UNCLOS provides the foundation for regional and international initiatives relating to the use and management of the ocean and its resources. Key United Nations agencies and other international organizations that impact ocean governance in Trinidad and Tobago are set out below. Each of these international organizations implements programmes and policies to enhance ocean governance both in Trinidad and Tobago and regionally. Their support is complemented by that of several non-State actors who are policy influencers in their own accord. Their roles are also highlighted below.

1.4.1. United Nations Office of Legal Affairs, Division for Ocean Affairs and Law of the Sea

Serving as the secretariat for UNCLOS, DOALOS promotes a better understanding of the Convention and provides advice and assistance to States and international organizations on the uniform and consistent application and implementation of UNCLOS, as well as on other

matters related to oceans and the law of the sea. DOALOS also serves as the secretariat of the United Nations Fish Stocks Agreement.

1.4.2. Food and Agriculture Organization of the United Nations

With respect to the management of living marine resources, the Food and Agriculture Organization of the United Nations (FAO) plays a key role in Trinidad and Tobago by actively working alongside the Fisheries Division of the Ministry of Agriculture, Land and Fisheries (MALF) on a number of initiatives related to ocean governance and sustainable fisheries management. Some of the FAO's direct contributions to ocean governance in Trinidad and Tobago include:

- Technical assistance and capacity building related to fisheries management. This includes stock assessments, data collection and monitoring, and policy development. The FAO has also conducted training workshops and exchange programs for fisheries managers and scientists in the country.
- Strengthening institutional capacity. The FAO has worked with Trinidad and Tobago to strengthen institutional capacity for fisheries management, including support for the establishment of a national fisheries management authority and the development of a legal and regulatory framework for fisheries management.
- Research and data collection. The FAO has also collaborated with local authorities on research and data collection initiatives, including support for the development of a national fisheries database and the implementation of a regional data collection and monitoring program through the Caribbean Regional Fisheries Mechanism (CRFM).

The FAO has also provided support in the development of national and regional strategies for the sustainable management of fisheries resources. For example, the FAO has provided technical assistance to Trinidad and Tobago on the development of a national fisheries management plan and has worked with the country on the implementation of the CRFM regional policy on fisheries management.

The FAO also has responsibility for the Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (PSMA). The aim of this international treaty is to combat illegal, unreported, and unregulated fishing by strengthening port controls. The treaty requires parties to prohibit vessels engaged in such fishing from using their ports and to take measures to prevent the entry into the market of illegally caught fish.

1.4.3. United Nations Environment Programme (UNEP)

Since its inception in 1972, UNEP has been the global authority that sets the environmental agenda. It also promotes the coherent implementation of the environmental dimension of sustainable development within the United Nations system. While UNEP does not have direct responsibility for ocean governance, it supports several international agreements and

initiatives related to ocean conservation and management. One such international initiative is the Regional Seas Programme and Action Plans, of which the Caribbean Environment Programme, established in 1981, is one of eighteen. A critical feature of the Caribbean Environment Programme is the adoption of Cartagena Convention on 24 March 1983.[1]

The Cartagena Convention is the first and only regionally binding treaty of its kind. It promotes the protection and development of the marine environment of the region and provides the legal framework for the Caribbean Environment Programme. It is supplemented by three technical agreements or protocols on oil spills, specially protected areas and wildlife, and land-based sources of marine pollution. This Convention requires Parties to adopt measures aimed at preventing, controlling, and reducing marine pollution and take appropriate measures to protect and preserve fragile ecosystems.

Trinidad and Tobago has taken an active role in the implementation of the Cartagena Convention and its protocols, including:

- The Protocol Concerning Specially Protected Areas and Wildlife (SPAW). Trinidad and Tobago ratified the SPAW Protocol in 2000 and has designated several areas within its jurisdiction as specially protected areas, including the Nariva Swamp and the Caroni Swamp.
- The Protocol Concerning Pollution from Land-Based Sources and Activities (LBS Protocol). Trinidad and Tobago ratified the LBS Protocol in 2003 and has implemented measures to address pollution from land-based sources, including the development of a national wastewater policy and the establishment of a regulatory framework for the management of hazardous waste.
- The Protocol Concerning Co-operation in Combating Oil Spills: Trinidad and Tobago ratified the Oil Spills Protocol in 1994 and has taken measures to enhance its capacity to respond to oil spills, including the establishment of a national oil spill contingency plan and the acquisition of equipment and training for oil spill response.

In addition to the above, the Institute of Marine Affairs (IMA) serves as one of the regional activity centres with responsibility for providing technical support in the development and implementation of programmes and project activities relating to the LBS Protocol. Overall, Trinidad and Tobago has demonstrated a commitment to the implementation of the Cartagena Convention and its protocols through its ratification of these agreements and its efforts to develop and implement measures to address environmental challenges in the Caribbean region.

1.4.4. International Maritime Organization

The IMO is a specialized agency of the United Nations responsible for the regulation of shipping activities worldwide. The IMO's primary goal is to ensure that international shipping is conducted safely, securely, and in an environmentally sustainable manner.

[1] The treaty was adopted in 1983 and entered into force in 1986.

In the context of ocean governance, the IMO plays a significant role in the development and implementation of international maritime law, standards, and regulations. It also provides technical assistance and capacity building to its member States to support the implementation of these regulations.

For Trinidad and Tobago, the IMO's relevance lies in its role in the regulation of shipping activities and ensuring compliance with international maritime laws and regulations. As an island nation heavily dependent on maritime trade, shipping is a critical sector of Trinidad and Tobago's economy, making it imperative that the country maintains a strong relationship with the IMO to ensure the safety and sustainability of its shipping activities. Additionally, the IMO provides technical assistance and support for capacity building in Trinidad and Tobago's maritime sector, including training opportunities for seafarers and port personnel.

1.4.5. Intergovernmental Oceanographic Commission of UNESCO Sub-Commission for the Caribbean and Adjacent Regions

The Intergovernmental Oceanographic Commission of UNESCO (IOC) Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE) is a regional body that was established to promote international cooperation in marine scientific research, observations, and services and to help address the challenges facing the Caribbean and adjacent regions in the area of ocean governance.

IOCARIBE's role in ocean governance includes:

- Advancing scientific knowledge. IOCARIBE promotes marine scientific research and observations, supporting scientific knowledge on the state of the marine environment in the Caribbean and adjacent regions.
- Improving management practices. IOCARIBE supports the development of better management practices for the region's coastal and marine resources, providing scientific and technical advice to governments and stakeholders.
- Enhancing capacity. IOCARIBE provides training and capacity-building opportunities for scientists and technicians, helping build the capacity of Caribbean and adjacent countries to manage and protect their coastal and marine resources.
- Supporting policy development. IOCARIBE supports the development and implementation of national and regional policies related to marine and coastal resources, contributing scientific advice and expertise to guide decision-making.

The relevance of IOCARIBE to Trinidad and Tobago lies in its role as a regional body that promotes scientific research, knowledge sharing, and capacity-building for ocean governance in the Caribbean and adjacent regions. As a SIDS in the Caribbean, Trinidad and Tobago is particularly vulnerable to the impacts of climate change, including sea level rise, ocean acidification, and more frequent and severe tropical storms. IOCARIBE's work is crucial to supporting Trinidad and Tobago's efforts to sustainably manage and protect its coastal and

marine resources, building resilience to these impacts and ensuring the long-term health and productivity of its oceans.

1.4.6. Economic Commission for Latin America and the Caribbean

The Economic Commission for Latin America and the Caribbean (ECLAC) is one of five Regional Commissions of the United Nations Economic and Social Council. ECLAC's sub-regional headquarters for the Caribbean, which are based in Port of Spain, serves all countries of the insular Caribbean, as well as Belize, Guyana and Suriname, making it the largest United Nations body in the sub-region.

ECLAC's sub-regional headquarters for the Caribbean functions as a sub-regional think-tank and facilitates increased contact and cooperation among its membership. In December 2020, prior to the Second UN Ocean Conference in the summer of 2022 and the call to scale up ocean actions based on science and innovation for the implementation of SDG 14 of the 2030 Agenda for Sustainable Development, ECLAC published *The Outlook of Oceans, Seas and Marine Resources in Latin America and the Caribbean* with the support of the Norwegian Ministry of Foreign Affairs. The study is a tool for regional mechanisms and coordination efforts, offering new ideas as alternative indicators for some SDG 14 targets and considering the oceans as solutions for climate change mitigation.

ECLAC also assisted the Caribbean delegations with generic preparation for the Second UN Ocean Conference by publishing "Caribbean in Brief: An Information Document for Small Island Developing States" on the United Nations Oceans Conference, the theme of which was "Scaling up ocean action, based on science and innovation for the implementation of the Sustainable Development Goal 14; stocktaking, partnerships and solutions." In 2020, in response to the growing concerns regarding the use of plastics and its impact on marine life, ECLAC undertook a study titled *Economic Implications of the Ban on Single-Use Plastics in the Caribbean: A Case Study of Trinidad and Tobago*.

Several government agencies are working with ECLAC and various UN entities to achieve the goals and targets of the SDGs. Among those agencies is the IMA, whose programs and projects are synergistically aligned with SDG targets 14.1 and 14.6; the Fisheries Division, whose projects are aligned to SDG targets 14.4 and 14.5; and the Environmental Policy and Planning Division (EPPD), under whose ambit SDG target 14.5 is pursued.

1.4.7. International organizations, ocean governance, and the blue economy

Key United Nations agencies that impact ocean governance and the development of the blue economy in the Caribbean region are illustrated in table 1.6.

Table 1.6. International organizations - ocean governance & the blue economy

Agencies	Core functions	Local implementing partners
Division of Ocean Affairs of the Law of the Sea (DOALOS)	Secretariat for UNCLOS and the United Nations Fish Stocks Agreement, (UNFSA) which aims to promote the conservation and sustainable management	Ministry of Foreign and CARICOM Affairs Fisheries Division

Agencies	Core functions	Local implementing partners
	of fish stocks in the high seas	
Food and Agriculture Organization	Improving food security, fisheries monitoring, and conservation	Fisheries Division of the Ministry of Agriculture, Land and Fisheries Institute of Marine Affairs Caribbean Fisheries Training and Development Institute
International Maritime Organization	International maritime transport, safety of shipping, and marine environmental protection from shipping	Maritime Services Division The University of Trinidad and Tobago Maritime Technology Cooperation Centre Caribbean
United Nations Environment Programme	Promoting the Regional Seas agenda, including the Caribbean Environment Programme	Ministry of Planning and Development Institute of Marine Affairs
Economic Commission for Latin America	SDG 14: Ocean Governance	Ministry of Planning and Development Institute of Marine Affairs
International Oceanographic Commission Sub-Commission for the Caribbean and Adjacent Regions	Promotion, development, and co-ordination of IOCARIBE's marine scientific research programs, the ocean services, and related activities, including training, education, and mutual assistance in the Caribbean and adjacent regions	Ministry of Planning and Development Institute of Marine Affairs

1.5. Regional institutions

1.5.1. CARICOM and the revised Treaty of Chaguaramas

Currently, with a membership of twenty countries (fifteen member States and five associate members), including Trinidad and Tobago as a member State, CARICOM represents one of the most dispersed and diverse political organizations in the Western Hemisphere.

The Treaty of Chaguaramas gave rise to the establishment of CARICOM in 1973, with the goal of uniting the region through economic and political integration while also providing for human and social development and security. The Treaty of Chaguaramas was amended in 1989 to create the Caribbean Single Market and Economy. Several provisions in the revised treaty seek to ensure that developments are tied to environmental considerations, specifically management of resources in the surrounding seas (Caribbean and Atlantic). These include provisions for:

- Development, management, and conservation of the fisheries resources in and among the member States on a sustainable basis;

- Effective management of the soil, air, and all water resources; the EEZ; and all other maritime areas under the national jurisdiction of the member States;
- Development and expansion of air and maritime transport capabilities in the Community;
- Management of straddling and highly migratory fish stocks;
- Ongoing surveillance of their EEZs; and
- Safeguarding the marine environment of member States from pollutants and hazardous wastes.

Of the institutions operating under the ambit of CARICOM, the CRFM, the Caribbean Centre for Renewable Energy and Energy Efficiency, the CARICOM Implementing Agency for Crime and Security, the Caribbean Institute for Meteorology and Hydrology, and the Caribbean Development Bank all play influential roles in overseeing and managing oceans.

The CRFM has a very specific focus on managing the marine living resources. Its mission is to oversee, promote, and facilitate the responsible use of the region's fisheries and other aquatic resources for the economic and social benefit of the current and future population of the region. The CRFM's mandate is anchored in the Caribbean Community Common Fisheries Policy, "a binding treaty that focuses on cooperation and collaboration of Caribbean people, fishermen and their governments in conserving, managing and sustainably utilizing fisheries and related ecosystems" (CRFM 2020).[2] The work of the CRFM is therefore directly relevant to sustainable use of resources in the blue economy.

Other than the CRFM, none of the institutions mentioned above have a mandate to pursue the development of the region's blue economy. The Caribbean Development Bank, the region's leading financial institution, convened a conference on the blue economy and later published a study that sought to provide indicators for assessing the contribution of coastal and marine resources to the economic development of the region. However, since the publication of that study in 2019, not much has been heard regarding financing blue economy initiatives or undertaking further assessments of the contribution of ocean resources to the individual countries of the region.

1.5.2. Centre for Resource Management and Environmental Studies, University of West Indies

The Centre for Resource Management and Environmental Studies (CERMES), a department within the Faculty of Science and Technology of the University of the West Indies (UWI), promotes and facilitates sustainable development in the Caribbean and beyond. CERMES has a strong focus on tropical island environmental management. Its mission is to make a

[2] The Caribbean Court of Justice has said that once CARICOM policies have been authorized by the Council for Trade and Economic Development, they are binding on the countries. At its meeting in Suriname on 10 October 2014, the Council for Trade and Economic Development gave its stamp of approval to the Caribbean Community Common Fisheries Policy and said that the newly authorized policy should be applied by member states as far as possible (CRFM 2020).

significant contribution to sustainable development in the Caribbean region by, inter alia, hosting and coordinating regional environmental initiatives and projects.

CERMES is engaged in a range of activities relating to ocean governance in the Wider Caribbean Region and beyond, in which the Government of the Republic of Trinidad and Tobago (GORTT) is participating. Many of these activities are based on the large marine ecosystem governance framework which was conceived as a contribution to the development of the first phase of the Caribbean Large Marine Ecosystem (CLME) Project (2009–2012), which is supported by the Global Environment Facility (GEF). CERMES has also developed the Governance Effectiveness Assessment Framework that is the basis for monitoring the CLME+ Strategic Action Programme that is currently being implemented. It was also used in the GEF Transboundary Waters Assessment Programme.

In 2011, CERMES was instrumental in establishing the UWI Ocean Governance Network, an online network of ocean and maritime specialists affiliated with three UWI campuses (Cave Hill, Mona, and St. Augustine). The network has been involved in providing expert advice to the CARICOM Secretariat in matters relating to ocean governance and has been specifically active in providing input into the 2017 and 2022 UN Ocean Conferences and the various technical meetings convened to discuss the preparation of the intergovernmental conferences negotiating a legally binding instrument under UNCLOS on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ).

1.5.3. Caribbean Sea Commission of the Association of Caribbean States

The Association of Caribbean States (ACS) is an advisory association of nations centred on the Caribbean Basin. It was formed with the aim of promoting consultation, cooperation, and concerted action among all the countries of the Caribbean coastal area. The primary purpose of the ACS is to promote greater trade between the nations, enhance transportation, develop sustainable tourism, and facilitate greater and more effective responses to local natural disasters.

One of the anchor programmes of the ACS is the establishment of the Caribbean Sea Commission, which was created with the objective of promoting and contributing to the sustainable development of the Caribbean Sea for present and future generations. The ACS and its partners have been pursuing the Caribbean Sea Initiative since 1998 mainly through the promotion of UN General Assembly Resolution 65/155, "Towards the Sustainable Development of the Caribbean Sea for Present and Future Generations," which was first adopted in 1999 and subsequently reported upon, revised, and readopted. In that regard, the Caribbean Sea Commission has adopted the large marine ecosystem (LME) governance framework as its working model for regional ocean governance arrangements. Trinidad and Tobago is an active member of the Caribbean Sea Commission, and in 2021, through the IMA, it assumed the position of Chair of the Commission, in which role it is continuing to pursue the main agenda of the Commission which is declaring the Caribbean Sea as a special area, as explained below.

Through the ACS, Caribbean States have sought to declare the Caribbean Sea as a Special Area Zone for Sustainable Development. This is acknowledged in United Nations General Assembly Resolution 61/197 of 20 December 2006, which took note of the efforts of the Caribbean States to further develop their concept of the Caribbean Sea as a special area in the context of

sustainable development. Since then, the ACS through the Caribbean Sea Commission has provided regular updates to the General Assembly on efforts being made to realise that goal. In that regard, United Nations General Assembly Resolution 73/229 of 20 December 2018 has reminded Member States of the importance of the Caribbean Sea to present and future generations and to the heritage and the continuing economic well-being and sustenance of people living in the area and of the urgent need for the countries of the region to take appropriate steps to preserve and protect it, with the support of the international community.

1.6. Key projects impacting ocean governance in the Caribbean

Several ocean governance projects are currently being implemented in the Caribbean under the auspices of the UN and its specialised agencies that Trinidad and Tobago is participating in with the aim of enhancing its ocean governance framework. These projects are briefly described below.

1.6.1. Current projects contributing to enhance the ocean governance framework

BE-CLME+: Promoting National Blue Economy Priorities through Marine Spatial Planning in the Caribbean Large Marine Economy Plus was a 4-year project funded by the GEF with a grant of US$6.2 million and co-financing of US$40.1 million for the first UNDP/GEF CLME Project (2009–2014) (UNDP and Global Environment Forum 2017). The project was aimed at assisting participating countries that are in proximity to two LMEs with improving the management of their marine living resources. The two LMEs were the Caribbean LME and the North Brazil LME.

Further support enabled the development of a Strategic Action Programme (CLME+ SAP, 2015–2025) to reverse environmental degradation in the CLME+ region, which was endorsed at high political levels by over 20 countries within the region. The Strategic Action Programme places considerable focus on priority actions aimed at dealing with root causes of environmental degradation such as weak governance arrangements, capacity and information gaps, and overall lack of coordination of efforts as a result of geopolitical and sectoral fragmentation at the regional, sub-regional, national, and local levels.

Given the success of and widespread political support for the CLME+SAP, the GEF approved additional funds for a new project: Protecting and Restoring the Ocean's Natural Capital, Building Resilience and Supporting Region-Wide Investments for Sustainable Blue Socio-Economic Development(PROCARIBE+). The objective of the project is "protecting, restoring and harnessing the natural coastal and marine capital of the region to catalyse investments in a climate-resilient, sustainable post-covid blue economy, through strengthened regional coordination and collaboration, and wide-ranging partnerships."[3] This will be achieved through the implementation of four components:

[3] "PROCARIBE+: Protecting and Restoring the Ocean's Natural Capital, Building Resilience and Supporting Region-Wide Investments for Sustainable Blue Socio-Economic Development," The CLME+ Hub, https://clmeplus.org/ppi_database/protecting-and-restoring-the-oceans-natural-capital-to-support-post-covid-recovery-and-to-drive-region-wide-investments-towards-a-sustainable-blue-economy/.

- Enhanced regional coordination and collaboration
- Enhanced national capacity and enabling conditions
- Key actions by all sectors of society in support of the CLME+ vision: a healthy marine environment that supports human well-being with a focus on the blue economy, marine spatial planning (MSP), marine protected areas (MPAs), sustainable fisheries, microfinancing and innovative financing
- Regional Knowledge Management and Marine Data Infrastructure + global LME community.

Trinidad and Tobago is one of 16 Caribbean and Latin American countries that will benefit directly from the implementation of the project.

1.6.2. Global Maritime Technology Cooperation Centre Network (GMN)

The GMN Project of the Global Maritime Technology Cooperation Centre Network is funded by the European Union and implemented by the IMO through the maritime technology cooperation centres (MTCCs) established across five regions (Global MTCC Network n.d.a). The GMN was launched in 2016. Each MTCC is based primarily in a university in a developing country and is entrusted with delivering five outcomes based on capacity building in the region, including two pilot projects. These pilot projects were required to promote the uptake of energy-efficient shipping technologies and operations and to build capacity in the reporting of fuel consumption and data collection and reporting in compliance with IMO regulations. The core focus of the GMN is to enhance the implementation of Annex VI of the International Convention for the Prevention of Pollution from Ships (MARPOL).

Within the Caribbean, the MTCC Caribbean is hosted by the University of Trinidad and Tobago's (UTT) Centre for Maritime and Ocean Studies (CMOS) (Global MTCC Network n.d.b). In discharging its mandate, MTCC Caribbean has delivered dozens of capacity-building initiatives, including workshops, webinars, and stakeholder trainings. Through the execution of its pilot projects, MTCC Caribbean has also created three baselines that are expected to lay the foundations for future work in climate mitigation in maritime shipping and inform policy decisions of its key stakeholders. These baselines are as follows:

- The first Online Voluntary Reporting System and database for 16 Maritime Administrations on fuel consumption from ships and use of energy efficiency technology in the region;
- The first Energy Efficiency Operational Indicator baseline for the Caribbean;
- The first Ships' Greenhouse Gas (GHG) emissions baseline for the Caribbean

MTCC Caribbean also commenced the first of its kind port GHG emission inventory at a major port in Trinidad and Tobago. This inventory will allow the port the determine its baseline

emissions data and help inform emission reduction strategies. It is expected that the inventory will provide a blueprint for the region to conduct similar port emission inventories.

1.6.3. GreenVoyage2050

GreenVoyage2050 is another major international project of the IMO aimed at supporting climate action and, more specifically, the IMO's initial strategy for reducing GHG emissions from shipping. The project will initiate and promote global efforts to demonstrate and test technical solutions for reducing such emissions as well as enhance knowledge and information sharing to support the IMO GHG reduction strategy,[4] particularly in the developing world.

GreenVoyage2050 is a collaboration between the IMO and the Government of Norway and will run for an initial two-year period. More than 50 countries in 14 sub-regions across the globe are expected to participate, including developed countries and strategic partners from the private sector who will share their expertise and experience.

This project will also focus on building capacity in developing countries, including SIDS and LDCs, to fulfil their commitments to meet climate change and energy-efficiency goals for international shipping.

Twelve pilot countries from six high-priority regions (Asia, Africa, Black Sea/Caspian Sea, Caribbean, Latin America and Pacific) will pursue and undertake actions at the national level. These pilot countries will then become "champions" and exemplars, stimulating momentum for the implementation of the GHG strategy by supporting other countries in their respective regions. Belize has been selected as the pilot country in the Caribbean for this project. MTCC Caribbean, based in The University of Trinidad and Tobago, is expected to assist in the implementation.

1.6.4. Coordinated Actions to Reduce Emissions from Shipping (IMO)

The IMO's Coordinated Actions to Reduce Emissions from Shipping (CARES) is expected to be a long-term programme with the objective of accelerating demonstration of green technologies and their deployment globally in a manner that facilitates blue economic growth in developing regions. The project will leverage research and development, facilitate collaboration among MTCCs, and undertake pilot technology demonstration projects. This will be complemented by green financing initiatives which will accelerate the decarbonization process of the maritime sector in developing countries, especially in SIDS and LDCs.

1.6.5. The Transfer of Environmentally Sound Technologies Biofouling Project

The Transfer of Environmentally Sound Technologies (TEST) Biofouling Project will run for four years (2022–2025). It is based on an agreement signed on 8 December 2021 by the IMO's secretary-general and the Norwegian Agency for Development Cooperation (Norad). Norad's

[4] In 2018, the IMO adopted an initial strategy on the reduction of GHG emissions from ships. This reduction strategy was adopted during the 72nd Marine Environment Protection Committee at the IMO headquarters. The strategy aims to peak GHG emissions as soon as possible and reduce total annual GHG emissions by at least 50 percent by 2050 compared to 2008 while at the same time pushing towards a total phase-out of GHG emissions from shipping.

funding for the project amounts to around US$4 million. The project is set to provide demonstration pilot projects in developing countries in order to demonstrate technical solutions for biofouling management, address the transfer of invasive aquatic species, and help reduce GHG emissions from ships. UTT/MTCC Caribbean is currently collaborating with the IMO for the delivery of the project in Latin America and the Caribbean Region and is tasked with specific objectives to enhance human capacities and knowledge and engage developing countries in technical demonstration projects to showcase latest technologies and best practices. MTCC Caribbean also aims to build the necessary capacity and support among developing countries and their maritime stakeholders to make progress with the implementation of the IMO's Biofouling Guidelines.

1.6.6. Caribbean Sustainable Maritime Transport

Preparatory Phase Programme of Carib-SMART (Sustainable Marine Transport in the Caribbean), which Norway is funding, is intended to develop and implement a Sustainable Maritime Transport (SMART) system in the Caribbean, aimed at supporting SIDS of the Caribbean region and allowing them to build back better after the COVID-19 pandemic.

SIDS economies in the Caribbean are heavily dependent on the maritime sector. This long-term programme will aim to deliver safe, secure, efficient, and reliable transport of goods across the region while minimising pollution, maximising energy efficiency, and ensuring resource conservation.

The functioning of the SMART System in the Caribbean region requires well-organised administrations that cooperate regionally and promote compliance with global standards, supported by institutions with relevant technical expertise.

This requires, inter alia, the implementation of the international maritime conventions and regional codes through legal, policy, and institutional reforms as well as through building the necessary capacity to implement and enforce these regulations.

1.6.7. GloNoise

The Global Partnership for Mitigation of Underwater Noise from Shipping (GloNoise Partnership) project is currently under design by the IMO, the UNDP and the GEF, aiming for a start date in mid-2023. The project will seek to establish global stakeholder partnerships to deal with underwater noise from shipping. The GORTT through the Maritime Services Division (MSD) of the Ministry of Works and Transport has agreed to be a lead pilot country for the project. The project is expected to improve Trinidad and Tobago's knowledge, build capacity, and aid in developing national policy for the mitigation of noise pollution within the maritime sector.

2. National Ocean Governance: Institutional and Legal Arrangements

2.1. Conservation and management of living resources, including fishing and mariculture

2.1.1. Sector profile and relevance to the State from ecological, economic, and social perspectives

Trinidad and Tobago's maritime space is rich in biodiversity and vulnerable coastal and oceanic ecosystems. Fisheries are a valuable contributor to food security and provide a source of income and livelihood in Trinidad and Tobago. According to the Fisheries Division in the MALF, the fisheries sector accounts for about 15 per cent of agricultural gross domestic product (GDP) (the agricultural sector accounts for less than 1 per cent of national GDP). The estimated annual value of landings from Trinidad and Tobago for 2021 was US$40,513,210 from an estimated marine capture fish production of 13,084 metric tonnes. Of that amount, Trinidad was responsible for US$35,757,130.82 and Tobago accounted for US $4,749,853, and the Trinidad commercial fleet accounted for 71 per cent (by weight) of the total Trinidad and Tobago landing. According to the 2020 vessel census, the total number of fishing vessels recorded with the Fisheries Division was 2,823.[5] That number consists of 2,724 artisanal (2,076 in Trinidad, 648 in Tobago) and 99 non-artisanal vessels, 90 of which operate in Trinidad. Of that 90, 39 are longliners, which also operate outside Trinidad and Tobago's EEZ, 36 are trawlers, and 15 are multi-gear vessels. The multi-fleet fishing sector in Trinidad and Tobago supports approximately 40,000 persons directly and indirectly (Mohamed 2017; personal communication, Fisheries Division 2022).

Presently, most commercial fish stocks in Trinidad and Tobago's EEZ are considered fully exploited or over-exploited due to various factors ranging from overfishing, climate change, habitat loss, and coastal degradation to pollution, so they cannot provide a consistent seafood supply (IMA 2018, Fisheries Division 2022). Given the downward trend of available seafood stocks, aquaculture is seen as a viable option for addressing that shortcoming. However, the development of the aquaculture industry has not been very successful despite various attempts at providing incentives, trying new species and new production systems, and providing support to the industry through the public sector. Notwithstanding, the interest in aquaculture remains high and the MALF has articulated an Aquaculture Strategic Plan 2018-2023 that, it is hoped, will build on the growing interest in the sector and create a growth strategy for aquaculture in Trinidad and Tobago (Gabbadon 2018).

Mariculture also provides an opportunity to improve food security. However, previous attempts to develop the mariculture sector have proven challenging. For example, pilot projects to produce seamoss, Asian tiger shrimp, and cobia have not resulted in commercial-scale operations. The IMA is expected to commence trials with commercially important marine

[5] This is to be distinguished from vessels registered under the Shipping Act. It appears that many vessels recorded under the Fisheries Division are not registered under the Shipping Act with the Maritime Services Division.

finfish species to determine which areas in Trinidad and Tobago's waters are most suited for mariculture activities (Barrow 2020). The success of this sector is heavily dependent on the sustainable use of its resources to ensure that they continue to contribute to economic growth while providing livelihoods and at the same time ensuring that ecosystem health is maintained.

Notwithstanding the challenges plaguing the fisheries sector, the GORTT has identified and prioritised fishing and fish processing as one of seven key national economic areas for development and for which mechanisms will be introduced to support a broader economic transformation and diversification programme.

2.1.2. Regional and international legal and institutional frameworks related to the sector

Trinidad and Tobago is party to a series of international and regional conventions and agreements that are relevant for the conservation and management of living resources, including UNCLOS, the United Nations Fish Stocks Agreement; the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (The Compliance Agreement); the Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing; the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES); the International Convention for the Conservation of Atlantic Tunas (ICCAT Convention); the Convention on Biological Diversity (CBD); the Cartagena Convention's Protocol Concerning Specially Protected Areas and Wildlife in the Wider Caribbean Region (the SPAW Protocol); and the Ramsar Convention on Wetlands.

At the regional level, CARICOM has an influential role in coordinating the development and management of living resources in the surrounding seas and with the CRFM has established an institutional mechanism for providing specific assistance to member States, including Trinidad and Tobago. This includes financial, scientific, and technological assistance as well as support in the area of fisheries management, development, conservation and sustainable use. Moreover, Trinidad and Tobago is a member of the Western Central Atlantic Fishery Commission (WECAFC), which was established under the auspices of the FAO to promote the effective conservation, management, and development of the living marine resources in the area of competence of the WECAFC in accordance with the FAO Code of Conduct for Responsible Fisheries and to address common problems of fisheries management and development WECAFC members face.

2.1.3. National legislative framework

Several policies and legislation govern the use and management of the living marine resources of Trinidad and Tobago. Vulnerable or endangered marine flora and fauna are primarily protected under the Fisheries Act (Chap. 67:51), the Marine Areas (Preservation and Enhancement) Act (Chap. 37:01), the Environmental Management Act (Chap. 35:05) and subsidiary legislation such as the Fishing Industry Assistance Act (Chap. 85:03), the Archipelagic Baselines and Exclusive Economic Zone Act (Chap. 51:06), Environmentally Sensitive Species Rules, and the Environmentally Sensitive Area Rules.

The Fisheries Act (Chap. 67:51), which regulates fishing in Trinidad and Tobago's national waters, aims to ensure that living marine resources can be optimally utilized in a manner that is sustainable for employment, long-term food security, and the livelihoods of current and

future generations. The Act regulates the exploitation of fish; specifies the classes of fishing nets that are permitted and the length of fish, shellfish, crab, or shrimp to be taken; and specifies certain prohibited areas. Under the Fisheries Act, several subsidiary regulations and rules have been adopted to enforce and elaborate on the provisions in the main act. These regulations pertain to issues relating to the regulation of fishing equipment and the conservation and protection of turtles and turtle eggs. These subsidiary regulations are as follows:

- Fisheries Regulations
- Oysters From Ortoire River Regulations
- Protection of Turtle and Turtle Eggs Regulations
- Fisheries (Conservation of Marine Turtles) Regulations
- Notification of Type and Specification of Turtle Excluder Devices (TEDS)
- Fisheries (Control of Demersal Trawling) Regulations

However, the Act does not provide a framework for protecting or managing habitats or inland fisheries.

Another legislative instrument which governs the management of living resources is the Environmental Management Act (Chap. 35:05), which addresses environmental management and biodiversity conservation in Trinidad and Tobago. Subsidiary legislation supporting this Act include the Certificate of Environmental Clearance Rules, Water Pollution Rules, Environmentally Sensitive Species Rules, and Environmentally Sensitive Area Rules.

In addition, environmental policies and action plans are in place which are relevant for the conservation and utilisation of living resources. Some key policies include:

- The National Environmental Policy (NEP) 2018 sets out Trinidad and Tobago's policy direction as it relates to the environmental pillar of sustainable development. The principles it contains are expected to be applied to the development, revision, and/or execution of all sectoral policies and work programmes to ensure policy integration at all levels.
- The National Biodiversity Strategy and Action Plan (NBSAP) 2017–2022 is the principal instrument for implementing the CBD at the national level. It is concerned with the conservation and sustainable management of biodiversity resources.

Another piece of legislation that falls under this section is the Caribbean Fisheries Training and Development Institute Act (Chap. 39:53), which established the Caribbean Fisheries Training and Development Institute (CFTDI). The CFTDI was established in 1974 as a regional venture between the Governments of Trinidad and Tobago, Barbados, and Guyana. The Institute is a key partner of the MALF, which serves as the training arm of the Fisheries Division. The CFTDI has trained maritime personnel for over three decades. Their course offerings cover a

wide range of basic, refresher, and advanced maritime safety training including Standards of Training, Certification and Watchkeeping for Seafarers (STCW) courses in sea survival, fast boat rescue, and survival craft (Caribbean Fisheries Training & Development Institute 2015).

Several amendments have been made to the Fisheries Act since it was first adopted.[6] Some of these amendments have been made to ensure that the key provisions of UNCLOS, its implementing agreements, and other related international legal instruments to which Trinidad and Tobago is a party are implemented. Other amendments have been made because of severe limitations of some of the provisions of the act. In that regard, the new Fisheries Management Bill (2020) intends to repeal several outdated laws.[7]

Moreover, the bill seeks to establish long-term sustainable fisheries in Trinidad and Tobago consistent with best management practices and to regulate fishing and fishing-related activities in the EEZ and in areas beyond national jurisdiction. It also provides a framework for greater stakeholder involvement in the governance and decision-making process and collaboration with government agencies working on fisheries or related areas. It includes the protection of trade markets and the penetration of new markets and nationals' security of access to fisheries resources beyond national jurisdiction and seeks to establish legitimate and equitable access to fisheries resources and improved social and economic benefits.

In addition to the amendments that have been made to the current Fisheries Act, several amendments have been made to other related legislative instruments.

Some of the more notable provisions of the Fisheries Management Bill (2020) include the following:

- The establishment of fisheries management initiatives to facilitate compliance with international conservation and management measures and treaties to which Trinidad and Tobago is a party
- Provisions for fisheries management plans
- Establishment of a licensing system for implementing fisheries management measures as well as improved fisheries monitoring, control, and surveillance measures
- The provision that a foreign vessel used for fishing in local waters must obtain a valid license; the operator of the vessel commits an offence or if he or she fails to comply

[6] Legislative review exercises for this legislation were undertaken in five significant periods: 1992–1997, 2004–2007, 2010–2012, 2013–2015, and 2017 to the present. Five draft bills were developed, in 2007, 2011, 2014, 2015, and 2020.

[7] These include the Fisheries Act (Chap. 67:51) and the Control of Importation of Live Fish Act (Chap. 67:52). It also amends the Tobago House of Assembly Act (Chap. 25:03), the Environmental Management Act (chap. 35:05), the Marine Areas (Preservation and Enhancement) Act, (Chap. 37:02), the Shipping Act (Chap. 50:10), the Archipelagic Waters and Exclusive Economic Zone Act (Chap 51:06), the Conservation of Wildlife Act (Chap. 67:01), the Customs Act (Chap. 78:01), the Fish and Fishery Products Regulations (Chap. 30:01), and the Imports and Exports Control Regulations of 1941 (made pursuant to the Trade Ordinance No. 19 of 1958).

- The requirement that the master of a foreign fishing vessel keep English-language records of fishing and fishing-related activities of the vessel for submission to the Director upon his or her request
- Definitions of “illegal, unreported, and unregulated (IUU) fishing” and “IUU listed vessel”; an updated definition of “fishing vessel” in alignment with the Fisheries Management Act; and a new provision to restrict the registration of fishing vessels listed as IUU vessels
- Establishment of the legal basis for Trinidad and Tobago to collect revenue through application fees for fishing authorizations, licences and permits as well as to implement significant penalties as a deterrent to IUU fishing.

Table 2.1 illustrates the current legislative and institutional framework governing living marine resources in Trinidad and Tobago.

Table 2.1. Legislative and institutional framework governing living marine resources

Level of analysis	Legal framework	Institutional framework	Policy initiatives
International	-- United Nations Convention on the Law of the Sea (UNCLOS), 1982 -- United Nations Fish Stocks Agreement (UNFSA), 1995 -- Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (The Compliance Agreement) -- Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing -- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 1973 --Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention), 1971 --Convention on Biological Diversity, 1992 --The United Nations Framework Convention on Climate Change, 1992	-- Division of Ocean Affairs of the Law of the Sea --Food and Agriculture Organization of the United Nations --United Nations Environment Programme --United Nations Framework Convention on Climate Change	2030 Agenda for Sustainable Development and the Sustainable Development Goals

Level of analysis	Legal framework	Institutional framework	Policy initiatives
Regional	Revised Treaty of Chaguaramas, 1973 The International Convention for the Conservation of Atlantic Tunas Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Area or Cartagena Convention The Protocol Concerning Specially Protected Areas and Wildlife (SPAW), 1990	Western Central Atlantic Fishery Commission (WECAFC) Caribbean Regional Fisheries Mechanism CLME+ Hub Caribbean Fisheries Training and Development Institute Association of Caribbean States -Caribbean Sea Commission	Caribbean Community Common Fisheries Policy
National	Fisheries Act, Chapter 67:51, 1916 Control of Importation of Live Fish Act, Chapter 67:52, 1950 Territorial Sea Act, Chapter 1:51, 1986 Archipelagic Waters and Exclusive Economic Zone Act, Chapter 51:06, 1986 Fishing Industry (Assistance) Act, Chapter 85:03, 1955 Environmental Management Act Chapter 35:05, 2000 Relevant Subsidiary Legislation includes: Certificate of Environmental Clearance Rules Water Pollution Rules Environmentally Sensitive Species Rules Environmentally Sensitive Area Rules Shipping Act, Chapter 50:10, 1987 The Marking of Ships Act, Chapter 50:09, 1945 Customs Act, Chapter 78:01, 1938 Animals (Diseases and Importation) Act, Chapter 67:02, 1954 Conservation of Wildlife Act (Ch. 67:01)	Ministry of Agriculture, Land and Fisheries: Fisheries Division Ministry of Planning and Development Environmental Management Authority Environmental Policy and Planning Division IMA Ministry of Works and Transport Maritime Services Division Port Authority of Trinidad and Tobago Ministry of Health Public Health Port State Health, Chemistry Food and Drugs Divisions Ministry of Finance Customs and Excise Division Ministry of Trade and Industry Customs and Excise Division Ministry of National Security Trinidad and Tobago Coast Guard Tobago House of Assembly Department of Marine Resources and Fisheries	Vision 2030: The National Development Strategy of Trinidad and Tobago 2016-2030 National Environmental Policy 2018 Draft Fisheries Management Policy (2016) Aquaculture Strategic Plan 2018-2023

Level of analysis	Legal framework	Institutional framework	Policy initiatives
	Tobago House of Assembly Act, Chapter 25:03, 1996 Port Authority Act, Chapter 51:01, 1961 Caribbean Fisheries Training and Development Institute Act, Chapter 39:53, 1975	The University of the West Indies The University of Trinidad and Tobago Centre for Maritime and Ocean Studies	

2.1.4. National institutional framework

Managing Trinidad and Tobago's living marine resources is primarily the responsibility of the Fisheries Division in the MALF. It oversees all matters related to the sustainable management and development of the fisheries and aquaculture sub-sector, including monitoring biodiversity in fisheries.

Three other important institutions in the context of living marine resources are the IMA, the Environmental Management Authority (EMA), and the Environmental Planning and Policy Division (EPPD), all located in the Ministry of Planning and Development. The IMA is a multidisciplinary marine and environmental research organization that is mandated to collect, analyse, and disseminate information relating to the economic, technological, environmental, social, and legal developments in marine affairs and to formulate and implement specific programmes or projects. The EMA's responsibilities flow from the Environmental Management Act (Chapter 35:05). It serves to sustainably manage Trinidad and Tobago's natural resources and environment by providing a transparent framework to facilitate policy-making and decision-making in development. The EPPD is responsible for coordinating implementation of the multilateral environmental agreements (MEA), to which Trinidad and Tobago is a party. However, some of those responsibilities are shared with the Department of Marine Resources and Fisheries (DMRF) of the Tobago House of Assembly.

The DMRF also has responsibility for the sustainable management of Tobago's marine resources and fisheries from the coastline to six nautical miles offshore. Outside the area assigned to the DMRF, the Fisheries Division will continue to exercise its national obligations.

In addition, several other governmental institutions have various duties associated with fisheries management. These institutions include the Trinidad and Tobago Coast Guard (TTCG), the MSD, the Customs and Excise Division Ministry of Health, and the Port Authority of Trinidad and Tobago (PATT).

Furthermore, academic and non-governmental organizations contribute to the conservation and sustainable use of living marine resources in Trinidad and Tobago. They include UWI; UTT; CFTDI; Caribbean Natural Resources Institute (CANARI) through stakeholder engagement and training; Environmental Research Institute Charlotteville, a non-profit research institute whose conservation efforts are based on an integrated ecosystem and communities-based ridge-to-reef management approach; Fishermen and Friends of the Sea, a non-profit organization whose focus is primarily on conserving the marine environment and marine resources and the well-being of fisherfolk and whose advocacy has highlighted incidents of marine pollution and the impacts on marine life, marine resources, and the livelihood of fishers; and Future Fishers,

a non-profit organization established to protect and conserve the nation's coastal and marine resources.

2.1.5. Enforcement and implementation of the governance framework for the sector

Regarding conservation, the EMA plays a crucial role in managing the marine environment and, by extension, marine resources. Under the Environmental Management Act (Chapter 35:05), several subsidiary rules have been developed to address issues of marine pollution, exploration activities in the marine sector, and sensitive areas. However, the certificate of environmental clearance (CEC) process has come under scrutiny over the years by fishing communities and non-governmental organizations as there are reports of seismic surveys being undertaken without an environmental impact assessment (EIA) being conducted beforehand. The concern is that these activities are negatively impacting marine life and aquatic breeding grounds, and the absence of EIAs suggests that critical factors and stakeholders that could be used to mitigate environmental impacts are not taken into account.

The TTCG provides monitoring control and surveillance support to the Fisheries Division. This is critical given the concerns regarding illegal fishing reportedly taking place in Trinidad and Tobago waters as well as assault and robbery of fisherfolk.

2.1.6. Gaps and challenges

While the fisheries sector in Trinidad and Tobago has experienced growth challenges, there is little doubt of its importance for the development of Trinidad and Tobago's blue economy. As noted above, it provides direct and indirect employment to approximately 40,000 persons (Fisheries Division 2022). However, overfishing, IUU, unsustainable harvesting, pollution resulting from land-based and marine sources and insufficient investments in infrastructure, technology, and scientific research threaten to imperil the livelihoods of many who depend on fisheries for food security. More specifically, the following gaps and challenges were observed:

- There is insufficient information available on the economic and social aspects of the fisheries sector, including the sector's contribution to the country's GDP, the number of people employed in the sector, and the social and cultural importance of fishing communities.
- There is a lack of comprehensive data on the status of fish stocks in Trinidad and Tobago's waters, which makes it difficult to assess their sustainability and make informed decisions about their management.
- There is limited data on the impact of fishing activities on the marine environment, including the effects of fishing gear and practices on non-target species and habitats.
- There is inadequate monitoring and reporting of fishing activities, including the amount of catch and the location and duration of fishing activities. This makes it challenging to assess the sustainability of fishing practices.
- The heavy influx of sargassum continues to plague the fishery and marine sectors, making it difficult for fishers to launch their vessels

and gain access to fishing grounds. The volume of sargassum washing up on beaches requires the use of heavy machinery to clean it up. However, that equipment can compact the sand, making it difficult for nesting turtles. There is also a concern that invasive marine species are coming in with sargassum influxes, creating the potential that the invasive species disrupt the food chain.

- The governance of living marine resources and fishery management in Trinidad and Tobago is fragmented. Multiple agencies are responsible for the management of different aspects of the fishing industry, which creates challenges in coordinating efforts, implementing policies, and enforcing existing laws, particularly relating to industrial discharges and pollution of coastal waters.
- Fishers in both Trinidad and Tobago have complained of lack of infrastructure for safely storing boats and equipment.
- A continuing concern is conflicts of fishers with other users, including recreational users (tourism) and the industrial sectors, particularly those involved in oil and gas exploration. The continued use of explosives and the 5 km restriction zone around oil platforms restrict the areas where the fishers are allowed to fish.

Achieving the full potential of the blue economy involves recognizing and tackling the negative effects of land-based activities that have detrimental impacts on living marine resources. While aquaculture and mariculture are recommended fish-farming methods within a blue economy context, without adequate controls and monitoring of the use of chemicals and resulting pollution, they could contribute to the degradation of the overall quality of the marine living resources.

2.2. Safety and security of shipping

Safety and security are of significant concern to Trinidad and Tobago due to its geographic location near a central shipping lane and its proximity to the South American mainland, a source of illicit drug flow and, in recent years, of human trafficking and gun smuggling. As detailed in the priority area related to the maritime sector, the safety and security of shipping is primarily the responsibility of the Maritime Service Division of the Ministry of Works and Transport, the maritime administration of Trinidad and Tobago. The MSD is responsible for implementing the Shipping Act of 1987 and related subsidiary legislation, as well as for the safety and security of life at sea, safety of navigation, and the protection of the marine environment from ship-generated pollution. Sections 5 and 9(1) of the Fisheries Act (Chap. 67:51) mandates the Fisheries Officer “and any person authorised in writing” to assist with the carrying out of provisions of the Act. In this regard, TTCG officers are often assigned duties of responsibility for assisting the Fisheries Division in undertaking surveillance and prohibition of illegal fishing activities in the territorial sea and EEZ of Trinidad and Tobago. The TTCG is also the implementing agency for the International Ship Port and Facility Security Code (ISPS).

2.2.1. Sector profile and relevance to the State from ecological, economic, and social perspectives

The maritime sector has been identified as one of Trinidad and Tobago's key national economic sectors and a facilitator of growth. Trinidad and Tobago's draft integrated coastal zone management (ICZM) policy identifies that the country's ocean-based economy within its EEZ is estimated to be worth US$22.5 billion, or 81 per cent of its total GDP.

Despite the importance of this sector in the economy, there is a general view that a lack of investment in maritime infrastructure and equipment, a "porous" border, excessive bureaucracy, and the lack of a modern legislative and regulatory framework for the maritime sector limits its growth and development potential. The increase in the quantity of weapons reportedly smuggled into Trinidad and Tobago; trafficking in persons and human smuggling; pirate attacks on fishers; pollution of coastal waters resulting from oil leaks from underwater pipes, ships, and offshore platforms; and accidents at sea resulting in loss of life often associated with human smuggling is indicative of the need for urgent maritime interventions. Safety and security issues at sea directly impact the cost of imports and exports and, in turn, the cost of living (GORTT 2021a).

2.2.2. Regional and multilateral legal and institutional frameworks related to the sector

The legal framework for shipping is developed in section 3.1 of this document. Among the key international instruments guiding the safety and security of shipping to which Trinidad and Tobago is a party are the following:

- UNCLOS Article 94: Flag States are obliged to exercise jurisdiction and control over ships flying their flag in administrative, technical, and social matters and to take measures ensuring that these ships are equipped to operate and navigate safely at sea.
- 1974 International Convention for the Safety of Life at Sea (SOLAS). Trinidad and Tobago acceded to this convention on 15 February 1979. SOLAS concerns the safety of merchant ships and specifies minimum safety standards for their construction, equipment, and operation. It has been amended and updated several times to keep pace with technological advancements and lessons learned from maritime incidents. Compulsory codes under the SOLAS Convention include:

  International Code for Application of Fire Test Procedures

  International Code for Fire Safety Systems

  International Intact Stability Code (2008)

  International Life-Saving Appliance Code

  International Maritime Code for Dry Bulk Cargoes

  International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk

International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk

International Maritime Code for Carriage of Dangerous Goods

Code for the Safe Carriage of Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes in Flasks on Board Ships

International Code for the Safety of High-Speed Craft (1994)

International Code for the Safety of High-Speed Craft (2000)

Code for the Investigation of Marine Causalities

International Code for the Security of Ships and Port Facilities

- MARPOL 1973, as modified by the Protocol of 1978. MARPOL is the main international convention that addresses pollution prevention and control from ships. It covers issues such as oil spills, noxious liquid substances, sewage, garbage, and air pollution.
- International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (1978), as amended. STCW sets the minimum training, certification, and watchkeeping requirements for seafarers, ensuring that they have the necessary competence and qualifications to work on board ships.
- International Convention on Maritime Search and Rescue (SAR Convention), 1979. The SAR Convention establishes a global framework for search and rescue services, requiring member states to provide assistance to ships and persons in distress at sea.
- Convention on the International Regulations for Preventing Collisions at Sea (1972). (COLREGs) Adoption: 20 October 1972; entry into force: 15 July 1977. The 1972 Convention was designed to update and replace the Collision Regulations of 1960, which were adopted at the same time as the 1960 SOLAS Convention. Trinidad and Tobago adopted the Convention on the International Regulations for Preventing Collisions at Sea on 14 May 1986.
- International Convention on Tonnage Measurement of Ships. Adoption: 23 June 1969; entry into force: 18 July 1982. The Convention, which the IMO adopted in 1969, was the first successful attempt to introduce a universal tonnage measurement system. Trinidad and Tobago acceded to the International Convention on Tonnage Measurement of Ships on 4 January 1984. The convention provides a standard methodology for determining a ship’s tonnage, which is used for various purposes, including safety regulations, port dues, and other fees.

- The International Convention on Load Lines was adopted on 5 April 1966. The Convention sets out the rules for determining the maximum allowable draft of a vessel, which ensures that the ship has sufficient freeboard (the distance between the waterline and the uppermost watertight deck) to maintain stability and seaworthiness in various conditions. It has been amended several times to keep pace with technological advancements and evolving safety standards. Trinidad and Tobago acceded to the International Convention on Load Lines on November 6, 1986.
- Convention on Facilitation of International Maritime Traffic (FAL). Adoption: 9 April 1965; entry into force: 5 March 1967. The Convention's main objectives are to prevent unnecessary delays in maritime traffic, to aid co-operation between governments, and to secure the highest practicable degree of uniformity in formalities and other procedures. Trinidad and Tobago acceded to the Convention on Facilitation of International Maritime Traffic (FAL Convention) on 19 August 2008.
- The SAR Convention is an international treaty that aims to establish a global framework for search and rescue services in order to save lives at sea. It was adopted on 27 April 1979 under the auspices of the IMO. Trinidad and Tobago acceded to the SAR Convention on 16 October 1991. By acceding to the convention, the country has committed to establishing and maintaining search and rescue services in its designated area and to cooperating with other member states to assist ships and persons in distress at sea.
- The Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation (SUA Convention) is an international treaty aimed at combating terrorism and other unlawful acts that threaten the safety and security of maritime navigation. The SUA Convention establishes a legal framework for prosecuting and extraditing individuals who commit or conspire to commit unlawful acts against the safety of ships. Trinidad and Tobago acceded to the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation on 25 July 2008.

2.2.3. National legislative framework

The Shipping Act 1987 (Chap. 50:10) is the primary act that governs the safety and security of shipping in Trinidad and Tobago. While the Shipping Act contains comprehensive provisions regarding various aspects of shipping, detailed provisions on the safety and security of shipping can be found in the following sections: Safety of Life and Sea (sects. 226–276), Load Lines Convention (sects. 277–305); seaworthiness of ships (sects. 314–319), wrecks and salvage (sects. 320–355), passage ships (sects. 356–357), limitation and division of liability (sects. 358–364), and detention and distress of ships for damage (sects. 386–389).

Concerning the issue of pollution from vessels, there is a considerable amount of legislation prohibiting pollution, deliberate or otherwise, into the waters of Trinidad and Tobago, including the Oil Pollution of Territorial Waters Act (Chap. 37:03; rev. 2011), which prohibits the discharge or escape of oil into the waters of Trinidad and Tobago; and section 29(1)(1) of the Petroleum Act regulations, which requires that orders be made for the prevention of water pollution and compensation for such pollution. In addition, provisions desiged to avoid pollution are also contained in the Petroleum Regulations (Regulation 42(2)(c)), the Petroleum (Testing, Storage etc.) Regulations (Parts II and IV); and Regulation 9 of the Petroleum Act.

Trinidad and Tobago closely follow IMO guidance and protocols and is a signatory to several maritime conventions, which include mandatory conventions like the SOLAS, MARPOL, the SWC Convention, the Convention on the International Regulations for Preventing Collisions at Sea, the International Convention on Tonnage Measurement of Ships, the Load Line Convention, and several other safety, pollution prevention, and liability and compensation conventions.

Other national legislative and policy instruments of significance to the security and safety of shipping include:

- The Defence Act of 1962 (Chap. 14:01) provides for the defence of Trinidad and Tobago by establishing a Trinidad and Tobago Defence Force and providing for related matters.
- The Protection of Wrecks Act of 1994 (Chap. 37:04) seeks to secure the protection of wrecks in the territorial waters of Trinidad and Tobago and the sites of such wrecks from interference by unauthorised persons.
- Droghers Act of 1914 (Chap. 50:17)
- Motor Launches Act of 1926 (Chap. 50:08)
- Harbours Act of 1880 (Chap. 50:06)

Conscious of the need for strengthening the safety and security of shipping in Trinidad and Tobago, GORTT has commenced work on the drafting of new policies and legislation. The Draft National Maritime Policy and Strategy 2021, which is expected to assist in aligning and sustaining ongoing and future developments for the maritime industry, is three-dimensional, addressing policy issues at the international, regional, and national levels. It will focus on maximising the sustainable use of Trinidad and Tobago's ocean resources while enabling the growth of the maritime economy through improving business competitiveness in the shipping industry and balancing safety and sector interests (GORTT 2021a).

The key safety and security features of the policy include:

- Resuming action towards the implementation of the Vessel Traffic and Management System (VTMS).
- Revising the information-sharing protocols amongst marine stakeholders, including other governmental agencies, as well as with private stakeholders

- Reviewing the required functions of a VTMS, especially for monitoring vessel traffic and recording to replace droghers licenses
- Training seafarers and establishing quality management systems for monitoring maritime education and training
- Reviewing or implementing mandatory points of calls and procedures for vessels sailing in Trinidad and Tobago waters and updating marine publications.

2.2.4. National institutional framework

Due to the paramount importance of and dependence on this sector, an array of government ministries and institutions have responsibility for safety and security in shipping issues. As stated above, the MSD is the primary institution responsible for shipping, including the safety and security of shipping. The MSD is a specialised executive arm of the Ministry of Works and Transport. It was established to administer the Shipping Act and other maritime national legislation and to implement the regulatory functions set forth in the legislation. The MSD's functions also include ensuring the safety and security of life at sea and the safety of navigation and the protection of the maritime environment from ship pollution. In ensuring this, MSD is responsible for the registration of vessels and registry certificates, ship safety and survey inspections, ship casualty reporting, port state control inspections, investigation of oil spill incidents, examination and certification of seamen, drogher certification, safety inspection of commercial vessels, harbour master's clearances, seamen's discharge books, and registration of crew agreements and seafarers' complaints.

TTCG, the seagoing branch of the Trinidad and Tobago Defence Force, is primarily involved with drug trade interdiction and search and rescue within the waters of Trinidad and Tobago under the SAR Convention and the Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation. They also provide support to neighbouring islands in combating piracy and the unlawful movement of persons and contraband in and out of territorial waters. They are supported by the Trinidad and Tobago Air Guard, the Air Wing of the Trinidad and Tobago Defence force. Its purposes are to protect and patrol Trinidad and Tobago's airspace. It is also used for transport, search and rescue, and liaison.

Several other government bodies assist the MSD in the exercise of its responsibility for maritime administration in Trinidad and Tobago and fulfilling flag, port, and coastal state responsibilities. They include the Ministry of Energy and Energy Industries (MEEI), which provides pollution response information in accordance with their mandate. The MEEI also help the authorities monitor any reported pollution incidents and help execute responsibilities under various instruments. In addition, the Hydrographic Department of the MALF assists with regulating bathymetric activity navigation surveys and ensuring the safety of navigation. The Fisheries Division has responsibility for fishing and for regulating fishing vessels and the safety of fishers. The Immigration Division of the Ministry of National Security regulates crew and passengers on board ships, the Ministry of Trade regulates economic and commercial maritime activity, the Pilots' Association regulates safe navigation within our harbours, ports are responsible for berthing and commercial activities in accordance with legislation, EMA is responsible for environmental management, and IMA is responsible for marine scientific

research and support such as oil spill investigation and fingerprinting. The Telecommunication Authority of Trinidad and Tobago is responsible for issuing signs for vessels and for certifying radio equipment. Also contributing to safety and security in Trinidad and Tobago are the PATT, the Office of Disaster Preparedness and Management, and the Tobago Emergency Management Agency.

2.2.5. Enforcement and implementation of the governance framework for the sector

Responsibilities for enforcing and implementing laws relating to safety and security of shipping are dispersed among various governmental institutions. A recent IMO audit of the MSD found that while the list of entities responsible for some aspects of safety and security of shipping is extensive, there is a need to improve cooperation among these agencies so they can execute their responsibilities better, including through memorandums of agreement. The audit also pointed out that legislation governing the security and safety of shipping is outdated and that the operating procedures for issuing certificates and executing various responsibilities is not well documented. Therefore, the auditors recommended updating the legislation and implementing a quality management system per ISO 9001 (personal communication, Maritime Services Division 2022).

The recent sinking of the MV *Fair Chance* and the drowning of five commercial divers highlights the need for greater attention to safety and security issues. One of the most revealing aspects of these incidents is the absence of an authority to regulate the commercial diving sector. While MSD is responsible for ensuring the safety of shipping and pollution from vessels, a question arose as to whether the safety of commercial diving also falls within MSD's purview. As this activity did not involve the operation of a vessel, the Occupational Safety and Health Authority was designated to deal with the incident. The need remains for a body to oversee commercial diving operations and for the development of standards, training, and certification for all activities with safety and security implications in the ocean sector.

To address growing concerns about safety and security in the fishing community, TTCG and other agencies have initiated the Fishing Community Safety Training Programme to increase the safety and resilience of fisherfolk and fishing communities in Trinidad and Tobago.

Over the years, the country's maritime safety and security has been called into question due to attacks on local fishers and other seafarers within the country's territorial waters by both local and foreign pirates. Following public criticism of the TTCG because of operability issues in their vessel fleet, the Ministry of National Security recently added two Austal Cape–class patrol boats to the existing fleet (Badri-Maharaj 2020). These vessels are supported by a "network of coastal radars plus aerial surveillance using a combination of maritime patrol aircraft and helicopters" (Badri-Maharaj 2020).

2.2.6. Gaps and challenges

The shipping sector has been identified and acknowledged as one of the pillars of growth for the blue economy. Studies by the Organisation for Economic Co-operation and Development (2016b) and the World Bank (Patil et al. 2016) confirm that shipping contributes tremendously to the blue economy. The IMO has been leading considerable efforts to reduce GHGs and air emissions from ships as well as to control the atmospheric pollution of the marine environment by ships, and Trinidad and Tobago has been playing a leading role in building capacity both

domestically and regionally to mitigate those impacts. Some of the key initiatives were highlighted above in section 1.6.

Maritime security is essential for supporting the blue economy in various ways. Trafficking, illegal fishing, crimes related to the marine environment, and maritime piracy are among the most significant threats to the growth of ocean-based economies. Among the many gaps and challenges identified are the following:

- Lack of port infrastructure is critical to the country's shipping industry. A lack of investment in upgrading port infrastructure can lead to issues with cargo handling, delays, and ultimately increased costs for businesses.
- While the list of entities responsible for some aspects of the safety and security of shipping is extensive, there is a need to improve cooperation among these agencies so they can execute their responsibilities better, including through memorandums of agreement.
- Legislation governing the security and safety of shipping is outdated, and the operating procedures for issuing certificates and executing various responsibilities are not well documented. Therefore, there is a need to implement a quality management system per ISO 9001 (MSD 2022).
- Despite extensive commercial activities related to oil and gas exploration in Trinidad and Tobago, commercial diving is unregulated. The need remains for a body to oversee commercial diving operations and develop standards, training, and certification for all activities with safety and security implications in the ocean sector.
- The measures for addressing security threats are inadequate. Trafficking, illegal fishing, crimes related to the marine environment, and maritime piracy are among the most significant threats to the growth of ocean-based economies. Without adequate surveillance and monitoring, it can be difficult to detect and respond to security threats in a timely manner. This can leave ships, particularly small crafts such as fishing vessels, and their cargo vulnerable to piracy, theft, and other security risks. There have been concerns about a lack of enforcement of piracy and armed robbery laws in Trinidad and Tobago. However, limited investments in resources and personnel can make it difficult to prevent and respond to incidents effectively.
- The use of anti-fouling paints on local marine vessels leaches harmful chemicals into the marine environment. These paints are banned in other parts of the world.
- Inadequate surveillance and monitoring can also result in inefficient use of resources. For example, security personnel may be deployed in

areas that are not at high risk, while other areas that are at higher risk may be left unmonitored.

- Oil spills, hazardous waste dumping, and shipping accidents have led to environmental pollution that harms marine life and the environment. Additionally, inadequate waste management practices result in large amounts of marine litter, particularly plastic pollution, contributing to environmental degradation. This can be particularly problematic in areas with sensitive ecosystems.
- Cybersecurity risks in the industry may not be well understood by all stakeholders. This can make it difficult to promote cybersecurity best practices and ensure that everyone knows the potential risks and consequences of cyberattacks. Additionally, regulations and standards for cybersecurity in the shipping industry are insufficient.

2.3. Exploration and exploitation of non-living resources

Trinidad and Tobago has a developed oil and gas sector with considerable investments in offshore platforms and installations that facilitate exploration and extraction of oil and gas reserves. This area is further developed in section 3.1. On 12 May 2009, the Republic of Trinidad and Tobago made a submission to the Commission on the Limits of the Continental Shelf, in accordance with Article 76, paragraph 8, of UNCLOS, and is still awaiting a decision. Upon completion of the consideration of the submission, the Commission will make recommendations pursuant to Article 76 of the Convention. An amendment to this submission was made on 14 April 2023, and this revised submission supersedes the submission made in 2009. In this revised submission, "Trinidad and Tobago has delineated the outer limits of the continental shelf, as provided for in Article 76 of the Convention, by geodesic straight lines not exceeding 60 M in length used to connect the fixed points, defined by coordinates of latitude and longitude. This outer limit line has been optimised so that it contains fixed points which are the maximum seaward limit of the outer limit line. The outer limit line is comprised of points generated from the formulae lines, the distance and depth constraints (the 350 M and 2,500 m +100 M respectively)" (DOALOS 2023).

2.3.1. Sector profile and relevance to the State from ecological, economic, and social perspectives

Trinidad and Tobago's EEZ provides extensive opportunities for generating economic activity from non-living resources in the ocean. In particular, the country is endowed with commercial crude oil and natural gas reserves, and the energy sector is a significant contributor to Trinidad and Tobago's economy. Energy exports, including crude oil, natural gas, and downstream oil and gas products, typically account for approximately 80 per cent of Trinidad and Tobago's export revenue. The energy revenue accounts for approximately 40 per cent of government revenue and over 35 per cent of GDP (Mercer-Blackman 2018; ECLAC and GORTT MTI 2019).

The Trinidad and Tobago National Environmental Policy (EMA 2018) acknowledges the need to diversify in order to move the economy away from relying on finite hydrocarbon resources,

given that reliance on the oil and gas sector can hinder the development of a sustainable and diversified ocean economy.

The GORTT's policy direction for the country's energy sector is aimed at, inter alia, ensuring that the country will have an attractive, competitive, and responsible fiscal and regulatory framework that will maximise the recovery of hydrocarbon resources and national income. The government also desires to maximise, where practicable, the use of renewable energy (such as solar, wind, and wave energy) through incentives, concessions and enabling legislation and to reduce Trinidad and Tobago's carbon footprint by setting appropriate renewable energy production targets (GORTT 2016; PTPA 2016; UNDP 2017).

Other non-living resources in Trinidad and Tobago's national waters include mined minerals, such as salt, sand, gravel, phosphate, diamonds, manganese, copper, nickel, iron, and cobalt, and those that are drilled for, such as crude oil and gas hydrates. The GORTT has a white paper on a National Minerals Policy (Ministry of Energy and Energy Affairs 2015). It acknowledges that illegal mining and quarrying occur on state lands in Trinidad and Tobago that results in environmental degradation. It highlights a need for a more robust legislative and policy framework to govern the entire mining and quarrying sector. However, the white paper has not resulted in the introduction of any legally binding mandate for the mining and quarrying sector in Trinidad and Tobago.

2.3.2. Renewable energy in the blue economy

In the context of a blue economy, harnessing renewable ocean energy from various sources can be a way to transition away from fossil fuels. Nascent ocean energy technologies, such as wave and tidal energy, ocean thermal energy conversion, and salinity gradient energy, can contribute to the sustainable energy mix. The ocean can also be used to expand other renewable energy sources such as offshore wind (fixed and floating foundations) and floating solar photovoltaic systems.

The blue economy refers to the sustainable use of ocean resources for economic growth, improved livelihoods, and job creation while preserving the health of the ocean ecosystem. Renewable energy can be harnessed from several sources, including solar, wind, and the ocean. Solar energy is a particularly attractive renewable energy source for Trinidad and Tobago due to its abundant sunshine. The country has excellent solar energy potential, and many ongoing projects aim at harnessing this potential. Solar energy can be used to power homes, businesses, and industries, thereby reducing the reliance on fossil fuels and promoting a cleaner and more sustainable energy system.

Wind energy is another renewable energy source that can be used to power the country. Wind turbines can be installed onshore or offshore and their energy output can be integrated into the national grid. In the context of the blue economy in Trinidad and Tobago, offshore wind energy has the potential to play a significant role in providing clean and sustainable electricity. However, it is important to note that offshore wind energy is currently more expensive than onshore wind energy. Offshore wind farms cost US$4,000–$4,500 per kW installed, with wind turbines accounting for 44–50 per cent of the total cost. Additionally, there are significant challenges associated with building and maintaining offshore wind farms in deep water, including the installation of long submarine interconnection cables and the difficult terrain for foundations (Marzolf et al. 2015).

Notwithstanding the above, offshore wind power, according Marzolf et al. (2015), has two major advantages over onshore wind power. These are higher capacity factors due to stronger, steadier winds and less likelihood of producing "not-in-my-backyard" debates.

However, it was also noted that a notable risk of offshore wind farms is the threat of their destruction from hurricanes. Fortunately, Trinidad and Tobago is located outside the hurricane belt. Therefore, the risk of hurricanes affecting offshore wind energy infrastructure is relatively low. This makes Trinidad and Tobago a potentially attractive location for offshore wind energy development, as it can provide a reliable and sustainable source of electricity without being exposed to the risks associated with hurricanes (Marzolf et al. 2015).

Overall, offshore wind energy can play a valuable role in the blue economy in Trinidad and Tobago, but it is important to first develop the onshore market and gain the necessary expertise and experience to ensure that offshore wind energy can be implemented effectively and safely (Marzolf et al. 2015).

Trinidad and Tobago has a coastline that is exposed to the open ocean and therefore has the potential to harness wave power. However, there is no data on the average wave heights in Trinidad and Tobago's EEZ, and an investigation is required to estimate the energy generation potential. Nevertheless, ocean energy technologies are an attractive idea for Trinidad and Tobago as it can provide opportunities for product development. This point is made because point-absorbers technology use many simple parts such as floats which could be welded and manufactured locally. Point-absorbers technology uses only a few specialized parts such as hydraulic actuators and turbines, thus reducing the need to import parts (Marzolf et al. 2015).

2.3.3. Regional and international legal and institutional frameworks related to the sector

Due to the importance of this sector to Trinidad and Tobago and the wider international community, a plethora of regional and international agreements govern non-living resources. Trinidad and Tobago has a range of regional and international legal and institutional frameworks in place to ensure the protection and regulation of its marine resources. The regional and international instruments to which Trinidad and Tobago is party are the following:

- UNCLOS (1982)
- Agreement relating to the implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 (1994)
- International Convention on Oil Pollution Preparedness, Response and Cooperation (1990)
- International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (1969)
- Protocol of 1992 to amend the International Convention on Civil Liability for Oil Pollution Damage
- Caricom Community Energy Policy (2013)

- Protocol concerning Cooperation in Combating Oil Spills in the Wider Caribbean Region (1983)
- Protocol Concerning Pollution from Land-Based Sources and Activities (LBS Protocol) (1999)
- The global standard for the good governance of oil, gas, and mineral resources (EITI Standard) administered by the Extractive Industries Transparency Initiative (EITI). This standard is the global gold standard for transparency and accountability in countries rich in extractive-sector resources. The validation assessment outlines how well countries have implemented the standard, including Trinidad and Tobago, which joined in 2011. The assessment focuses on stakeholder engagement, availability of critical data on revenue, and the steps a country takes to measure Extractive Industries Transparency Initiative outcomes and impacts.
- The Paris Agreement of the United Nations Framework Convention on Climate Change (UNFCCC) (2015)

Although the Regional Marine Pollution Emergency, Information and Training Centre—Caribe (REMPEITC) is not a legal instrument, it is an important agency that operates on the basis of a memorandum of agreement between Curacao, the IMO, and the UNEP. REMPEITC contributes to the sustainability of the marine environment in the Wider Caribbean Region by assisting countries to implement international conventions created to reduce pollution from ships. REMPEITC is one of four Regional Activity Centres of the Caribbean Environment Programme (UNEP-CAR/RCU).

2.3.4. National legal framework

The Petroleum Act of 1969 consolidates and amends the law relating to petroleum to make better provisions for the exploration, development, and production of petroleum. The Petroleum Taxes Act of 1974 provides for taxation in the energy sector. In addition, there are three key pieces of legislation that regulate aspects of the energy sector and are relevant for the implementation of UNCLOS.

The Minerals Act of 1990 is administered by the MEEI and applies to all minerals found on or under the surface of Trinidad and Tobago's land and marine territories. Under the Minerals Act, the Minister responsible for energy has the power to grant licenses and leases for the exploration, mining, and production of minerals. The Act also establishes a regulatory framework for the management of minerals, including the establishment of a Mining Inspectorate to monitor compliance with mining regulations and standards.

The Oil Pollution of Territorial Waters Act of 1951, which was developed before UNCLOS, aims to prevent oil spills or discharges in the marine environment in Trinidad and Tobago waters.

The Environmental Management Act (Chap. 35:05) plays a vital role in managing environmental compliance in the oil and gas sector by setting forth rules about the following:

- Certificates of environmental clearance
- Waste management
- Water pollution
- Environmentally sensitive species
- Environmentally sensitive areas

Apart from the statutory instruments, several policy documents are relevant to the management of non-living resources. One notable report is the Trinidad and Tobago Upstream Effluent Management (UEM) Policy, which the MEEI launched in 2018. This policy is a regulatory tool that aims to minimise and ultimately eliminate the discharge of treated and untreated upstream effluents from oil and gas operations in the country. The policy covers produced water, drilling fluids, workover fluids, completion fluids, hydrotest water, and drill cuttings, which are inextricably associated with drilling fluids.

The UEM Policy outlines specific objectives and strategies intended to impact UEM practices, legislation, regulation, research, and development, as well as beneficial production practices. It is aligned with the country's National Development Strategy 2016–2030 (Vision 2030) and its NEP. The overarching principle of the policy is to achieve zero harmful discharge to the environment by utilizing an integrated management approach.

In order to comply with both local environmental standards, such as Water Pollution Rules 2001 (as amended) and the Certificate of Environment Clearance Rules, and international conventions, the policy envisages that operators should incorporate best environmental practices, thereby minimizing negative environmental impacts. The UEM Policy serves as a guide for amending existing regulations, for new regulations, and for using best available techniques and best management practices.

Apart from the statutory instruments, several policy documents are relevant to the management of non-living resources. The Draft National Maritime Policy and Strategy 2021 provides a broad policy directive for maximising the value and economic activity of Trinidad and Tobago's maritime sector in a manner that does not cause environmental degradation. The Policy aspires to assist in aligning and sustaining ongoing and future developments for the maritime industry. Focusing on the international, regional, and national levels, it aims to ensure the sustainable use of Trinidad and Tobago's ocean and sea resources while enabling the growth of the maritime economy through improving business competitiveness in the shipping industry and balancing safety and sector interests.

The National Oil Spill Contingency Plan was established in 2013 to mitigate the impact of all oil spills on the environment by setting specific standards for oil spill equipment stockpiles, prescribing time frames for oil spill responses, and providing for increased collaboration among partner agencies.

The Natural Gas Master Plan focuses on the operations of Trinidad and Tobago's natural gas sector and outlines the energy mix in Trinidad and Tobago by indicating how much natural gas is allocated towards the domestic economy and how much is allocated for the export of liquified natural gas.

The UEM Policy focuses on effluents created as a result of oil and gas operations, including produced water, drilling fluids, workover fluids, completion fluids, and hydrotest water. The overarching principle of the UEM policy includes the minimization and ultimate elimination of treated and untreated upstream effluent discharge by using an integrated management approach to ensure zero harmful discharge to the environment (MEEI 2018).

2.3.5. National institutional framework

Several local institutions have a role to play in Trinidad and Tobago's management of marine non-living resources. Notable bodies include:

- The Ministry of Energy and Energy Industries, which is primarily responsible for the governance of Trinidad and Tobago's energy sector. It is authorized to regulate Trinidad and Tobago's petroleum exploration and production activities occurring in the marine environment.
- The Environmental Management Authority, the role of which is the regulation of Trinidad and Tobago's environment, including the marine environment. The EMA also has authority to enforce environmental laws.
- The Trinidad and Tobago Extractive Industries Transparency Initiative, an anti-corruption advocate that independently monitors and reports on the activities of extractive companies to inform stakeholders and improve governance. It has relevance for the maritime sector since it reports on offshore exploration and production activities as well as on taxes paid by energy companies.
- The Energy Chamber of Trinidad and Tobago, a business trade association for the Trinidad and Tobago energy industry that represents close to 400 member companies. Since many of these companies have activities in the marine environment, the organization is relevant to the maritime sector.
- The Oilfield Workers Trade Union, which represents the interests of workers in the oil and gas sector. The union has relevance as many of these workers are employed in the offshore oil and gas sector.
- The Commissioner of State Lands. According to the Minerals Act (Chap. 61:03) of Trinidad and Tobago, the Commissioner of State Lands has the authority to grant licenses for mining on State lands subject to the provisions of the act. Section 6 of the act states that any person who desires to mine for minerals on State lands must obtain a license from the Commissioner of State Lands and that the license shall be granted upon the terms and conditions determined by the commissioner. Section 7 also provides that the commissioner may refuse to grant a license or may grant a license subject to certain conditions.

While there are no formal mechanisms for engagement, these organizations interact through meetings on various issues. For example, if there is a problem that affects a sector that is covered by two or more ministries and agencies, they may hold a meeting to discuss the issue.

2.3.6. Enforcement and implementation of the governance framework for the sector

As indicated above, the MEEI and the EMA are the key regulators involved in the management of the non-living resources of Trinidad and Tobago. This framework will be described in more detail in the section below when addressing the maritime sector and the coastal and marine tourism sector.

2.3.7. Gaps and challenges

While non-living marine resources underpin the national economy, provide important raw materials for industrial activities, and provide input to almost every sector of the global economy, they must be extracted in a sustainable manner. Furthermore, conscious of the need to reduce the country's carbon footprint and explore emerging opportunities, there is a need to explore product diversification and the expansion of renewable energy. Among the gaps and challenges identified in the sector are the following:

- In many cases, the information available on the spatial distribution and abundance of non-living resources, such as minerals and oil and gas reserves, is limited, making it challenging to manage these resources effectively, as decisions on resource exploitation and conservation require accurate information on the size and location of these resources.
- Effective management of non-living resources requires engagement with various stakeholders, including resource users, local communities, and other interested parties. However, there may be limited engagement with these groups in many cases, leading to a lack of understanding of local perspectives and concerns.
- Regulations and policies related to resource extraction may prioritise economic considerations over environmental concerns. This can negatively impact marine biodiversity, habitats, and water quality.
- Trinidad and Tobago has a coastline that is exposed to the open ocean and therefore has the potential to harness wave power. However, reliable data on offshore renewable energy opportunities is absent.
- Regulations and policies related to non-living resource management may focus on individual projects or activities instead of considering the cumulative impacts of multiple projects or activities. This can result in a failure to address the overall impacts of resource extraction on the marine environment. Regulations and policies related to non-living resource management may not adequately consider the social impacts on local communities, including impacts on livelihoods, cultural heritage, and community well-being.
- In some cases, foreign companies or individuals may dominate the extraction and management of non-living resources in marine environments, with limited opportunities for local participation.

2.4. Coastal and marine tourism

2.4.1. Sector profile and relevance to the State from ecological, economic, and social perspectives

Coastal and marine tourism in the Caribbean is a US$13 billion industry employing 2.8 million persons and providing 15.2 per cent of all jobs (World Travel and Tourism Council 2021).[8] It constitutes the largest economic sector for most Caribbean SIDS. For the oil- and gas-based Trinidad and Tobago economy, tourism may not be as significant, particularly for Trinidad. However, for the services-led and tourism-driven economy of Tobago, "tourism is an important sector in [the] economic landscape, and, for the short-to-medium-term, it is expected to continue to play that role" (THA 2022). Tourism is seen as one of the pillars of growth for Trinidad and Tobago's economy. Therefore, securing the long-term revitalization, sustainability, and viability of this sector is critical, particularly after the devastating impact of the COVID-19 pandemic.

Over the past decade, the National Tourism Policy (2010) served as the overarching policy framework for tourism development in Trinidad and Tobago. That Policy was revised in 2021 to ensure consistency with the country's Vision 2030 National Development Strategy (NDS), which identified tourism as a priority sector and stated the intention to transition Trinidad and Tobago towards a more diversified economy in order to achieve greater socio-economic prosperity and address challenges arising out of the COVID-19 pandemic. The pandemic severely impacted the economy of Trinidad and Tobago because the country's borders were shut for approximately one year. In Tobago, where tourism accounts for about 13 per cent of GDP (behind only government and financial services), this impact has been acute. Notwithstanding, the "tourism sector was the third largest sector, accounting for about 10% of GDP in 2021" (THA 2022).

The positive effect of tourism on the national economy relies on an enabling environment, including the legal and institutional framework, infrastructure, education, and institutional capacity. Together these factors define a nation's tourism management capacity—that is, the resources at its disposal to conduct tourism effectively (CTO 2010). Coastal and marine tourism rely on a healthy marine environment and supporting ecosystems. Therefore, as noted in the revised National Tourism Policy (Ministry of Tourism, Culture and the Arts 2021), tourism development must be a part of an ICZM plan to help conserve and preserve fragile marine ecosystems, serve as a vehicle for promoting a blue economy, and contribute to the conservation and sustainable use of marine resources (GORTT 2021).

While the National Tourism Policy does not prescribe policies for the various niche markets (e.g., ecotourism, cruise tourism, etc.) it is generally recognized that coastal and marine tourism, which ranges from cruise tourism to recreational activities such as scuba diving, snorkelling, sports fishing and sightseeing (e.g., turtle watching) to beach-based activities, are highly dependent on the quality of the natural resources, including the marine ecosystem. In

[8] Coastal and marine tourism refers to the tourism product located in the marine environment and/or the coastal zone that is made available to visitors to the region. In this report, no distinction is made between coastal and marine tourism, as most of the tourist accommodations, facilities, and services are located in the coastal zone or the marine environment.

that regard, there are several sites and visitor attractions (e.g., the UNESCO Man and the Biosphere Reserve in northeast Tobago and the Blue Flag Programme) in both Tobago and Trinidad that could both provide opportunities for growing the ecotourism sector and appeal to both cruise and long-stay visitors. Several of those initiatives are expected to be featured in a new ecotourism sub-policy being developed by the current administration.

While much focus has been placed on cruise tourism because of the large number of visitors who come ashore when a ship docks in Port of Spain or Scarborough, the yachting sector has also carved a niche as an important economic sector in Trinidad and Tobago's economy. A 2013 economic impact assessment estimated that the yachting sector contributes approximately TT$30 million annually to the economy (MTI 2021). Many in the industry will argue that this is a small fraction of the overall potential contribution of the yachting sector. After a decline in yacht arrivals and a stagnation of the industry, the Ministry of Trade and Industry developed a yachting policy in 2017 aimed at restoring sustainable growth in the yachting industry. Subsequently, responding to concerns expressed by personnel in the industry and considering some of the recommendations contained in the Yachting Policy 2017–2021, the Ministry of Trade and Industry outlined new incentives intended to stimulate the recovery and expansion of that sector.

A diversification of tourism products, particularly in the context of Tobago, has the potential to bring a new dimension of growth to the market. Activities that appeal to the eco-traveller, such as nature photography, snorkelling, scuba diving, turtle-watching, kayaking, and canoeing, as well as places of natural beauty such as the UNESCO Man and the Biosphere Reserve in northeast Tobago, the Caroni Bird Sanctuary in Trinidad (a Ramsar site), and the numerous beaches in Trinidad and Tobago where visitors can watch nesting turtles, can significantly boost the potential for developing the ecotourism market.

The natural attractions in both Tobago and Trinidad suggest that rebuilding the industry as one of the pillars of the economy is tenable. However, efforts must be made to ensure the sustainability of attractions and the well-being of persons who depend on that sector's fortunes. Given the fact that coastal and marine tourism was identified as one of the priority sectors for the focus of this study, the issue of tourism within the context of ocean governance and areas for possible action to improve ocean governance will be discussed in more detail in section 3.2 below.

2.4.2. Regional and international legal and institutional frameworks related to the sector

While UNCLOS makes no mention of coastal and or marine tourism, Part XII states that States have an obligation to protect and preserve the marine environment, including by taking measures to prevent, reduce, and control pollution of the marine environment from any source. This includes obligations to adopt laws and regulations and take other measures with respect to land-based and ship-based sources of pollution. States are also to cooperate on a global and regional basis, as appropriate, in formulating and elaborating additional international rules, standards, and recommended practices and procedures regarding the protection and preservation of the marine environment.

Many international agreements besides UNCLOS are of great relevance to coastal and marine tourism. However, like UNCLOS, these agreements do not make much direct mention, if any, of coastal and marine tourism. Instead, the agreements call on States to prevent pollution, avoid

oil spills, protect special areas for wildlife, and reduce pollution from land-based and ship-based sources, while others promote research and training. For example, MARPOL, particularly its Annex V, seeks to reduce the amount of garbage discharged into the sea from ships.

Acknowledging the dependence of coastal and marine tourism on natural resources and taking into consideration the harm arising from the unsustainable exploitation and pollution of those resources, recent international legislative and policy instruments have sought to address the potential negative impact of coastal and marine tourism on the environment. For example, Articles 5 and 17 of the Protocol Concerning Specially Protected Areas and Wildlife (1990) mandate parties to take measures to regulate tourism activities that might endanger ecosystems in protected areas.[9] SDG Target 14.7 calls on the international community to increase the economic benefits to SIDS and least developed countries from the sustainable use of marine resources, including through sustainable management of tourism.

Key international agreements to which Trinidad and Tobago is a party include the following:

- UNCLOS
- Caribbean Sea Initiative of the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Area (Cartagena Convention, 1983)
    - Protocol Concerning Specially Protected Areas and Wildlife (SPAW) (1990)
    - Protocol Concerning Pollution from Land-Based Sources and Activities (1999)
- Convention on Biological Diversity (1992)
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (1973)
- International Convention for the Prevention of Pollution from Ships (MARPOL) (1973/78)
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (1989)
- United Nations Framework Convention on Climate Change (1992)

Caribbean countries have long recognized the need for collaboration to develop their tourism sectors. The Caribbean Tourism Organization, founded in 1989, is the Caribbean's tourism development agency responsible for developing sustainable tourism for the economic and social benefit of the Caribbean people. As a research-based institution, it has been at the forefront of highlighting the sector's importance to the region while also keeping members

[9] Article 5 obliges parties to take measures that regulate tourism activities that might endanger ecosystems of protected areas, and Article 17 obliges parties to compile an inventory of areas with tourist value.

informed of the negative impacts of tourism, including the effects of pollution on the marine environment arising from land-based tourism facilities and cruise ships.

Other institutions contributing to the development of the tourism sector of the region while emphasising the conservation and protection of the resource base include the United Nations World Tourism Organization (UNWTO); UNEP's Caribbean Environment Programme (UNEP CEP), which has championed the region-wide adoption of the Cartagena Convention; and the Association of Caribbean States, the Caribbean-wide governmental organization charged with the responsibility of advocating for the designation of the Caribbean Sea as a zone of sustainable tourism development.

Given the private sector dominance of the tourism sector, several private sector bodies also contribute to developing the tourism product. These include the Caribbean Hotel & Tourism Association, which represents private sector tourism entities, including facilities that provide accommodation, tourism-facing industries, and suppliers in and out of the region (Caribbean Hotels & Tourism Association 2022). Another major player is the Florida-Caribbean Cruise Association. Established in 1972, the association is a not-for-profit trade organization composed of 23 member cruise lines operating nearly 200 vessels in Florida, Caribbean, and Latin American waters. The association's mandate is to provide a forum for discussing cruise industry issues such as tourism development, ports, safety, and security (Florida-Caribbean Cruise Association 2022).

2.4.3. National legal framework

The legislative framework for tourism development is primarily associated with the Tourism Development Act of 2000. The Act seeks to facilitate the development of the tourism sector by providing incentives and tax breaks to investors and making provisions for incidental matters. It is supported by the Tourism Development (Miscellaneous Provisions) Act, which encourages the development of the tourism industry in Trinidad and Tobago by providing incentives and concessions to investors such as tax waivers, tax holidays, and other provisions that would make it attractive for developers involved in tourism-related businesses to invest in Trinidad and Tobago.

Constructing hotels and tourism infrastructure is a key aspect of tourism development. In that regard, the Planning and Facilitation of Development Act of 2014 defines the environment as including "land, areas beneath the land surface, atmosphere, climate, surface water, ground water, sea, coastal and marine areas, seabed, wetlands and natural resources (including plants and animals) within the jurisdiction of Trinidad and Tobago." The Act also regulates the granting of permissions to develop land and for other uses of land. In addition, the Tobago House of Assembly Act (Chap. 25:03) (rev.2011) gives wide powers to the Tobago House of Assembly (THA) to formulate and implement policies for activities involving marine parks, fisheries, and infrastructure, including air and sea transportation, wharves, and airports.

The Marine Areas (Preservation and Enhancement) Act of 1970 provides for the designation of Trinidad and Tobago's marine areas as restricted areas for the preservation and protection of flora and fauna. The potential of such marine restricted areas for the tourism sector has yet to be developed and could represent a significant opportunity to diversify the ocean-based tourism sector.

The Tobago Marine Parks Bill is aimed at managing the critical Buccoo Marine Park, coral reef systems, and other sensitive marine spaces in Tobago.

2.4.3.1. National Tourism Policy 2021–2030

Prepared in response to the devastating impacts of the COVID-19 pandemic on the economy and the hospitality sector, particularly in Tobago, the National Tourism Policy outlines policy initiatives that capitalise on the growing worldwide demand for tourism while simultaneously incorporating long-term sustainability measures to ensure its success and resilience. While it makes limited reference to the blue economy, it does acknowledge the contribution and dependence of tourism on coastal ecosystems and marine resources. In that regard, it is aligned with Vision 2030, the National Development Strategy, and the United Nations Sustainable Development Goals, particularly SDGs 8 (Decent Work and Economic Growth), 12 (Responsible Consumption and Production), and 14 (Life Below Water).

Notwithstanding the above, the draft National Maritime Policy and Strategy 2021–2030 points out several weaknesses of Trinidad and Tobago's tourism industry that could hinder the development of coastal and marine tourism. Among those are:

- Inadequate port facilities for berthing larger cruise ships or multiple cruise and ferry vessels on the same day,
- Extensive bureaucracy and documentation for yachts,
- The absence of marina service in Tobago,
- The use of antifouling paints,[10]
- Inadequate waste reception facilities for yachts,
- Lack of an ecotourism policy and strategy,
- No conservation or protection of natural/cultural heritage resources, and
- Lack of incentives to support the maritime sector.

Given the above, several related policies seek to increase Trinidad and Tobago's competitiveness in the tourism sector. These include the Yachting Policy (2017–2021), which seeks to optimise the economic contribution of the yachting industry towards the sustainable development of Trinidad and Tobago; the draft ICZM Policy Framework, which seeks to

[10] Antifouling paints help prevent aquatic life from attaching to the hull and other structures of a ship. This not only improves fuel efficiency but also controls the spread of invasive species. However, some antifouling paints may contain biocides (chemical substances or microorganisms) that are harmful to marine organisms. One of the most effective antifouling paints is known to contain tributyltin, which is toxic to marine organisms, including shellfish, and can cause deformities and death. It is also persistent in the environment and can accumulate in the food chain (Environmental Maritime Safety Agency 2023).

facilitate an integrated approach to coastal zone management while maintaining and, where necessary, enhancing the integrity of the coastal resource systems; and the draft National Maritime Policy and Strategy 2021–2030, which outlines an ambitious plan to improve coastal infrastructure involving the increase in berthing facilities for cruise ships and to develop integrated coastal zone and spatial management plans to ensure that the development and increased use of recreational facilities do not clash with other maritime activities.

2.4.4. National institutional framework

The Ministry of Tourism is primarily responsible for the tourism sector in Trinidad and Tobago, while the Division of Tourism, Culture, Antiquities and Transport in the Tobago House of Assembly shares the responsibility in Tobago. Until 2017, the day-to-day marketing, promotion, and management of tourism was the responsibility of the Tourism Development Company. However, in 2017, the GORTT dissolved the Tourism Development Company, replacing it with two special-purpose state entities, Trinidad Tourism Limited and the Tobago Tourism Agency Limited, each with responsibility for developing, promoting, and marketing the tourism products and services of the respective islands. Given the wide and cross-cutting nature of the tourism sector, several entities in both the public and private sector also contribute to the development, promotion, and management of the sector. These institutions, along with their respective roles and contributions are further developed and discussed in depth in section 3 below.

2.4.5. Enforcement and implementation of the governance framework for the sector

As coastal and marine tourism development activities involve the construction and operation of facilities in and around the coastal areas of Trinidad and Tobago, responsibilities for the enforcement of obligations arising out of those activities are governed primarily by the Planning and Facilitation of Development Act of 2014 and the Planning and Facilitation of Development (Amendment) Act of 2019, which repealed and replaced the Town and Country Planning Act (Chap. 35:01). While the Ministry of Planning and Development has responsibility for implementing the Planning and Facilitation of Development Act, it is generally recognized that the Environmental Management Act and its subsidiary legislation, including the CEC rules, air pollution rules, and waste management rules, provide a sufficient body of rules to regulate the sector.

2.4.6. Gaps and challenges

Coastal and maritime tourism plays a significant role in the economic prosperity of the island and coastal communities, bringing jobs, investment, and income. However, it also creates challenges such as biodiversity loss, pollution, ecosystem degradation, and resource consumption. Tourism is a highly vulnerable sector, principally due to external market fluctuations, extreme weather events, and the dependency of island and coastal communities on coastal biotic resources, which are particularly at risk from the adverse effects of land-based activities.

The adverse effects of land-based activities on coastal resources can undermine the transition to a blue economy. The governance of land-based activities is therefore critical to preserving

the coastal and marine tourism industry and achieving a sustainable blue economy. Among the many gaps and challenges confronting the sector are the following:

- Coastal and marine tourism can generate significant waste, including plastics, food, and other materials. Inadequate waste management can lead to litter and pollution that harms coastal ecosystems and wildlife. Additionally, overcrowding and overuse of the coastal areas have caused environmental degradation, particularly in fragile ecosystems such as coral reefs and mangrove forests.
- There is pressure to develop infrastructure and facilities to support coastal and marine tourism not duly vetted by EIAs. This can result in the destruction of natural habitats, the alteration of coastal landscapes, and the depletion of natural resources.
- Limited public awareness and education about the impacts of coastal and marine tourism on the environment can lead to inappropriate behaviour by tourists and inadequate action by stakeholders to mitigate negative impacts.
- Insufficient facilities such as restrooms, changing rooms, and showers can reduce the comfort and convenience of tourists, negatively impacting their experience and their willingness to return.
- Limited diversification results in an overdependence on a single tourism product, such as beach-based tourism, which can leave the industry vulnerable to changes in consumer preferences and other external factors. Additionally, few ecotourism products are being offered in Trinidad and Tobago.
- There is limited accreditation and certification of tourism businesses, which hinders tourists from identifying high-quality providers. There is also limited innovation in tourism products and services.

2.5. Protection and preservation of the marine environment, including area-based conservation tools and measures

Marine ecosystems, including coral reefs, mangroves, beaches, and seagrasses, provide a range of valuable goods and services associated with their habitat functions to people and economies across the Caribbean. They contribute to tourism, fisheries, shoreline protection, and pollution control and provide habitats for species. The Caribbean Sea and its ecosystems account for 14–27 per cent of the global ocean economy, with a value of US$407 billion (UNEP Caribbean Environment Programme 2019). However, as noted in *The Second World Ocean Assessment*, coastal ecosystems are threatened by cumulative human pressures, including overfishing, pollution, and impacts related to climate change, including acidification. These pressures are degrading coastal ecosystems, reducing their benefits for future generations (United Nations Office of Legal Affairs 2021).

The international community has initiated several measures to preserve and protect the marine environment. Some of these measures are contained in various multilateral and regional environmental agreements, such as those listed in section 2.5.2 below.

Since the adoption in 2015 of the 2030 Agenda for Sustainable Development and in particular SDG Target 14.5, a new era in preserving the marine environment has emerged with countries committing to conserving 10 per cent of coastal and marine areas through MPAs and other effective conservation measures. At the CBD COP 15 held in Montreal in 2022, the Kunming-Montreal Global Biodiversity Framework (GBF) was adopted with countries agreeing to conserve and manage at least 30 per cent of coastal and marine waters as protected areas by 2030 (Convention on Biological Diversity 2023). Prior to that framework being adopted, the Ministry of Planning indicated that plans were under way to start a rapid review of the country's NBSAP to ensure that it aligns with the goals and targets of the GBF so it can be implemented (Newsday 2022).

However, while it is recognized that MPAs have provided some measure of protection, countries are also being asked to establish additional area-based conservation tools and measures to provide greater assurance of conservation and protection of fragile marine ecosystems.

2.5.1. Sector profile and relevance to the State from ecological, economic, and social perspectives

Trinidad and Tobago is one of the most biologically diverse countries in the Caribbean (Baksh-Comeau et al. 2016). That diversity is also reflected in its coastal and marine environment (FAO 2018), which has a "range of communities including sea-grass beds, fringing coral reefs, and diverse marine substrates, within three global marine ecosystem types" (Spalding et al. 2007). Although most of those ecosystems are unexplored, for example, the deep marine ecosystems within Trinidad and Tobago's EEZ, they are considered important areas for economic development (Amon et al. 2017).

While it is acknowledged that coastal ecosystems provide a range of goods and services to people and economies across the Caribbean, the actual amount of that contribution is difficult to quantify.

Apart from direct monetary contributions, the social, cultural, and spiritual value of marine ecosystems is significant not only to persons in coastal communities but also to people in other parts of Trinidad and Tobago and the Caribbean and to international visitors.

Efforts to protect and ensure a continuous stream of ecological and financial benefits have resulted in the establishment of the Buccoo Reef as an MPA. Several other places of ecological and scientific significance or natural beauty have been designated for protection and management as part of a system of parks and protected areas for Trinidad and Tobago.

2.5.2. Regional and international legal and institutional framework related to the sector

A considerable number of regional and international conventions, regulatory instruments, and policies aim at protecting and preserving marine biodiversity and ecosystems in Trinidad and Tobago. These instruments, most of which have reporting obligations, offer technical and

financial assistance in developing robust area-based management tools, particularly for endangered flora and fauna.

Trinidad and Tobago is a party to the following relevant regional and international instruments.

- UNCLOS (1982), in particular Part XII as described in section 2.4.2 above
- International Convention for the Prevention of Pollution from Ships (MARPOL) (1973–1978)
- Caribbean Seas Initiative of the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Area (Cartagena Convention, 1983)
    - Protocol Concerning Specially Protected Areas and Wildlife (SPAW) (1990)
    - Protocol Concerning Pollution from Land-Based Sources and Activities (1999)
    - Protocol Concerning Co-operation in Combating Oil Spills in the Wider Caribbean Region (1983)
- Convention on Biological Diversity (1992)
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (1973)
- The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (1989)
- United Nations Framework Convention on Climate Change (1992)
- Convention on the Protection of the Underwater Cultural Heritage (2001)

2.5.3. National legislative framework

The marine environment of Trinidad and Tobago is a heavily legislated sector. A considerable number of national laws and policies govern the use and management of coastal and marine environments. The Marine Areas (Preservation and Enhancement) Act (Chap. 37:02) provides for the protection of the marine environment, including the submarine areas within the territorial sea and any adjoining land or swamp areas that form a single ecological entity with certain submarine areas. Section 3(1) states that the Minister for Agriculture, Land and Marine Resources may by order designate any portion of the marine areas as a restricted area where it is considered that special steps are necessary for

- preserving and enhancing the natural beauty,
- protecting the flora and fauna in respect of such areas,
- the promotion of the enjoyment of the public, and

- the promotion of scientific study and research.

The Minister for Agriculture, Land and Marine Resources has jurisdiction for the enactment of this Act, including regulations for use of the protected areas (sect. 6). Permits for various types of activities must be granted by the Minister to a person authorised by him.

The Marine Areas (Preservation and Enhancement) Regulations provide that no fish, bird, or mangrove may be removed from a restricted area without permission. The Regulations also provide that the Minister may, by notification, designate any part of a restricted area an anchoring area of a walkway.

Fisheries Act (Chap. 67:51) assigns responsibility for management of fisheries to the Fisheries Division, Ministry of Agriculture, Lands and Fisheries. The Fisheries Division also has legislative responsibility for designating prohibited areas in the marine environment of Trinidad and Tobago that may be used to protect spawning grounds of commercially important species of fish. This includes enforcing regulations that prohibit fishing and other activities that could harm marine resources within MPAs, monitoring the condition of MPAs, and conducting research on the effectiveness of MPAs. To date, only restrictions for demersal trawling have been established (GORTT 2011).

Moreover, the Environmental Management Act (Chap. 35:05) aims to promote and encourage a better understanding and appreciation of the environment, facilitate the integration of environmental concerns into private and public decisions, and ensure the establishment of an integrated environmental management system in Trinidad and Tobago. Relevant subsidiary legislation includes:

- Certificate of Environmental Clearance (CEC) Rules 2001
- Waste Management Rules 2021
- Water Pollution Rules 2019
- Environmentally Sensitive Species (ESS) Rules 2001
- Environmentally Sensitive Area (ESA) Rules 2001
- Air Pollution Rules, 2014

In addition to the above, there is the Fisheries (Conservation of Marine Turtles) Regulations that provide for the conservation and protection of marine turtles, including rules on the prohibition of capturing, killing, or disturbing marine turtles, and the protection of their nesting areas.

While a plethora of national laws and regulations regulate the management of protected areas, including MPAs, there is no specific legislation for the establishment of protected areas in Trinidad and Tobago. The designation and management of a harmonised system of protected national areas (PNAs) will require extensive harmonisation across multiple pieces of legislation (GoRTT 2011).

In addition to those legislative instruments, a set of policy documents guide the management of coastal and marine resources. The National Protected Areas Policy of 2011 aims to establish terrestrial, marine, or freshwater areas or combinations thereof with significant ecological,

biological, cultural, and scenic value "as protected landscapes or seascapes" and to safeguard the integrity of those areas by providing guidelines for selecting, designating, and managing them. The policy guides the development of legislation that will enable Trinidad and Tobago to establish an appropriate administrative and institutional framework for designating and managing a national system of protected areas (GoRTT 2011).

Trinidad and Tobago pledged to set aside 10 per cent of its coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, as protected areas, as part of the overall goals of the CBD's Strategic Plan for Biodiversity 2011–2020.[11] However, this has not yet been achieved (Juman 2020; UNEP-WCMC and IUCN 2023).[12] Also, there is no evidence that the global initiative to establish other effective area-based conservation measures has formed part of the national discourse.[13]

The Buccoo Reef is the only MPA which has been established under the Marine Areas (Preservation and Enhancement) Act (Chap 37:02) (GoRTT 1996).

The Trinidad and Tobago NEP of 2018 includes provisions for designating ESAs (in accordance with section 41 of the Environmental Management Act and the Environmentally Sensitive Area Rules of 2001), integrated planning and designation of areas to protect coastal and marine areas, maintaining strictly protected forested areas, and preserving representative samples of wetland areas. Also, the revised NBSAP 2017–2022 is centred on 20 National Biodiversity Targets, which are aligned to the Aichi Biodiversity Targets. However, as those targets are now outdated, the Ministry of Planning and Development is awaiting the outcomes of the fifteenth meeting of the Conference of the Parties to the CBD in December 2022, which are expected to include the adoption of the post-2020 global biodiversity framework to determine the way forward and take any necessary action to develop national targets (Ministry of Planning and Development 2022).

The National Protected Areas Systems Plan for Trinidad and Tobago of 2018 identifies 136 PNAs across the country, 40 of which are coastal or marine (18 in Trinidad, 22 in Tobago) and four of which are deep-sea marine areas covering in total approximately 580 km^2 (14 km^2 in Trinidad and 566 km^2 in Tobago) (FAO 2018). The open-ocean waters and deep-sea marine areas proposed for protection cover 15,600 km^2 of Trinidad and Tobago's EEZ. The objective of the systems plan is to ensure the long-term conservation of biodiversity of the country. While it does not provide a management plan, it does recommend the need for several preconditions, including mechanisms for designating new PNAs in national legislation as a first step.

[11] The Conference of the Parties (COP) to the UN Convention on Biological Diversity (CBD) adopted the Strategic Plan for Biodiversity 2011–2020, which included 20 targets known as the Aichi Biodiversity Targets. These global targets were adopted with a deadline of 2020 and focused on the actions and outcomes needed to put the world on a path to achieve the 2050 Vision for Biodiversity.

[12] As of 2023, only 6.7 per cent of coastal and marine areas in Trinidad and Tobago were protected (calculated from data at UNEP-WCMC and IUCN 2023).

[13] Trinidad and Tobago has joined the Global Ocean Alliance (GOA), a group of countries committed to protecting at least 30 per cent of the global ocean by 2030. While that decision is a significant step forward for ocean protection in Trinidad and Tobago, there has been little public discussion or formal initiatives to adopt or ratify new legislation regarding additional MPAs.

The draft ICZM Policy Framework (2020) seeks to maintain and, where necessary, enhance the functional integrity of coastal systems while enabling sustainable economic development. This framework is a means to sustainably manage Trinidad and Tobago's coastal and ocean space, resources, and activities. It also seeks to create a governance framework to alleviate conflicts among different uses of coastal areas, strike a balance between conservation and development considerations, and ensure that sustainable livelihoods are promoted and the vulnerability of coastal populations is reduced.

The THA has also proposed adopting the Tobago Marine Parks Bill, which would allow for the establishment of marine parks in Tobago. The bill serves to inform sustainable management of marine parks for tourism and conservation while ensuring that diversity of species and habitats within marine parks is maintained.

Notwithstanding the slow pace at which the establishment of the draft National Maritime Policy and Strategy 2021 has progressed, some have advocated for establishing open-water and deep-sea protected areas. According to Amon (2017), these ecological communities are diverse, unique systems representing a range of bathymetric characteristics and biological productivity and deserve protection (see also Miloslavich et al. 2010). Citing Woodley et al. 2012, Amon notes that these areas amount to approximately 21 per cent of the EEZ claimed by Trinidad and Tobago.

In August 2021, the Minister of Planning and Development announced that Trinidad and Tobago has officially become a member of the Global Ocean Alliance and the High Ambition Coalition for Nature and People. In joining the Global Ocean Alliance, Trinidad and Tobago has become part of a 54-country alliance, led by the United Kingdom, which aims to protect at least 30 per cent of the global ocean in MPAs or other effective area-based conservation measures by 2030 (GORTT 2021a). The Ministry of Planning and Development has since indicated the government's intention to revisit the NBSAP to bring it in line with the GBF 2030, which was adopted at the COP 15 of the CBD.

2.5.4. National institutional framework

The responsibility for managing Trinidad and Tobago's marine environment lies with several governmental institutions, some with a legal mandate and some without multisectoral committees and civil society involvement. The institutions with primary responsibility are:

- MALF, the line ministry for the Fisheries Division, under which the responsibility for protecting the marine environment falls
- Ministry of Planning and Development, the line ministry for the EPPD, the EMA, and the IMA
- Department of Marine Resources and Fisheries of the Tobago House of Assembly

The EPPD and the EMA are responsible for coordinating the multilateral environmental agreements to which Trinidad and Tobago is a signatory. The IMA is a multidisciplinary marine and environmental research institute involved in management planning for wetland and nearshore areas, including the Buccoo Reef, the Nariva Swamp, and Speyside. The EMA is directly responsible for designating and coordinating the management of ESAs.

In Tobago, the Department of Marine Resources and Fisheries is responsible for managing the Buccoo Reef/Bon Accord Lagoon Complex Protected Marine Area. That department is supported by the Division of Food Security, Natural Resources, the Environment and Sustainable Development and the Division of Infrastructure, Quarries and Urban Development.

The Environmental Management Authority considers it a challenge to achieve the competing and sometimes conflicting goals of social and economic progress on the one hand and environmental sustainability on the other hand (GORTT 2018a). The authority recently completed its 2022–2026 strategic plan, aligning its focus areas with Trinidad and Tobago's Vision 2030 NDS, the 2018 National Environmental Policy, and the SDGs.

The above-mentioned governmental entities are supported in their work to protect and preserve coastal and marine resources by several non-governmental entities, which also assist with research, monitoring, visitor management, education and awareness, and livelihood development. In that regard, the NGO community is viewed as making a valuable input to the protection of the resource (e.g., conservation of the endangered leatherback turtle), alerting the country to challenges relating to the management of the resource sector and particularly pollution incidents that negatively impact marine ecosystems, the livelihoods of fisherfolk, and consumers who purchase and consume contaminated seafood.

Because of the multiplicity of agencies and stakeholder groups responsible for or involved with managing protected areas and the complexity of the administrative framework, the GORTT has sought to streamline that governance through the creation of a protected areas authority. In that regard, a draft Forestry, Protected Areas and Wildlife Conservation Bill was prepared in 2014 with the aim of consolidating regulatory agencies in one body and establishing a Forest and Protected Areas Management Authority, which would manage all forest and protected areas in Trinidad and Tobago. Moreover, the bill proposes to repeal and replace several outdated laws and to provide the regulatory framework for the preservation, protection, and management of designated protected areas as well as for the use of these areas. It also proposes to provide for the conservation and sustainable use of wildlife, forests, and forest resources and establish a Forestry, Protected Areas and Wildlife Conservation Fund ,for Trinidad and Tobago. Although the bill would advance the management of protected areas in Trinidad and Tobago, it has not yet been passed into law (GORTT 2014).

2.5.5. Enforcement and implementation of the governance framework for the sector

As noted previously, several international, regional and national legislative and policy instruments govern the protection and preservation of the marine environment. Some, like UNCLOS, CBD, and the Cartagena Convention, have their origin in international and regional agreements treaties and conventions that Trinidad and Tobago has ratified. However, several national laws, including the Fisheries Act of 1916 and the Conservation of Wildlife Act of 1958, are outdated, have inadequate sanctions or penalties, and the Government lacks enforcement capabilities. In that regard, the Environmental Management Act of 2000 and related subsidiary laws are seen as providing the means of addressing issues relating to water pollution or environmentally sensitive species. For example, through CEC Rule 31, the EMA can exercise control over the establishment of parks, nature trails, and other recreational areas.

The lack of enforcement capabilities is compounded by the multiplicity of institutions with responsibility for implementation and enforcement of the governance framework. While the

existence of multiple institutions should not necessarily present a problem, governance is made difficult by the lack of a coordinating mechanism. Cognizant of this gap, the National Protected Areas Policy for Trinidad and Tobago states that within three years of the adoption of the Policy, a legislative framework must be enacted to provide for the establishment of a system for the administration and management of protected areas to conserve natural and cultural heritage. This would include "providing for licenses, permits, enforcement notices, cessation orders, user fees (including fees paid by beneficiaries of ecosystem services), incentives and fines" (GORTT 2011, 34). To date, these policy instruments are still awaiting government approval, and the legislative framework (regulations) to provide for implementation and enforcement of fines and penalties is still pending.

2.5.6. Gaps and challenges

Ecosystem-based management should be a guiding principle of coastal resource governance, as it provides a holistic approach to considering all cumulative pressures on coastal resources. Moreover, area-based management tools such as MPAs, integrated coastal and marine area management, marine spatial planning, marine managed areas, and integrated coastal management are useful tools in counteracting the impacts of land-based activities on coastal resources (World Bank and United Nations Department of Economic and Social Affairs 2017, 24–25). However, several gaps and challenges were seen as posing a problem for Trinidad and Tobago's efforts to realise its goals of preserving and protecting the marine environment. Among those gaps and challenges are the following:

- While many national policies, laws, and regulations govern the management of protected areas, including MPAs, there is no specific legislation for establishing protected areas in Trinidad and Tobago. The designation and management of a harmonised system of PNAs will require extensive harmonisation across multiple pieces of legislation.
- Adequate funding is necessary to support marine conservation efforts, including research, monitoring, and enforcement activities.
- Effective marine conservation requires comprehensive and accurate data on the state of marine ecosystems and monitoring and the evaluation of conservation efforts. The lack of reliable data can make it difficult to assess the effectiveness of conservation measures.
- Many people in Trinidad and Tobago may not fully understand the value of marine ecosystems and their important role in supporting livelihoods and providing ecosystem services. This can lead to a lack of appreciation of the need to protect and conserve these ecosystems.
- Civil society organizations have played and continue to play a pivotal role in preserving the marine environment and its resources. However, limited capacity and resources for engaging in advocacy and lobbying efforts limit their influence in promoting marine conservation policies and practices.

- Local communities may lack the financial resources to implement sustainable fishing practices or develop alternative livelihoods that are less damaging to the marine environment. This can lead to overfishing, habitat destruction, and other negative impacts on the marine ecosystem.
- Land-based pollution from industrial, agricultural, and urban sources and marine pollution from shipping and oil exploration continue to pose significant threats to the marine environment.
- While Trinidad and Tobago is a party to the CBD and has adopted several policy instruments to guide the preservation of the marine environment, the country has yet to formally endorse and incorporate initiatives such as ecosystem-based management tools as part of the preservation of its marine resources.

2.6. Marine scientific research

Marine scientific research (MSR) was traditionally seen as having great significance to States because of the need for science to inform decision-making regarding the exploitation of both living and non-living resources. More recently, concerns regarding the health of the ocean, particularly threats from overfishing, pollution, and other anthropogenic factors (United Nations Office of Legal Affairs 2021), sparked renewed calls to strengthen the science-policy interface in order to provide for more informed and science-based decision-making regarding the use of ocean resources.

In light of these urgent needs for ocean science, the United Nations proclaimed a Decade of Ocean Science for Sustainable Development (2021–2030) to mobilize action towards transformative ocean science solutions for sustainable development. In Trinidad and Tobago, dependence on the ocean ecosystems requires that the country embrace the Decade of Ocean Science to benefit from global research and innovation and to ensure that the country's adaptative strategies are grounded in science and that necessary mechanisms are established to make ocean science integral to the development of the blue economy (Ganase 2021).

2.6.1. Sector profile and relevance to the State from ecological, economic, and social perspectives

As Trinidad and Tobago is a coastal State with an extensive ocean space, a history of oil exploration for more than 100 years, and dependence on both living and non-living resources for the economic livelihood of citizens, MSR has been and continues to be of great importance to it. There is a need for greater attention to ensuring that decision-making regarding the use of ocean resources is informed by science. Due to the vastness of the ocean and the high cost of undertaking scientific research, the interest in the MSR sector is not matched by a sufficiently advanced policy and legislative framework regulating MSR in accordance with UNCLOS.

The issue of pollution is of significance, not only understanding its sources but also the long-term impact it can have on coastal and marine ecosystems. It was reported that from 2018 to 2021 there have been 498 oil spills on land and at sea in Trinidad and Tobago (Johnson 2021).

Pollution harms marine and aquatic life and impairs fishing operations, affecting the earning potential of fishers and negatively affecting the quality of fish available for human consumption. In some instances, fishers are prohibited from accessing fish in proximity to spills and beaches nearby are closed to the public.

In instances of widespread fish kills, the IMA, based on their mandate to undertake and promote research, is usually tasked with conducting research to determine the exact source and type of pollutants. Following several reports of fish kills in the Gulf of Paria, a 2016 report by the UTT concluded that "the Gulf is significantly contaminated with a variety of Persistent Organic Pollutants (PAHs and PCBs)" and that "their presence in the marine ecosystem will eventually lead to higher and higher levels [of those pollutants] in fish and, when consumed by people, to high levels in humans, thereby posing a significant threat to human health" (Balgobin and Natasha 2019).

More recently, harmful algal blooms and garbage pollution have highlighted the need for scientific research to assess the source of those blooms and pollution as well as their long-term impacts on marine life and the ecosystem services they provide, including social and economic impacts (IMA 2022).

Marine bioprospecting[14] and blue biotechnology[15] can be significant sectors of interest in developing a sustainable blue economy for Trinidad and Tobago. Engaging in or permitting bioprospecting may make it possible to identify valuable compounds that can be used to develop new bioproducts such as food, cosmetics, industrial chemicals, enzymes, and pharmaceuticals. To realise the potential, the private sector will have to get involved. Funding will need to be put into institutions for research and development. More importantly, there is need for a MSR policy that facilitates access based on a permitting system that is consistent with the CBD's Nagoya Protocol.

2.6.2. Regional and international legal and institutional frameworks related to the sector

Under Part XIII of UNCLOS, all States and competent international organizations have the right to conduct MSR subject to the rights and duties of other States and are obligated to promote and facilitate the development and conduct of MSR in accordance with the Convention. In the territorial sea, coastal States, in the exercise of their sovereignty, have the exclusive right to regulate, authorize, and conduct MSR. In that regard, MSR can be conducted only "with the express consent of and under the conditions set forth by the coastal State." In the EEZ and on the continental shelf, coastal States, "in the exercise of their jurisdiction, have the right to regulate, authorize and conduct marine scientific research" in accordance with the relevant provisions of the Convention.

[14] Bioprospecting (also known as biodiversity prospecting) is the exploration of natural sources for small molecules, macromolecules, and biochemical and genetic information that could be developed into commercially valuable products for the agricultural, aquaculture, bioremediation, cosmetics, nanotechnology, or pharmaceutical industries.

[15] Blue biotechnology is the amalgamation of marine and aquatic organisms with technology to produce a new source of energy, for the extraction of new active ingredients, to develop new drugs, or to increase seafood safety and its production.

In normal circumstances, coastal States shall grant their consent for MSR projects by other States or competent international organizations in their EEZ or on their continental shelf to be carried out in accordance with UNCLOS exclusively for peaceful purposes and in order to increase scientific knowledge of the marine environment for the benefit of humankind. To this end, coastal States shall establish rules and procedures ensuring that such consent will not be delayed or denied unreasonably. In summary, it should be noted that MSR in the territorial sea, in the EEZ, or on the continental shelf can be conducted only with the consent of the respective coastal State.

States and international organizations wishing to undertake MSR in the EEZ or on the continental shelf of a coastal State have a duty to provide certain information to the coastal State (see Art. 248 for further details). Section 2 of Part XIII promotes international cooperation for MSR, section 3 contains rules for the conduct and promotion of MSR, and section 4 deals with scientific research installations or equipment in the marine environment. Sections 5 and 6 address the responsibility and liability of States and competent international organizations and the settlement of disputes with regard to MSR, respectively.

Like most SIDS, Trinidad and Tobago experiences resource constraints when it comes to MSR. As a result, it relies on international and regional organizations that have mandates to promote cooperation in the field of MSR through sharing data and technology and building capacity (Coelho 2022). Some of the key organizations are listed below.

- IOC- UNESCO
- The DOALOS
- IMO
- World Maritime University
- International Seabed Authority
- FAO
- Commonwealth Secretariat
- UNEP
- World Meteorological Organization

Of particular relevance is the IOC-UNESCO, which, in accordance with Article 251 of UNCLOS, has a mandate to establish general criteria and guidelines to assist States in ascertaining the nature and implications of MSR. In support of the transfer of marine technology regime established in Part XIV of UNCLOS, IOC-UNESCO has also adopted Criteria and Guidelines on the Transfer of Marine Technology (IOC 2003).

By adopting the SDG Target 14a, the international community has committed to "increase scientific knowledge, develop research capacity and transfer marine technology . . . in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries" (United Nations General Assembly 2015, 24).

At the regional level, IOCARIBE, UWI (Mona and St. Augustine), the Association of Small Island States (AOSIS), CARICOM, the Organisation of Eastern Caribbean States, the CRFM, and the Regional Activity Centres of the Caribbean Environment Program have been at the forefront of promoting and developing science and technology for their member States, including Trinidad and Tobago. Through the Centre for Marine Sciences at the Mona Campus, UWI has responsibility for the Discovery Bay Marine Laboratory as well as the Caribbean Coastal Data Centre. The Centre for Marine Sciences brings together marine scientists based in diverse departments as a multidisciplinary group, able to work together on the complex environmental and social issues related to the development of coastal and marine resources by conducting and facilitating research on the marine environment of Jamaica and the wider Caribbean, exploring the presence and status of coastal and marine species and resources while providing sound environmental advice to governments and non-governmental organizations (Centre for Marine Sciences 2023). Regional data collaborations such as the Caribbean Marine Atlas and the Caribbean Coastal Data Centre at UWI and international partnerships such as the Global Coral Reef Monitoring Network could be explored for the potential to fill current gaps in environmental datasets. In addition, funding to facilitate capacity building and technology transfer has been provided by funding agencies such as GEF and international and regional development banks.

2.6.3. National legal framework

In view of the rights and obligations of Trinidad and Tobago in relation to MSR in its territorial sea and EEZ, the national legislative framework to give effect those rights are relatively sparse. Under the Archipelagic Waters and Exclusive Economic Zone Act (Chap. 51:06, rev. 2011), no State, international organization, or person is allowed to undertake MSR in the EEZ without the written consent of the President. Further, in section 24, it is stated that "the President may withhold his support to the conduct of a marine scientific research project of another state or international organisation in the exclusive economic zone where the project proposal:

> (a) Is of direct significance for the exploration and exploitation of living and non-living natural resources; and
>
> (b) Involves drilling into the continental shelf . . . or the introduction of harmful substances in the marine environment."[16]

Where a permit is granted to a licensee for the exploration, development, and production of petroleum, Regulation 42(2)(c) of the Petroleum Regulations made pursuant to the Petroleum Act (Chap. 62:01, rev. 2011) states that "a licensee shall ensure . . . in the case of operations in submarine areas, care shall be taken to avoid pollution of . . . tidal rivers to ensure that navigation, agriculture, fishing, authorised scientific research and conservation of living resources of the sea are not unjustifiably hindered."[17]

Recognizing, however, the importance of science in the sustainable development of ocean resources, under the Institute of Marine Affairs Act 1976, the GoRTT established the IMA as

[16] Section 22(d) Archipelagic Waters and Exclusive Economic Zone Act No. 24 of 1986.

[17] Petroleum Act (Chap. 62:01)

a national statutory body with dedicated responsibility for marine-related research and education.

The NBSAP does not mention the significance of or undertaking of MSR. However, recognizing the potential opportunities of bioprospecting and being a participating country in the project funded by UNEP and GEF titled Advancing the Nagoya Protocol in Countries in the Caribbean Region (GEF 2020), Trinidad and Tobago has stated that it intends to embrace the opportunities for establishing consent rules for permitting scientific research regarding marine genetic resources in exchange for gaining access to its genetic resources and enforcing provisions for benefit sharing (GORTT 2017). It should be noted, however, that a Draft Marine Scientific Bill (2016) and Draft Scientific Regulations (2016) have been prepared but have not been completed.

2.6.4. National institutional framework

The IMA is the primary institution assigned with a responsibility for undertaking marine research in Trinidad and Tobago. However, due to advancements in tertiary education in the last two decades, The UWI, St. Augustine, and UTT have also been able to significantly contribute to marine research locally and regionally.[18]

As mentioned above, the IMA is responsible for marine research and education. The objectives of the IMA include:

- Stimulating and advancing the conduct of MSR in Trinidad and Tobago and
- Promoting the utilisation and conservation of marine resources for the economic and social benefit of Trinidad and Tobago and enhancing national capabilities in this respect.

The Ministry of Foreign and CARICOM Affairs is also charged with responsibility for responding to requests by other international organizations to undertake MSR. In responding to those requests, the Ministry of Foreign and CARICOM Affairs can approve or deny such requests, negotiate terms and conditions, monitor the research, and provide support. The Ministry plays an important role in ensuring that MSR in Trinidad and Tobago is conducted in a responsible and sustainable manner. Other government agencies involved in responding to requests for MSR include the MEEI, the MALF, and the IMA. These agencies work together to ensure that all aspects of MSR are considered, from the environmental impact to the potential benefits to the country.

Also, in recognition of the importance of MSR to Trinidad and Tobago and the various governmental agencies that have some degree of interest in the subject area, a multi-agency committee has been established under the Ministry Foreign and CARICOM Affairs to address MSR within the context of UNCLOS. The Sub-Committee on Marine Scientific Research of the Inter-Ministerial Committee on the Law of the Sea is appointed by the Cabinet (Cabinet

[18] As institutions tasked with providing tertiary education, these institutions have a mandate to undertake research. However, from time to time they may be called upon to investigate issues of particular national concern or provide students with opportunities to undertake research on topics that are relevant to their academic pursuit.

Minutes 584 of August 26, 1971, and 728 of May 3, 1973, are relevant). The sub-committee meets to consider applications made to the GORTT to conduct MSR. Each of the sub-committee's members are expected to contribute their professional expertise, knowledge, and opinions to the discussions and the committee arrives at a decision by consensus. The representative of the IMA chairs the proceedings, the Ministry of Foreign and CARICOM Affairs provides secretariat support, and the Ministry's representative performs the role of Secretary.

This sub-committee is presently made up of representatives of the following Ministries and Government agencies:

- IMA
- Ministry of Foreign and CARICOM Affairs
- Maritime Services Division of the Ministry of Works and Transport
- Fisheries Division of the MALF
- MEEI
- Legal Division representative of the Ministry of National Security
- Coast Guard representative
- Fisheries Department; DMRF; and Division of Agriculture, Marine Affairs, Marketing and the Environment of the THA
- Trinidad and Tobago Meteorological Services of the Ministry of Planning and Development

The Life Sciences Department at UWI, St. Augustine, collaborates with other agencies to support biological research and management-oriented studies in marine fisheries. Since 2014, two members of staff have been part of the researchers on board the *Nautilus* research vessel, which recently explored deep-sea waters of Trinidad and Tobago. Since then, they have continued to undertake and heighten awareness regarding deep-sea resources and the need for both resources to manage those resources and legislative instruments to ensure that those resources will be conserved and provide opportunities for bioprospecting through the adoption of measures that would permit access to and benefit sharing of marine genetic resources.

The UTT Advanced Centre for Coastal and Ocean Research and Development (ACCORD) aims to become the premier Caribbean centre for applied research and development, education, training, and outreach in coastal and oceanic sciences. UTT also offers a full degree programme in maritime studies. The UTT Centre for Maritime and Ocean Studies (CMOS) has positioned itself as a regional leader in maritime research. It is strategically placed to enhance the Caribbean's approach to addressing contemporary maritime issues, including maritime climate action. They currently undertake research in several areas, including the blue economy. However, their work through the MTCC Caribbean is at the forefront of their research. This initiative, which is being undertaken with the IMO and is partly funded through the European Union, is intended to promote technologies and operations to improve energy efficiency in the maritime sector, which will help navigate shipping into a low-carbon future.

2.6.5. Enforcement and implementation of the governance framework for the sector

Trinidad and Tobago has no stand-alone policy that is specifically focused on MSR. However, MSR is addressed through various policies, strategies, and legislation that pertain to the environment, coastal management, and sustainable development. Key documents that guide MSR in Trinidad and Tobago include the NEP, the draft Independent Circular Zones Protocol Policy Framework, and the Fisheries Act and its regulations. However, the IMA, as the country's principal marine and environmental research organization, is tasked with the responsibility of undertaking research and providing scientific advice on coastal zone management, marine resource management, and marine environmental monitoring.

Several initiatives have been initiated to ensure the development and collection of data and other information regarding coastal systems and processes. The draft ICZM policy framework aims to develop a centralised coastal information management system, data repository, and sharing agreement (Ministry of Planning and Development 2019). In July 2020, the Ministry of Planning and Development launched the Trinidad and Tobago Biodiversity Information System (Ministry of Planning and Development, GORTT 2020). However, the population of that database is not completed. Stakeholders interviewed as part of this exercise identified ecological, oceanographic, and socio-economic data as lacking, outdated, or inaccessible for the marine environment in Trinidad and Tobago. The Division of Environment in Tobago has also noted that data generated by international researchers are often not made available to support the island's development.

A data management plan is integral to the undertaking of MSR. A framework for data collection must form part of an MSR policy and should be housed in a central, accessible repository for all data regarding the marine domain. In addition, it should be linked to an organization or mechanism for coordinating activities, including research on the marine environment, to support planning, evaluation, and the review process. The IMA has recently established a Marine Data Hub that uses state-of-the-art web-based GIS technologies to provide the institute with an infrastructure for collecting, analysing, and disseminationg geospatial data for marine applications. According to the IMA, "this Marine Data Hub will allow stakeholders to conduct several activities including exploring biodiversity data made publicly available, discovering and building digital maps, and engaging others to address important marine and environmental issues affecting this twin island Republic of Trinidad and Tobago" (Institute of Marine Affairs n.d.).

2.6.6. Gaps and challenges

MSR is paramount in providing data and information for formulating sound policies and regulations which will support the conservation and protection of marine resources and combat the threats to marine ecosystems. Furthermore, the development of the blue economy is strengthened by a commitment to increasing the capacity of research institutions by managing and coordinating research projects aimed at developing the blue economy and enhancing local, regional, and international partnerships. The absence of an MSR policy for Trinidad and Tobago creates a void in the country's pursuit of the development of a blue economy that is guided by science and informed decision-making. In addition to the absence of a formal MSR policy document, other gaps and challenges that have been identified included the following:

- While MSR is an ongoing activity of the IMA and universities in Trinidad and Tobago, Barbados, and Jamaica, the absence of an approved policy seriously constrains the furtherance and enhancement of MSR.
- While Trinidad and Tobago has legal provisions specifying the need for a permit when undertaking MSR, it is not sufficiently supportive of MSR, including access to research sites, intellectual property rights, and compliance with international obligations under UNCLOS.
- Although Trinidad and Tobago is a party to the CBD, the country has yet to ratify the Nagoya Protocol, which would not only guarantee fair and equitable sharing of benefits derived from using marine genetic resources found in Trinidad and Tobago's EEZ but would also provide transparency, legal certainty, and mutual trust between those undertaking the research and stakeholders.
- Given the stated diversity and value of marine genetic resources in Trinidad and Tobago, delays in acceding to the Nagoya Protocol are hampering opportunities for capacity building, technology transfer, and financial assistance that could provide support for the implementation of access and benefit-sharing mechanisms.
- The availability of research vessels is critical for conducting MSR, particularly deep-sea scientific research. Lack of such vessels can limit the ability of researchers to collect data and conduct surveys in offshore and deep-sea areas.
- Laboratory facilities are essential for analysing data collected during MSR, but the facilities that are available may be inadequate. Researchers often cannot conduct sophisticated data analyses and must send samples abroad for analysis.
- Developing the skills and knowledge necessary for conducting effective MSR requires long-term training and education. There is a dire need for capacity-building programs to support the development of a skilled workforce in Trinidad and Tobago.

2.7. Integrated approaches to the management of the sectors (including cross-cutting legislation and institutions)

Given the interconnected nature of the ocean and the extent to which resources are shared and obligations are dispensed, it is inevitable that governance and management of ocean resources should be a shared responsibility. This is also in line with UNCLOS, which treats all issues in the ocean space as interrelated. However, it is also recognized that some sectors require specific expertise and discrete governance and management arrangements. Stakeholder feedback indicates that the current governance framework and capacity to manage facets of the coastal zone is proving inadequate, characterized by resource mismanagement, the uncertainty of

responsibilities, conflicting uses, and degradation of the marine environment. This is compounded by the absence of a coordination mechanism and a collaborative process through which stakeholders can seek to cohesively manage the ocean and coastal sphere to minimise conflict due to competing interests and to maintain the flows of ecosystem goods and services in the long term.[19]

Given the outdated nature and in some instances the lack of relevant legislative and policy instruments in Trinidad and Tobago, the first order of business is adopting new legislation and updating or articulating new policies. Efforts are under way to address those legislative gaps, as demonstrated by the Shipping Bill of 2020, the Fisheries Management Bill, the Tobago Marine Parks Bill, and the draft ICZM policy framework document. However, the status of the draft Forestry, Protected Areas and Wildlife Conservation Bill of 2015 is uncertain.

Therefore, if the draft bills are adopted soon, the issues of jurisdictional overlap and enforcement conflicts could be partially addressed. However, a formal mechanism for coordination and cooperation is needed to take ocean governance to another level.

Although the draft National Maritime Policy and Strategy of 2021 calls for the establishment of a single authority for the governance of sea-related aspects, this still will not resolve the issue of coordination and information sharing that is required for a sector that cuts across so many disciplines with overlapping enforcement measures. Therefore, the establishment of an inter-ministerial coordination committee on ocean governance is recommended which would have oversight of all matters relating to ocean governance.

The proposed mechanism would be responsible for three main initiatives:

(1) Facilitating the development of a national vision for ocean and coastal sustainability. This would include mandating public engagement in policy formulation.

(2) Reviewing current and prospective policies and regulations affecting ocean governance and coastal issues and ensuring that synergistic sustainable blue economy opportunities are factored into those policies.

(3) Periodically reviewing the application and implementation of international conventions applicable to Trinidad and Tobago relating to ocean governance.

In addition, an inter-ministerial coordinating committee on ocean governance would facilitate a coordinated response when unforeseen emergencies arise. The committee's role would be a coordinating one as the existing responsible agencies would still maintain their respective roles.

This inter-ministerial committee may comprise representatives of the following institutions:

- Ministry of Foreign and CARICOM Affairs

[19] Refer to the results of the Ocean Governance Study Surveys for Trinidad and Tobago in the appendices to this report: the Priority Sector Survey (Appendix 1), the Capacity Needs and Stakeholder Identification Survey (Appendix 2), and the Legal and Institutional Framework Survey (Appendix 3).

- Ministry of Works and Transport
- Ministry of Planning and Development
- Ministry of Energy and Energy Industry
- Ministry of Agriculture, Land and Fisheries
- Ministry of Tourism, Culture and the Arts
- Tobago House of Assembly
- Environmental Management Authority
- Institute of Marine Affairs
- University of Trinidad and Tobago
- University of the West Indies
- Shipping Association of Trinidad and Tobago
- Yachting Services Association of Trinidad and Tobago

2.7.1. Cross-cutting issues and the blue economy in Trinidad and Tobago

While the blue economy holds great potential for Trinidad and Tobago, several cross-cutting issues have implications for the management of living resources, shipping safety and security, non-living resources, coastal and marine tourism, preservation of the marine environment, and MSR. Some of these issues include climate change, overfishing, pollution and waste management, governance and policy coordination, capacity building, human resource development, and access to finance and investments.

In terms of living resources, sustainable management and the use of fish stocks and other marine resources are critical to the long-term viability of the blue economy. This involves addressing issues such as overfishing, illegal fishing, and the impact of climate change on fish stocks and marine biodiversity. Achieving the full potential of the blue economy also involves recognising and tackling the negative effects of land-based activities that harm living marine resources. Discharges from land-based pollution degrade marine life and the demand for protein from urban populations pushes the world's fish stocks to be exploited beyond sustainable levels.

The shipping sector has been identified and acknowledged as one of the pillars of growth for the blue economy. Studies by the Organisation for Economic Co-operation and Development (2016b) and the World Bank (Patil et al. 2016) confirm that shipping contributes tremendously to the blue economy. The IMO has been leading considerable efforts to reduce GHGs and air emissions from ships and to control the atmospheric pollution of the marine environment by ships. Trinidad and Tobago has been playing a leading role in building domestic and regional capacity to mitigate those impacts. Some of the key initiatives were highlighted above in section 1.6. Maritime security is essential for supporting the blue economy in various ways. Trafficking, illegal fishing, maritime piracy, and biofouling are among the most significant threats to the shipping sector.

In the context of the blue economy, the environmental impact of exploration and exploitation of non-living resources, including environmental degradation and impact on other ocean-related sectors such as fisheries and coastal and marine tourism, must be minimised in order to balance growth and marine ecosystem sustainability and ensure the well-being of those who rely on ocean resources, including coastal communities. Although oil and gas extraction underpin the national economy, provides important raw materials for industrial activities, and provides input to almost every sector of the global economy, they are major contributors to GHGs. Furthermore, conscious of the need to reduce the country's carbon footprint, there is a need to explore emerging opportunities in the renewable energy sector and product diversification away from oil and gas.

Coastal and marine tourism plays a significant role in the economic prosperity of the island and coastal communities, bringing jobs, investment, and income. However, it also creates challenges such as biodiversity loss, pollution, ecosystem degradation, and resource consumption. Tourism is a highly vulnerable sector, principally due to external market fluctuations, extreme weather events, and its dependency on coastal biotic resources, which are particularly at risk from the adverse effects of land-based activities which can undermine the transition to a blue economy. Therefore, the governance of land-based activities is critical to preserving the coastal and marine tourism industry and achieving a sustainable blue economy.

Ecosystem-based management should be a guiding principle of coastal resource governance, as it provides a holistic approach to considering all cumulative pressures on coastal resources. Moreover, area-based management tools such as MPAs, integrated coastal and marine area management, MSP, marine managed areas, and ICZM are useful tools in counteracting the impacts of land-based activities on coastal resources (World Bank and UNDESA 2017, 24–25).

2.7.1.1. Gender and the blue economy

An UNCTAD report of 2021 noted that there was untapped potential for women in the blue economy if improvements occurred in gender equality in the tourism and fisheries sectors alone. Combined with the ongoing initiatives by the IMO to enhance female participation in the maritime industry and an emerging market for cruise ship employment, Trinidad and Tobago is well placed in the implementation of SDG 5, which focusses on gender equality and aims to end all forms of discrimination against all women and girls everywhere. Trinidad and Tobago promotes universal education, and women outnumber men at the University of West Indies. In maritime education, however, the figures show less than 20 per cent enrolment by women. Although UNCTAD has noted that tourism accounts for 30 to 80 per cent of total exports in SIDS and that the participation of women in this sector is as high as 54 per cent, most work in low-skilled, casual, and temporary jobs. Trinidad and Tobago's investments in education may have resulted in a different paradigm. The 2018ILO publication *Women in Business and Management: Gaining Momentum in the Caribbean* has provided insightful data on the rate of female participation in the private sector. This publication proclaimed the Caribbean as a world leader in women's representation at the top executive level; 12 per cent of Caribbean companies reported gender balance at that level, compared to the global average of 8 per cent. Moreover, Trinidad and Tobago supports the target of 30 per cent of women in

political decision-making agreed to by the Commonwealth Women's Ministers' Meeting and it is one of the countries in the Caribbean that continues to meet this target.

In the area of the blue economy, there is also evidence that Trinidad and Tobago has performed well in terms of gender inclusivity. Many women hold positions in executive management in ports and shipping companies and lead MSR at local and regional universities and governmental organizations. There is, therefore, growing recognition of the need for gender inclusivity in marine and coastal science management, as Trinidad and Tobago has a number of advantages that position it well to develop a successful blue economy. There is an urgent need to integrate and streamline gender responsiveness in these sectors more effectively.

Recognising the need for gender inclusiveness in all aspects of social and economic undertakings, the GORTT approved a National Policy on Gender and Development in 2018. The overall goal of this national policy is to ensure full equality between men and women, social justice, and effective and sustainable socio-economic development in Trinidad and Tobago. The objectives of this Policy are to improve the quality of life of women and men and girls and boys at all levels of society, to strengthen the links between gender equality and sustainable development goals in national development, and to promote gender mainstreaming in all Government sectors and within civil society (GoRTT 2018a).

The policy is wide-ranging and places emphasis on some of the key areas, including gender-based violence and human security, transformational leadership and governance, labour and employment, domestic and family life, trade and the macro-economy, unwaged economic activities, poverty alleviation and social protection, climate change and natural resource management, agriculture and food sovereignty, education and human capital development, health and well-being, and special interest groups, including youth, the elderly, and the disabled population (GORTT 2018a).

Notwithstanding the need for a Gender Policy, it is acknowledged that women play significant roles in all of Trinidad and Tobago's economic sectors. In 2012, the FAO estimated that women accounted for 12.5 per cent (1,350) of the 10,750 persons who were directly employed in Trinidad and Tobago's fisheries sector (FAO 2022). An FAO study pointed out that women play critical and direct but often hidden roles in the fishing industry as boat owners, managers, bookkeepers, net and fish-pot builders, and fish processors (Kusakabe and Thongprasert 2018). However, it also noted that in Trinidad and Tobago, post-harvest, fish are predominantly in the hands of men, which is very different from other Caribbean islands, where women are the main players in the post-harvest fisheries sector (FAO 2022). The study also noted that the participation of women in the industry is not well documented.

In Tobago, most of the employees in the Fisheries Division are women. Nonetheless, their work can sometimes be challenging given the fact that they must engage with fishers and personnel in the Trinidad and Tobago Police Service and the TTCG, most of whom are males, to execute enforcement activities.

Notwithstanding the fact that the fisheries sector is characterised as one dominated by males, there are opportunities for further involvement of women given the useful roles they can play along the value chain (e.g., vessel support services) and downstream (e.g., processing whole fish into higher-value products).

Women currently account for less than 2 per cent of global seafarers. However, in Trinidad and Tobago, over 700 female seafarers are registered with the MSD. A 2019 study by UTT found that although 70 per cent of companies consider female seafarers for opportunities at sea, men occupy 96 per cent of these jobs (Parsan, Rambarath-Parasram, and Singh 2019). Several barriers cause women to choose professions other than seafaring. An ILO report suggested that women face significant barriers to entering and remaining in the industry. One of the main barriers is the high prevalence of gender-based violence and harassment on board ships. The ILO report found that women seafarers are often subjected to sexual harassment, sexual assault, and bullying, which can lead to physical and mental health problems and make it difficult for them to work effectively. Research by the International Transport Workers' Federation also highlights the extent of the problem. In a survey of seafarers and fishers, the federation found that 58 per cent of female respondents had experienced sexual harassment or assault, compared to 20 per cent of male respondents. The survey also found that 45 per cent of female respondents felt unsafe working on board and 43 per cent had experienced discrimination.

As stated above, several sectors of the blue economy include female leaders in shore-based maritime and marine science administration. In the administrative units of the Ministry of Works and Transport, women's employment was on par with if not greater than men's (Singh et al. 2019). At the IMA, female scientists have played a leading role in helping the organization achieve national and regional recognition as a leading institution in MSR. These scientists, who have served as both lead scientists and directors of the organization, have carried out and contributed to extensive research in fishing practices and marine biodiversity. They have also authored several publications on the deleterious effects of marine pollution and have identified solutions to issues such as the quality of bathing beach water; unsustainable fishing practices; threats of all types to wetlands (mangroves, seagrasses, coral reefs); and environmental incidents such as fish kills, oil spills, marine mammal stranding, and marine pollution (Barrow 2020).

The draft National Maritime Policy and Strategy 2021 for Trinidad and Tobago includes a directive to advance gender equality in work and working conditions for equal opportunity, including access to leadership roles in the maritime sector. This will include mainstreaming a gender perspective, equal participation of women, and consultation with women in developing strategies, plans, and actions in the maritime industry.

A 2021 gender analysis for Trinidad and Tobago revealed that women account for approximately 20 per cent of the petroleum and gas sector workforce (UNDP 2021). The low representation of women in this sector is also reflected in the composition of leadership and decision-making. Such low-level employment of women in the oil and gas sector starkly contrasts with other public sectors, where women's employment level is much higher. While such low-level employment is not specific to Trinidad and Tobago, some targeted policies include the development and implementation of diversity and inclusion policies that ensure equal opportunities for all regardless of gender; the adoption of recruitment practices that ensure that employers are reaching out to female candidates in their recruitment efforts; and development, training, and leadership programs targeted at women can help them progress in their careers and increase their representation in higher-level positions.

A major component of coastal and marine tourism is the recreational and associated livelihood opportunities that currently are untapped. The draft National Maritime Policy and Strategy

2021 identified several recreational activities in the ecotourism sub-sector (e.g., nature photography, snorkelling, scuba diving, kayaking, turtle and bird watching) with tremendous potential for small business development, employment, and enhanced livelihood opportunities. These trends highlight potential economic opportunities for women. However, these opportunities must be framed by a robust gender-specific policy and related programmes within the sector.

In other developments, there is increasing recognition that sustainable and integrated marine and coastal ecosystem management requires gender-sensitive and gender-responsive planning, implementation, monitoring, and evaluation at the project, policy, and grassroots levels (UNEP/GWA 2022). However, none of the institutions surveyed indicated the existence of a gender policy. Additionally, Trinidad and Tobago's public education system has ensured that women are provided equal access to education and are well represented among research professionals. Female scientists play an equitable role in contributing to the policy-making process by scrutinising existing research results and filling data gaps, encouraging discussion and debate, and expanding viewpoints that have the potential to spark new marine scientific discoveries (Barrow 2021).

2.7.2. Public awareness and education

Public awareness and education are recognised as fundamental tenets of ocean governance. All of the institutions engaged in the management of marine resources undertake various educational awareness programmes to ensure that citizens of Trinidad and Tobago are informed about the importance of the sustainable use of marine resources and are discouraged from engaging in activities that would bring harm to living resources or result in damage to coastal and marine ecosystems. In Trinidad and Tobago, various national agencies and organizations, both governmental and non-governmental, work to raise awareness and promote education about ocean governance. These include the EMA, IMA, UWI, UTT, and the Fisheries Division.

Section 72(d) of the Environmental Management Act (Ch 35:05) calls for the establishment of an environmental fund to finance public awareness and education programmes to enhance the understanding of environmental protection and natural resource management issues in Trinidad and Tobago. However, that fund has not been operational, leaving the Educational Unit dependent on general funds to execute their work programmes. That work programme includes conducting presentations and webinars on request, hosting a booth at various exhibitions, and producing educational tools for a wide variety of audiences.

The IMA undertakes a considerable amount of public awareness programmes. Their flagship project is a weekly radio broadcast called *Beyond the Blue* that highlights various ocean-related issues and provides the audience with information that will allow them to better understand how the ocean plays an integral part in their daily lives and the need to preserve and protect ocean resources. *Beyond the Blue*, which is currently in its fifth year, is financed by corporate entities.

In addition, several other NGOs in both Trinidad and Tobago engage in education awareness programmes, utilising various print and electronic media as well as social media platforms to reach a very wide audience. Among the most notable entities are CANARI, Environment Tobago, the Trinidad and Tobago Field Naturalists' Club, and the Environmental Research Institute Charlotteville. These national agencies and organizations collaborate with regional

and international partners to raise awareness of and promote education about ocean governance in Trinidad and Tobago.

Important priorities for Trinidad and Tobago, and specifically for the IMA, will be to support the United Nations Decade of Ocean Science for Sustainable Development (2021–2030), to support collaborative efforts to reverse the cycle of decline in ocean health, and to gather ocean stakeholders in the various governmental institutions behind a common framework that will ensure that ocean science can be used to support these institutions in their work to create improved conditions for the sustainable development of oceans.

3. Priority Areas: Maritime Sector and Coastal and Marine Tourism

The GORTT has selected two priority areas for the purposes of this study: the maritime sector and coastal and marine tourism. Given the vastness and complexity of the maritime sector, governance over offshore installations was selected as the focus of the first priority area, while cruise shipping is given particular attention under the umbrella of coastal and marine tourism, the second priority area. The legal and institutional frameworks for these sectors are outlined below as well as areas for possible action to improve ocean governance.

An Ocean Governance Study Priorities Sector Survey was undertaken to gather key perspectives on the adequacy of the relevant legal and institutional frameworks and on the challenges and gaps in their implementation (see Appendix I). The survey was administered to key stakeholders using Qualtrics online data analytics software.[20] Observations on how ocean governance might be improved in relation to shipping, offshore platforms and installations, and coastal and marine tourism have also been gathered from a wide array of stakeholders. Sixty-nine responses were received (thirty-three completed) that include extensive feedback on and recommendations about these ocean related sectors. The survey yielded insights into the perceptions of the current state of ocean governance, and many participants offered specific suggestions for improved governance and collaborations amongst stakeholders in government, industry, and civil society.

3.1. Priority sector 1: Maritime sector

3.1.1. Sector profile and relevance to the State from ecological, economic, and social perspectives

Maritime shipping is of significant importance to Trinidad and Tobago as it underpins the country's international trade, supports its energy sector, and provides extensive employment opportunities. Shipping plays a critical role in facilitating the transportation of Trinidad and Tobago's energy sector, which since 2018 has accounted for, on average, 30 per cent of the country's GDP (GORTT 2022). Given the detailed overview of shipping that was provided in Section 2.2, this section provides a summary overview of the legal and institutional framework for maritime governance as a precursor to discussion of the sub-sector that was selected as priority area.

The GORTT has been moving forward in developing the maritime sector through various interventions. As indicated in section 2.2.3, one such initiative was the development of the Draft National Maritime Policy and Strategy of July 2021, through which the GORTT has identified the maritime sector, which encompasses marine transportation and shipping, safety, security, tourism, the marine environment, and related administration and legislation, as one of the key national economic areas. The maritime sector in Trinidad and Tobago is vast, and the trade and energy sectors significantly drive its operations. In light of the area of focus within the maritime sector as identified by the GORTT, this section provides the following:

[20] https://www.qualtrics.com/.

- An examination of the legal and institutional framework for offshore installations from the perspectives of maritime safety, security, and the protection and preservation of the marine environment
- An examination of the legal and institutional framework for the use and operations of offshore installations, particularly as they relate to transshipment and dry-docking activities.

The maritime shipping sector is currently governed by the Shipping Act of 1987 as amended, along with archaic legislation such as the Droghers Act of 1914 and the Motor Launches Act of 1926. The Shipping Act of 1987 provides the legislative framework for the regulation of the shipping sector and enables the MSD of the Ministry of Works and Transportation to implement its provisions. The MSD also has responsibility for the implementation of other primary pieces of legislation that govern maritime shipping. The current organizational structure of the MSD is shown in figures 3.1 and 3.2. The legal and institutional framework for maritime governance in Trinidad and Tobago is currently under revision and the draft legislation will provide for the establishment of a Maritime Authority for Trinidad and Tobago. The key pieces of legislation that regulate the maritime sector in Trinidad and Tobago are presented in table 3.1.

Table 3.1. Key pieces of legislation that regulate the maritime sector in Trinidad and Tobago

Area of Focus	Legislation
Maritime zones	Archipelagic Waters and Exclusive Economic Zone Act, 1986 (Chap. 51:06) Territorial Seas Act, 1969 (Chap. 1:51) Continental Shelf Act, 1969 (Chap. 1:52) Defence Act, 1962, as amended (Chap. 14:01)
Shipping	Shipping Act, 1987, as amended (Chap. 50:10) Shipping (Ship and Port Facility Security) Regulations Droghers Act, 1914 (Chap. 50:07) Motor Launches Act 1926 (Chap. 50:08) Pilotage Act, 1939 (Chap. 51:02) Port Authority Act, 1969 (Chap. 51:01) Protection of Wrecks Act, 1994 (Chap. 37:04) Marking of Ships Act, 1945 (Chap. 50:09) Carriage of Goods by Sea Act, 1926 (Chap. 50:02)
Port operations	Port Authority Act, 1961 (Chap. 51:01)
Offshore installations	Minerals Act, 2000 (Chap. 61:03) Petroleum Act, 1969 (Chap. 62:01) State Lands Act, 1918, as amended (Chap. 57:01)
Protection and preservation of the marine environment	Environmental Management Authority Act, 2000 (Chap. 35:05) Oil Pollution in Territorial Waters Act, 1951, as amended (Chap 37:03) Institute of Marine Affairs Act, 1976 (Chap. 37:01)

Area of Focus	Legislation
	Marine Areas Preservation and Enhancement Act, 1970 (Chap 37:02)

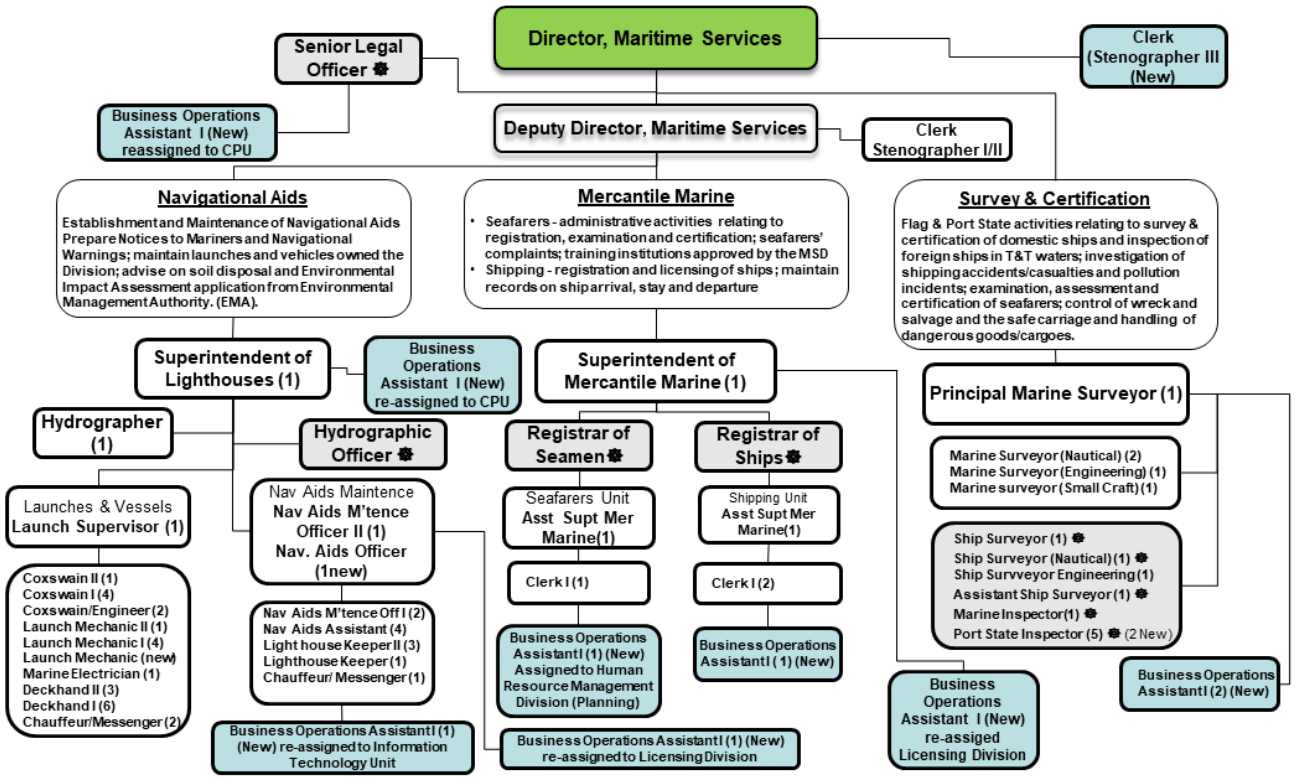


Figure 3.1. Organisational structure and functional chart for the Maritime Services Division (technical services)

***Source*: MSD (2022).**

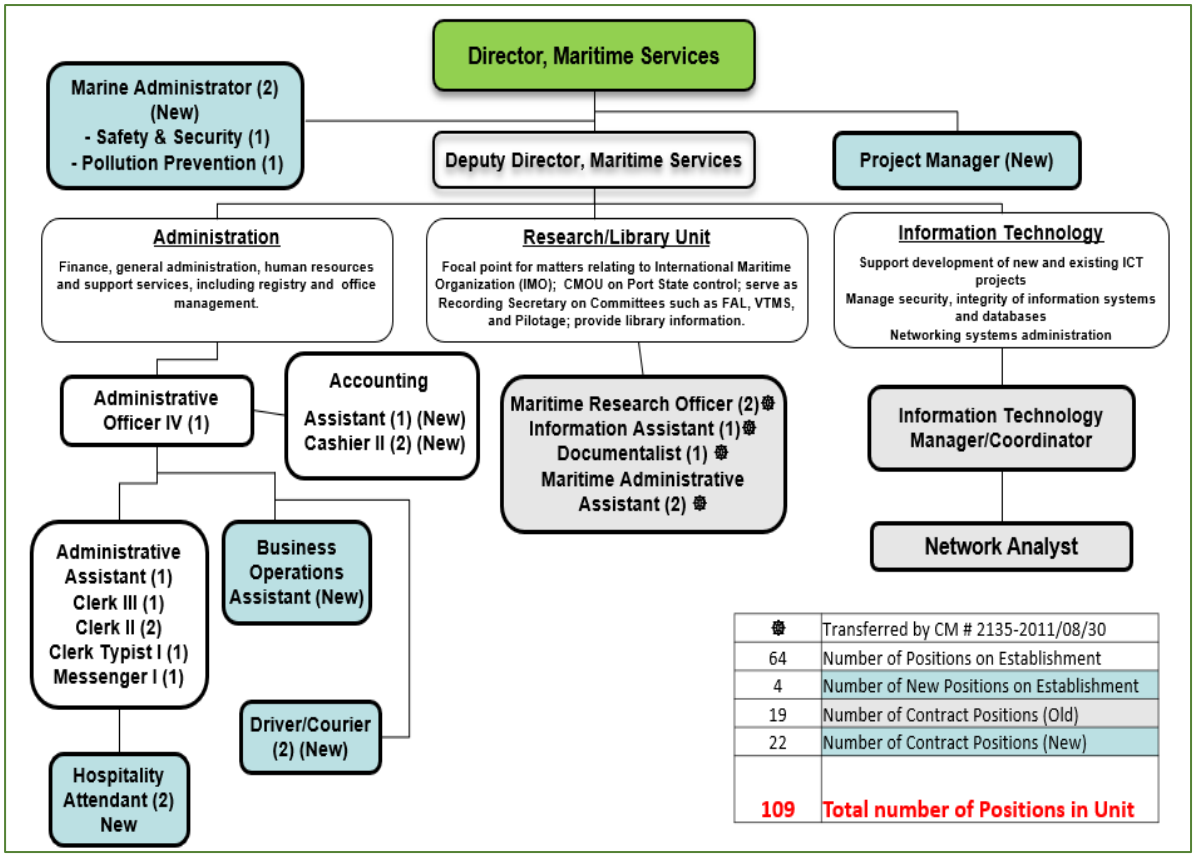


Figure 3.2. Organizational structure and functional chart for the Maritime Services Division (administrative and other services)

***Source*: MSD (2022).**

Trinidad and Tobago currently operates a closed shipping registry that has 768 vessels, of which 404 are over 24 metres long.

Table 3.2. Vessel registrations under the Shipping Act as of March 2023

Type of vessel	Number of vessels
Shipping Act: General registration of vessels over 24 metres (including recreational vessels)	404
Shipping Act: Vessels under 24M Completed registration of vessels under 24 metres (fishing vessels, trawlers, pirogues, etc.)	364
Total	768

***Source*: Personal communication, MSD, 2023.**

The core functions of the MSD, Trinidad and Tobago's maritime administration, are depicted in figure 3.3. It should be noted that the Ministry of Labour is the focal point for ILO matters, including the Maritime Labour Convention of 2006, and liaises with the MSD with regard to Trinidad and Tobago's various ILO maritime convention obligations.

Figure 3.3. Core functions of a maritime administration

***Source*: Adapted from Vivian et. al. (2021).**

The responses to the priorities sector survey on the impact of shipping on the marine environment of Trinidad and Tobago's maritime zones indicated that stakeholders from government, industries, academia, and civil society are of the view that shipping poses considerable challenges for the protection and preservation of the marine environment due to possible discharges and waste disposals from ships. They also expressed significant concerns in relation to ballast water, shipping emissions, habitat degradation, and marine litter.

Looking at the results of the survey on perspectives on the level of pollution in the maritime zones, most concerns were expressed in relation to the impacts of shipping on internal and territorial waters. Habitat degradation, oil pollution, shipping air emissions, and noise pollution were the major areas of concern (see figure 3.4). The impacts of shipping on the marine environment will be further discussed in section 3.2 in the context of the other priority area of coastal and marine tourism with a focus on cruise shipping. However, for greater focus in this study, offshore installations were identified as the sub-priority area within the maritime sector.

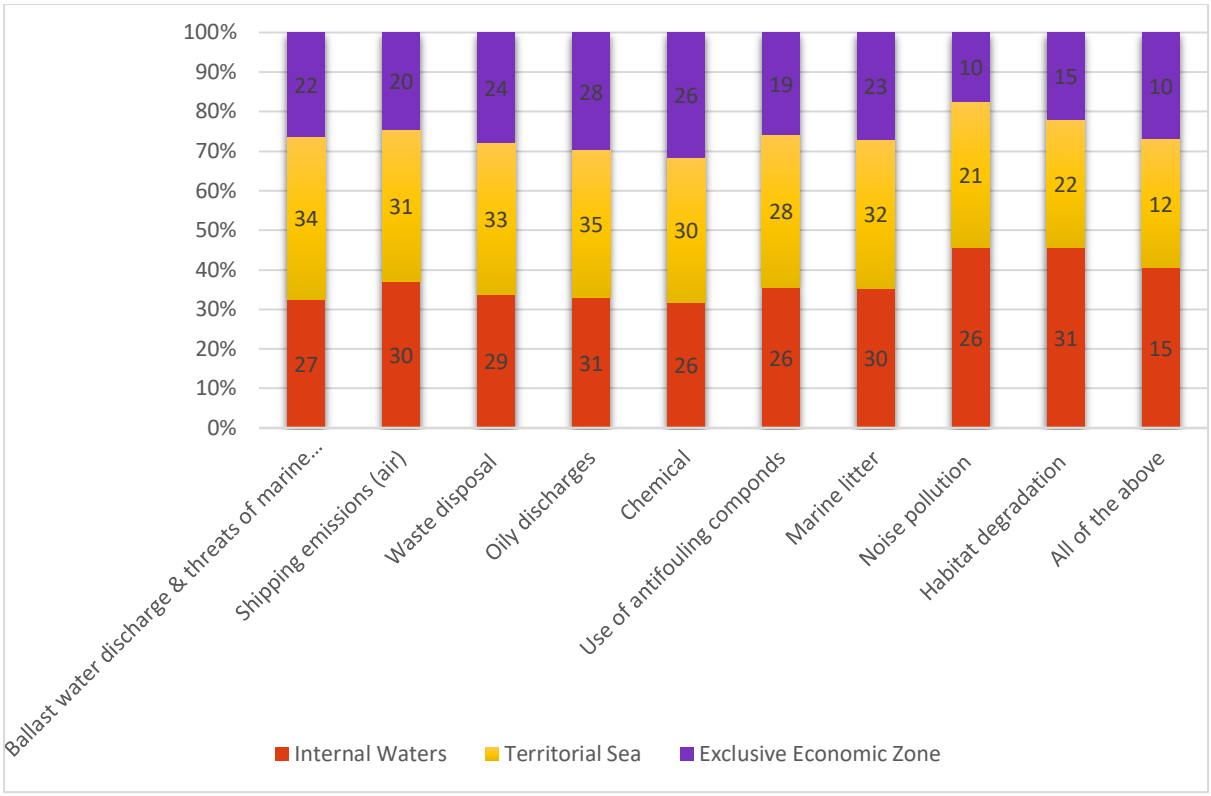


Figure 3.4. Survey respondents' perspectives regarding impacts of shipping on maritime zones of Trinidad and Tobago

Addressing the challenges identified by the survey will require full and effective implementation of relevant provisions of UNCLOS and related instruments on the protection and preservation of the marine environment, including those developed under the IMO such as MARPOL 73/78. Their implementation has been limited because Trinidad and Tobago's Shipping (Marine Pollution) Bill has been in draft form for over 30 years. The bill would enable the maritime administration to enforce international rules and standards more effectively through port State control and the exercise of flag State jurisdiction. In the absence of the implementation of UNCLOS and MARPOL 73/78 through domestic law, actions by the maritime administration to enforce applicable rules and standards through port and flag State jurisdiction remain vulnerable to challenges by shipping operators.

The Caribbean is operating under the Memorandum of Understanding on Port State Control in the Caribbean Region (CMoU), which was signed in Christ Church, Barbados, on February 9, 1996, by nine States, namely, Antigua and Barbuda, Barbados, Dominica, Grenada, Guyana, Jamaica, the Netherlands Antilles, Suriname, and Trinidad and Tobago. The membership has since grown to 20 and includes overseas territories of the United Kingdom and the Netherlands. The main purpose of the CMoU is to prevent substandard shipping in the Caribbean region. The mandate of this instrument is operationalised through inspections by various maritime administrations on foreign flagged vessels that call at national ports.

One of the impediments to the effective implementation of the CMoU is the current state of implementation of international maritime conventions into domestic law. Port state enforcement and detentions cannot be legitimately undertaken by port states in the absence of

enabling local legislation. This presents one of the most significant constraints to the eradication of substandard shipping in the region.

The IMO has made several attempts in the past to support the implementation of international maritime conventions in the Caribbean region, including by offering workshops for legal drafters and providing model legislation. The most recent initiative that is currently under way is Caribbean Sustainable Maritime Transport (Carib SMART), which is being implemented through the IMO technical cooperation unit. Carib SMART has completed its preparatory phase, which was aimed at supporting the SIDS of the Caribbean region in efforts to build back better from the impact of the COVID-19 pandemic in the maritime sector. It notes that SIDS economies in the Caribbean are heavily dependent on the maritime sector, and the long-term programme will aim to deliver safe, secure, efficient and reliable transport of goods across the region while minimizing pollution, maximizing energy efficiency, and ensuring resource conservation (IMO 2022). One of the primary aims of the Carib SMART project is to assist in the development of the legal, policy, institutional, and regulatory framework of the targeted SIDS to enhance the implementation of the maritime conventions.

The key IMO conventions and related protocols, including those that Trinidad and Tobago is a party to, were illustrated above in table 1.5.

While the MSD is primarily responsible for the implementation of the Shipping Act of 1987 and therefore is the regulator for shipping, other governmental actors play a significant role in the management of certain activities within the maritime sector such as port operations, transshipment operations, and dry-docking services.

The Port Authority Act of 1961 created the Port Authority of Trinidad and Tobago, which is the statutory authority responsible for the management of the ports of Port of Spain and the Port of Scarborough. The Ministry of Trade and Industry has also been instrumental in developing various sub-sectors of the maritime sector, including transshipment operations in the Gulf of Paria for coal and iron ore. While these operations were once thriving, they are dwindling due to cargo supply challenges.

The current state of the legal and institutional framework for the regulation of shipping and all matters related thereto are summarised in Figure 3.5.

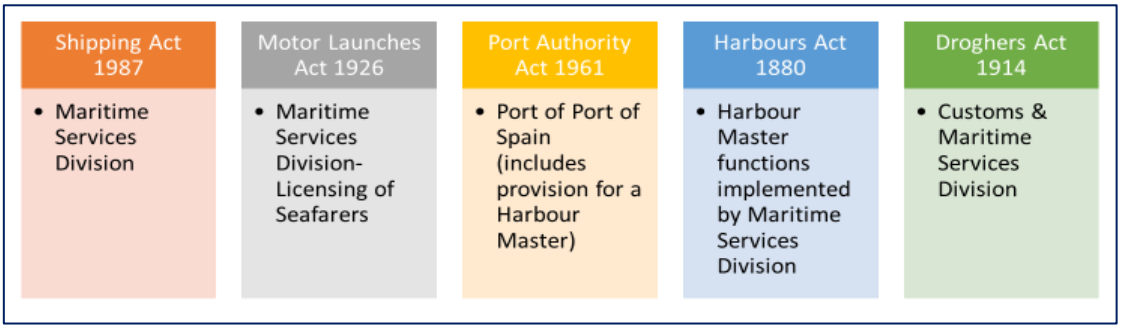


Figure 3.5. Trinidad and Tobago's legal and institutional framework for maritime administration

***Source*: Adapted from Vivian et. al. (2021).**

The Shipping Bill of 2020 proposes the creation of a Maritime Authority for Trinidad and Tobago that will oversee the implementation of all international maritime rules and standards

and the exercise of the rights, obligations, and responsibilities of Trinidad and Tobago under international law as a flag, port, and coastal State and provide oversight of offshore installations. Some of the key provisions of this bill relating to offshore installations include:

- Registration of offshore installations
- Categorisation of offshore installations
- Telecommunications requirements
- Registration of ship builders and offshore installation builders
- Registration of offshore installation managers
- Creation of a 500-nautical-mile exclusion zone

Given the maturity and significance of Trinidad and Tobago's energy sector for the national economy, it is imperative that the proposed maritime administration be legally and institutionally designed to ensure that no jurisdictional overlap will be created that would become an obstacle to the development of the energy sector.

The core organizational chart of the Maritime Authority of Trinidad and Tobago, based on the proposal in the Shipping Bill 2020, is illustrated in Figure 3.6.

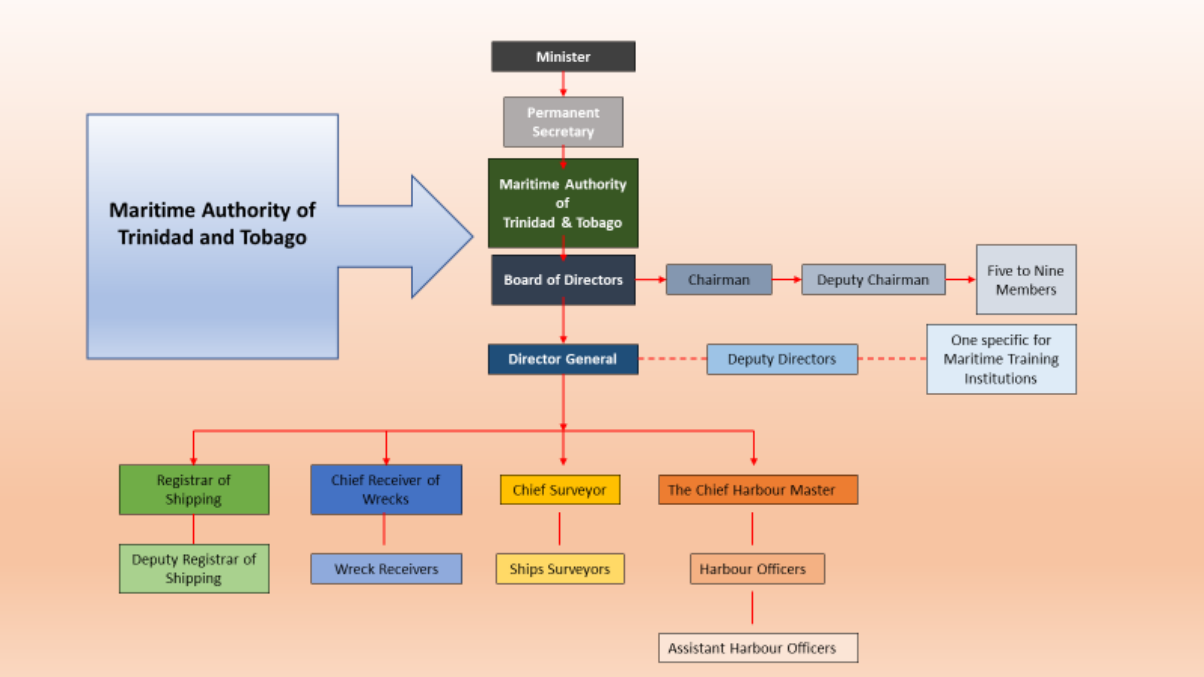


Figure 3.6. Proposed organizational chart of the Maritime Authority of Trinidad and Tobago

***Source*: Vivian et al. 2021.**

3.1.1.1. Implementation of the governance framework for offshore installations

Trinidad and Tobago has one of the most developed economies in the Caribbean region with an established energy sector benefit from abundant offshore oil and gas resources within its EEZ. The country also has over 100 years of experience in oil and gas exploration and exploitation, which are often undertaken though offshore installations.[21] These installations are regulated primarily by the MEEI under a legal and institutional regime established by the Petroleum Act of 1969. While this legislation may be perceived as dated for governance of the management of non-living resources, the implementation of the certificate of environmental clearance rules have introduced some monitoring and sustainability paradigms for activities in the sector.

Within the EEZ, the MEEI has leased areas to upstream operators to facilitate the country's oil and gas exploration and exploitation. The earliest oil and gas installations were established in the marine areas of Trinidad and Tobago off its southwestern coast. The delimitation of the maritime boundary between Great Britain and Venezuela under the 1942 Treaty relating to the Submarine Areas of the Gulf of Paria facilitated an emerging and thriving oil industry at the time. This treaty has remained the instrument that allows for peaceful development and extraction of offshore oil and gas reserves.

Trinidad and Tobago began production in the Soldado oilfield in 1955. Its first offshore platform was located 1.2 miles from Brighton off the west coast of Trinidad. With the success of these operations, interest expanded to other marine areas off the east and north coasts of Trinidad. In 1961, the first well was drilled off the east coast, and by the early 1970s commercial production of oil had begun off the east coast of Trinidad from AMOCO's Teak Platform (MEEI 2022). Also, natural gas was discovered in marine areas off the north coast in the early 1970s. With offshore operations driven by multinational companies, international best practices in safety and security related to offshore installations are often transposed into domestic operations with a view towards achieving consistency in operational standards.

With the implementation of its Petroleum Act of 1969, Trinidad and Tobago created the regulatory structure for the management of oil and gas resources in its EEZ. The Petroleum Act of 1969 created concession areas that were marketed for the exploration and exploitation of oil and gas. The upstream map is illustrated in Figure 3.7.

[21] "Offshore installation" means any installation that is maintained or intended to be established for underwater exploitation or exploration of non-living marine resources.

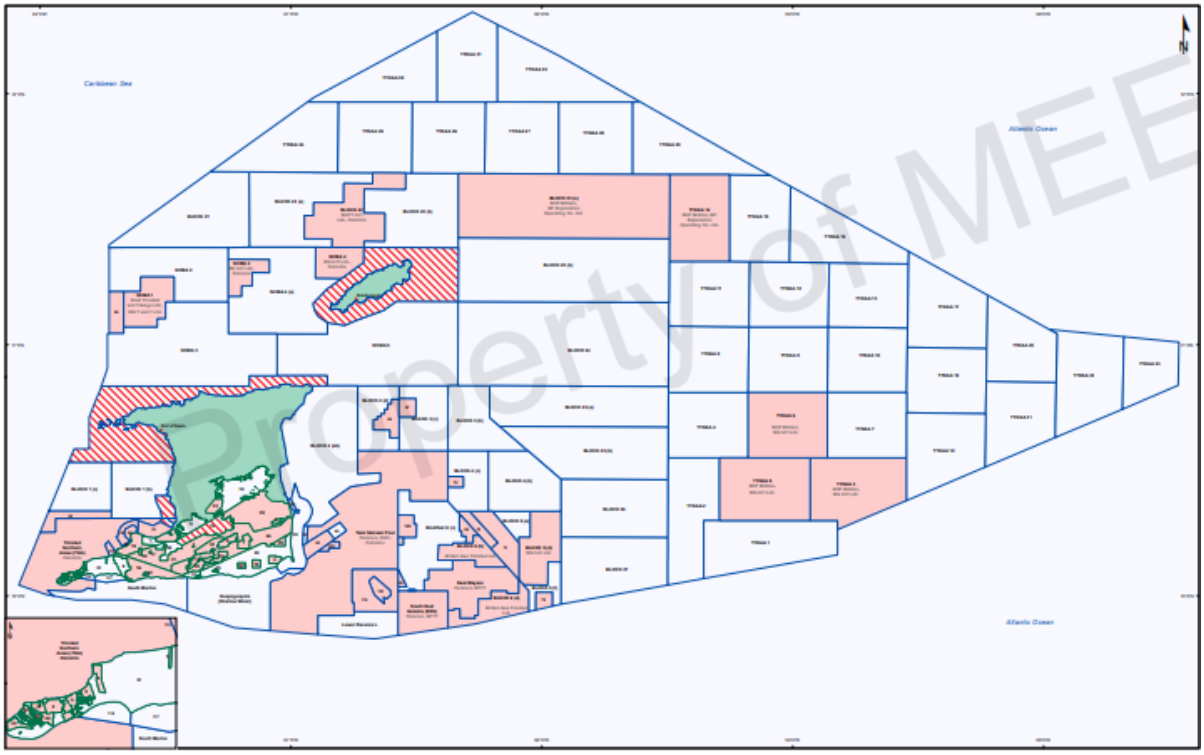


Figure 3.7. Trinidad and Tobago's upstream map

***Source*: MEEI (2021).**

While the Petroleum Act is the primary governing instrument for offshore installation in Trinidad and Tobago, a myriad of international agreements that are relevant to the preservation of the marine environment and complement the provisions of UNCLOS are implemented through the environmental clearance processes administered by the EMA. The governance framework for offshore installations is illustrated in Figure 3.8.

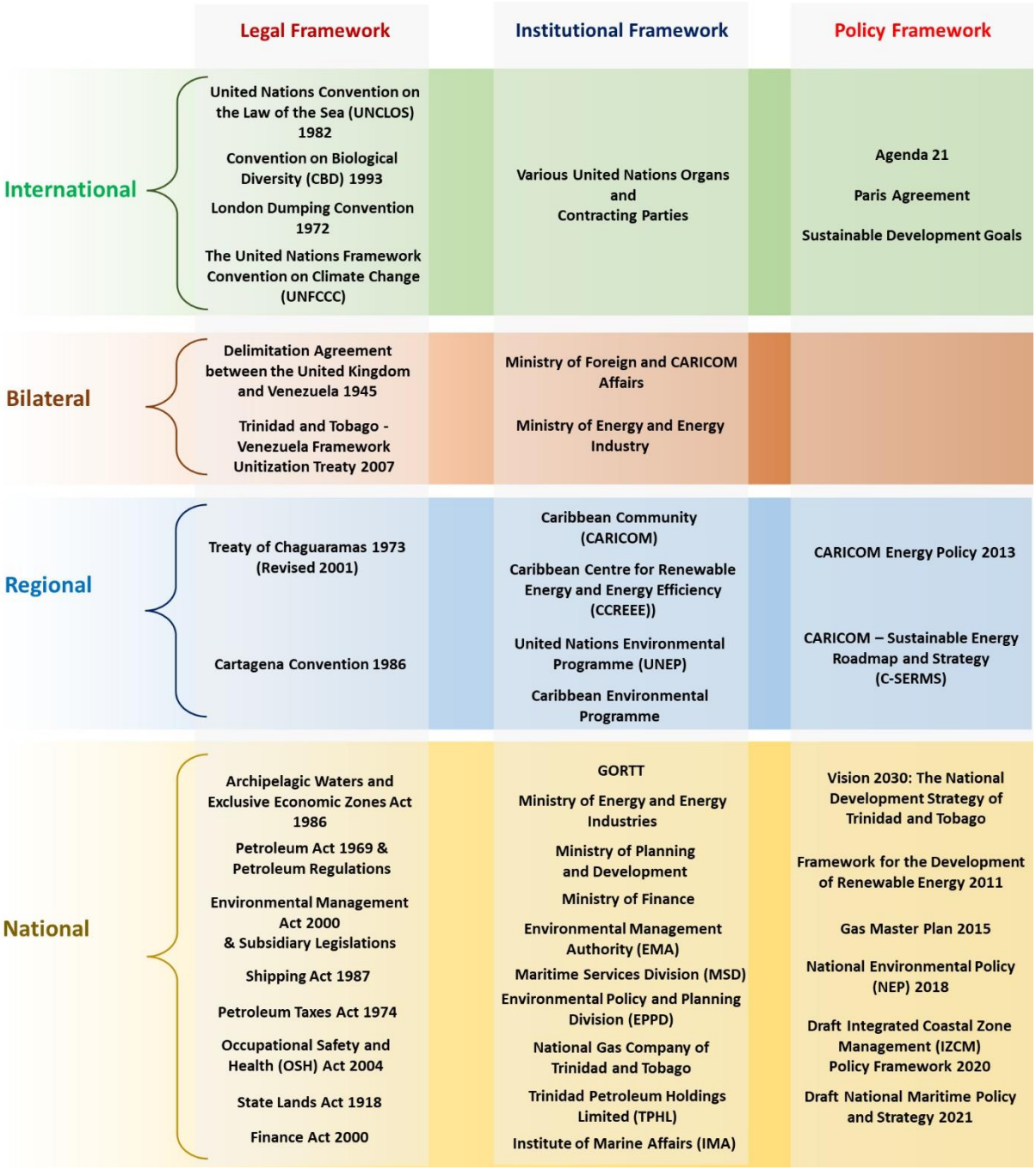


Figure 3.8. Governance framework for offshore installations

***Source*: Adapted from Razack, Rambarath-Parasram, and Nanan (2020).**

The Petroleum Act of 1969 provides the framework for the issuance of exploration and production (E&P) licences by the MEEI. These licenses are subject to production sharing contracts (PSCs) and environmental oversight pursuant to the Petroleum Act of 1969 and the Environmental Management Act of 2000.

The provision for marine environmental protection and preservation is established under Part XII, Arts. 204–206 of UNCLOS, which set out the general rights and obligations of States. Elements of these rights and obligations can be seen in, among others, the Environmental Management Act of 2000 and the subsidiary legislation, which include:

- Certificate of Environmental Clearance Rules
- Noise Pollution Control Rules
- Environmentally Sensitive Species and Areas Rules
- Water Pollution Rules
- Air Pollution Rules

The EMA and the Environmental Commission were established under the Environmental Management Act of 2000. The EMA is the governmental body responsible for managing, regulating, and coordinating matters that relate to the environment, including the marine environment. The Environmental Commission adjudicates applications, appeals, and complaints under the Environmental Management Act of 2000 and the subsidiary legislation.

A key regulatory oversight of the EMA is the authority's powers, under the Environmental Management Act and CEC rules, to grant a CEC for small to large-scale projects. The Certificate of Environmental Clearance (Designated Activities) Order of 2001 defines the activities that require a CEC. Establishing, modifying, expanding, and decommissioning or abandoning a facility for the manufacture of petroleum products are listed as "designated activities" under the Order, which means that, among other things, they require a CEC issued by the EMA before the project can commence.

In assessing an application for a CEC, the EMA will take into consideration foreseeable impacts. If these foreseeable impacts pose a significant potential impact to the environment and human health, the applicant may be required to conduct an EIA. Where the activity triggers an EIA, the applicant shall conduct the EIA and acquire the subsequent approval by the EMA to obtain the CEC. The EIA, where appropriate, shall consider all the environmental impacts of the project, methods for investigating the extent of these impacts, and measures to mitigate negative impacts as much as possible. The process of conducting the EIA also provides an avenue for stakeholder consultation, which is captured in the EIA report.

In addition to the MEEI and the EMA, several other agencies are involved in legislation, policies, and initiatives that impact offshore installations. These are outlined in tables 3.3, 3.4, and 3.5.

Table 3.3. National legislation related to offshore installations

Key National Legislation	
Legislation	Summary Description
Archipelagic Waters and Exclusive Economic Zone Act, 1986	The Act establishes Trinidad and Tobago's sovereign rights over the exploration and exploitation, conservation, and management of the living and non-living natural resources of waters superjacent to the seabed and of the seabed and its subsoil and the production of energy from the water, currents, and winds. The Act also establishes Trinidad and Tobago's jurisdiction over the establishment and use of artificial islands, installations, and structures, MSR, and the protection and preservation of the marine environment.
Petroleum Act, 1969, and the Petroleum Regulations	The Act and the Regulations govern both upstream and downstream activities and operations, including the granting of E&P licenses and PSCs, for petroleum operations, as well as the fines associated with the breach of the Act. As per the Act, no entity is allowed to engage in any form of petroleum activity without a license granted by the MEEI. The Act also provides for the power of the Minister of the MEEI, following consultation with the Minister of Finance, to fix the price or the basis for determining the price at which petroleum products and

Key National Legislation	
	compressed natural gas can be sold. The Regulations expand the type of licenses to include refining and liquefication of natural gas, pipelines, transportation, marketing, bunkering, and petrochemical and compressed natural gas. In addition, the regulations also stipulate the timeframe for exploration licenses as well as obligations to avoid the pollution of the marine environment and adopt appropriate measures for safety, health, welfare, and pollution prevention.
Petroleum Taxes Act, 1974	Applicable to all companies engaged in petroleum operations, this Act addresses taxation for activities conducted in the oil and gas industry, such as exploration, production, refining, and marketing. The Board of Inland and Revenue Division under the Ministry of Finance is mandated to administer the Act, including to collect and recover taxes.
Environmental Management Act, 2000, and related Subsidiary Legislation	The Environmental Management Act and subsidiary legislation relating to this Act address noise pollution, water pollution, air pollution, and environmentally sensitive species and areas and contain rules about the Environmental Commission and the CEC process. This is the primary law regulating environmental management in Trinidad and Tobago and provides for the protection, conservation, and management of Trinidad and Tobago's environment by balancing economic growth with environmentally sound practices for the benefit of quality life for present and future generations.
Shipping Act, 1987	Under the Shipping Act, inspection, survey, and investigation of floating offshore installations by way of trained flag State inspectors is required in order to ensure compliance with the provisions of the IMO Mobile Offshore Drilling Unit Code, made under the International Convention for Safety of Life at Sea (SOLAS 74/78). This Code provides for the construction and certification of mobile offshore drilling units. It recommends design criteria, construction standards, and other safety measures to minimize the risk to such units, to personnel on board, and the environment. In addition to SOLAS, flag State inspections on offshore installation seek to ensure compliance with the following IMO instruments: --The International Convention for the Prevention of Marine Pollution from Ships (MARPOL 73/78) --The International Safety Management (ISM) Code --The International Code for the Security of Ships and of Port Facilities.
Occupational Safety and Health (OSH) Act, 2004	The OSH Act imposes duties and obligations on operators of offshore installations and their supporting facilities regarding the safety, health, and welfare of persons engaged under their employment. It also establishes protocols for chemical hazards and accidents, emergency planning, and the protection of public health from the dangers of the company's operations. The regulatory oversight falls under the Occupational Safety and Health Authority of the Ministry of Labour and Small Enterprise Development.
State Lands Act, 1918	The Act provides the Commissioner of State Lands within the Ministry of Agriculture, Land and Fisheries the authority to grant licenses for the purpose of building on or altering the seabed within territorial waters.

Table 3.4. National policies related to offshore installations

Key National Policies	
Policy	Description
Gas Master Plan, 2015	A road map developed in response to declining natural gas supply and reserves, the Gas Master Plan aims to ensure that the domestic gas sector (supply of gas to the local gas market, which may include the power sector, refineries, the iron and steel industry, and other small users) adopts technological change and an effective institutional and regulatory framework in order to maximize the benefits and long-term viability of the sector. Key recommendations of the plan include engagement in cross-border gas reserves developments with the Government of Venezuela and the creation of incentives for operators of offshore installations in order to capitalize on Trinidad and Tobago's deepwater potential.
National Environmental Policy, 2018	Replacing the 2006 predecessor, the 2018 NEP was born out of the need to provide a more flexible and adaptive environmental policy framework in order to proactively address environmental concerns and threats and align national efforts with regional and international progress. The primary responsibility for monitoring the implementation and effectiveness resides with the Environmental Management Authority.
Framework for the Development of Renewable Energy, 2011	The framework promotes alternative energy technologies and the transition to renewable alternatives for Trinidad and Tobago. Although the cabinet approved the policy framework in late 2010, the draft policy green paper is currently still being finalized. The renewable energy committee was created by the MEEI in 2008 for the primary purpose of developing the framework.

Table 3.5. National institutions related to offshore installations

Key Institutions	
Name	Description
The Committee of Energy Affairs	Established in Parliament, the Committee on Energy Affairs shall have the duty of considering, from time to time, and reporting whenever necessary, on all matters related to the expenditure, administration and policy in relation to energy affairs.
Ministry of Energy and Energy Industries	The MEEI regulates and manages oil and gas activities, including granting E&P licenses and PSCs, managing upstream activities, domestic marketing, policy formation and implementation, collaboration with other ministries, and the long-term planning and development of the oil and gas industry.
Environmental Management Authority	The EMA, established under the Environmental Management Act, is mandated to oversee the development and implementation of environmental standards under the Environmental Management Act as well as to educate the public on environmental and conservation issues. In the oil and gas industry, the EMA is responsible for the granting of CECs, which may require an EIA, as well as monitoring and enforcement against violations under the EM Act and the subsidiary legislation.
Ministry of Finance	In addition to being on the Committee of Energy Affairs, the Ministry of Finance oversees the regulation of the various taxes from the industry and exercises direct ministerial oversight over the Trinidad Petroleum Holdings Limited.
Trinidad Petroleum Holdings Limited (TPHL)	A wholly State-owned enterprise, TPHL has the responsibility of managing Trinidad and Tobago's oil-related assets, including oversight of its four subsidiaries: Heritage Petroleum Company Limited, Paria Fuel Trading

Key Institutions	
	Company Limited, Guaracara Refining Company Limited, and the Petroleum Company of Trinidad and Tobago Limited.
The National Gas Company of Trinidad and Tobago Limited (NGC)	A wholly State-owned energy company, NGC's responsibilities include that of the sole purchaser, transporter, and seller of natural gas in the sector. In addition, the company owns, operates, and maintains the offshore distribution network as well as other entities such as upstream gas and liquified natural gas production, infrastructure, and services through its subsidiaries: the National Energy Corporation of Trinidad and Tobago, Phoenix Park Gas Processors Limited, Trinidad and Tobago NGL Limited, and La Brea Industrial Development Company Limited.
The Energy Chamber	The Chamber is the representative organization of the oil, gas, petrochemical, and heavy industry sectors. It was established to represent the interest of companies within the petroleum industry.
Maritime Services Division	The MSD, as part of its administrative functions under the Shipping Act, currently conducts the inspection, survey and investigation of floating offshore installations by way of trained flag State inspectors.
Commissioner of State Lands	The Office of the Commissioner of State Lands, under the State Lands Act of 1918, has the responsibility for the overall management, distribution, and allocation of all State Lands, which includes all shoreline below the high-water mark and the seabed within the waters of Trinidad and Tobago.
Environmental Commission	The Environmental Commission is a superior court of record and adjudicates applications, appeals, and complaints under the Environmental Management Act and the subsidiary legislation. There is also provision for the jurisdiction of the Commission to be extended to other matters by any written law. All applicants for a CEC have a right of appeal to the Environmental Commission to determinations of the EMA.
Ministry of Planning and Development	Under the Ministry of Planning and Development, the EPPD is mandated to ensure that developmental activities are sustainable and consider social, economic, and environmental aspects to improve the natural environment.
The Green Fund	The Green Fund was established under the Finance Act of 2000 and is overseen by the Ministry of Planning and Development. It is deemed the National Environmental Fund of Trinidad and Tobago and is aimed at supporting activities and projects which focus on remediation, reforestation, environmental education, and public awareness of environmental issues and conservation of the environment.

3.1.1.2. Institutional framework for offshore installations

Under the Petroleum Act and the Petroleum Regulations, the MEEI is responsible for managing the granting of E&P licenses and PSCs and for long-term strategic planning, development, and policy initiatives geared towards leveraging the petroleum industry (MEEI 2020).

To date, the environmental regulatory oversight for the oil and gas upstream activities is broadly covered by the Environmental Management Act of 2000 and is exercised by the EMA. The National Environmental Policy addresses environmental sustainability and sustainable development and promises prospects for increased energy efficiency and power generation from renewable sources. In addition, the NEP acknowledges that oil and gas extraction can negatively impact society and the environment and need to be undertaken in a manner that

minimize their impacts on human health, livelihoods, cultural assets, and the environment (GORTT 2018).

The CEC required under the Environmental Management Act and the E&P licenses and PSCs required under the Petroleum Act are the driving mechanisms that impose legally binding obligations to maintain regulatory standards on companies (Khan, Ramlogan, and Ramnath 2004). According to the Trinidad and Tobago Extractive Industries Transparency Initiative, since the CEC rules entered into force in 2001, a total of 276 CECs have been issued to oil and gas companies (TTEITI 2021). The revenues generated from the E&P licenses and PSCs granted by the MEEI are the economic driver within the sector. However, as identified in the Gas Master Plan, the natural gas component of the sector remains significantly unregulated and is managed primarily under these commercial arrangements (Supersad 2017).

The ownership of all oil and natural gas is vested in the State as per the Petroleum Act, whereby any private or public entity interested in engaging in E&P activities within the offshore oil and gas sector is subject to the granting of a license by the MEEI. Prior to 30 January 1902, grants of real estate by the State included all sub-surface rights not expressively reserved by the State, which resulted in private persons having vested petroleum rights (Mouttet, Marsang, and Jaggernauth 2020). After 30 January 1902, the GORTT reserved all sub-surface rights on State lands, private lands, and all marine areas. As a result, companies wishing to pursue onshore/offshore oil and gas operations required approval from the MEEI and, where applicable, consent from the private owner with the vested petroleum rights. This resulted in a regime in which three types of licenses are granted by the MEEI under the Petroleum Act. These are as follows:

- An Exploration License, which grants the licensee non-exclusive rights in respect of the licensed area to carry out the operations provided for by the licence.
- An Exploration and Production License (Private Petroleum Rights), which grants the licensee the exclusive right in respect of the licensed area to search for, drill for, and get petroleum therein and to dispose of petroleum so obtained in accordance with the terms of the licence. However, in addition to the license granted by the MEEI, companies are required to obtain consent from the owner of the private petroleum rights and may enter arrangements, such as leases, with the private entity that holds the vested petroleum rights for the geographical area under the terms of the license.
- An Exploration and Production (Public Petroleum Rights) License, which grants the licensee the exclusive right in respect of the licensed area to search for, drill for, and get petroleum therein and to dispose of petroleum so obtained in accordance with the terms of the licence but does not confer ownership of any petroleum in strata or confer any other rights in land within the licensed area. The E&P activities can be carried out under the Public E&P License or through PSCs.

In its basic form, the PSC is a commercial agreement between the GORTT and companies interested in exploration, production, and disposition of oil or gas within a certain geographical area specified within the contract. Public E&P licenses and PSCs are usually granted through a competitive bidding process, which is the standard procedure for the offshore sector. In some instances, the MEEI may award a PSC subsequent to the bidding round upon submission of revised proposals. Both E&P licenses and PCSs include provisions, inter alia, related to exploration terms, duration, minimum exploration work programme, financial responsibilities, pollution and abandonment remediation escrow accounts, training requirements and scholarship opportunities for nationals, and required investments in research and development. PSCs differ in their duration, whereby the initial terms of the contract are divided into shorter phases, with each new phase being dependent on the success of the minimum exploration work programme of the previous phase. Revenue from the PSCs also differs, and it is generated from the purchase of oil or gas exploration and/or production rights by the contractor and distributed as per the terms of the PSC.

Figure 3.9 illustrates the various processes involved in the granting of oil and gas licenses and PSCs, which are further elaborated upon following the illustration.

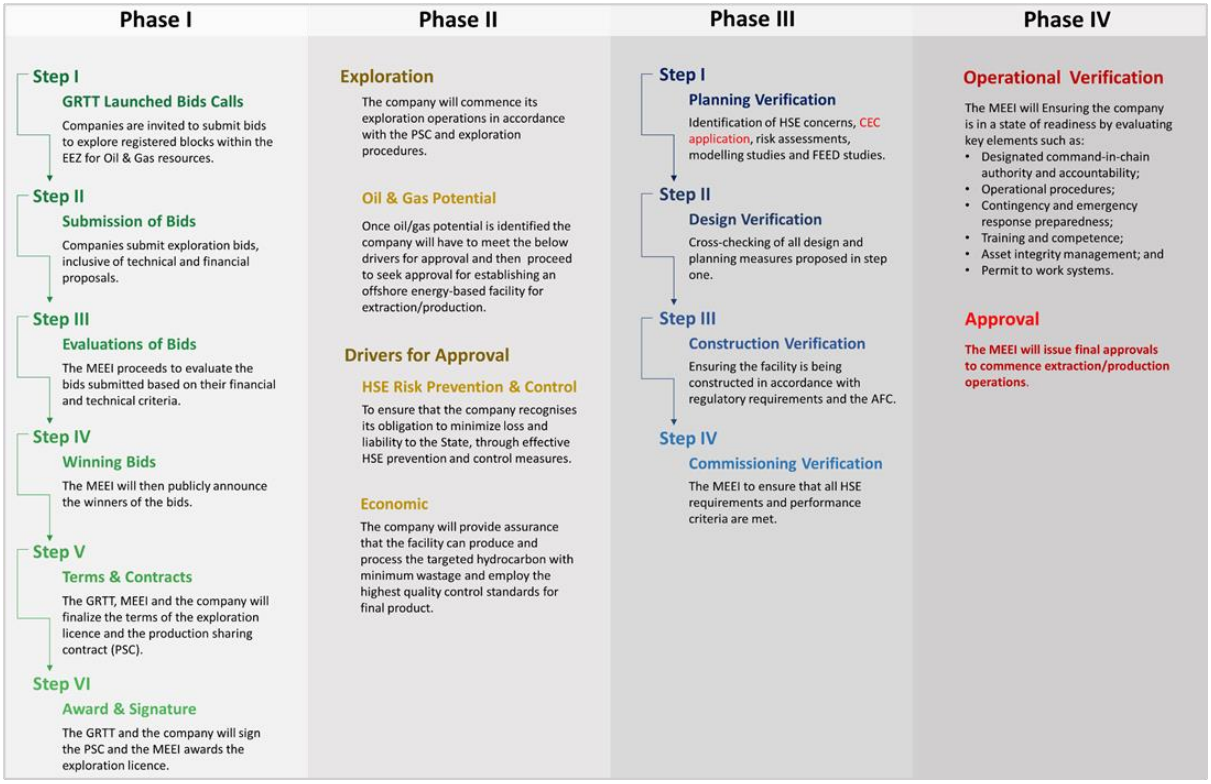


Figure 3.9. Processes involved in the granting of offshore oil and gas licenses and PSCs
***Source*: Adapted from Razack, Rambarath-Parasram, and Nanan (2020).**

There are four phases to the award of an E&P license. They are summarised below:

Phase I. The first phase of the process is the awarding of the oil and gas E&P license and, where applicable, entering into the PSC. As illustrated, this phase contains a six-step process, whereby the GORTT invites companies to bid for blocks for exploring for oil and gas resources; bid proposals are the submitted; the MEEI evaluates these bids; the MEEI appoints the successful bids; and the exploration license and, where applicable, the PSC is finalized, approved, and awarded to the company by the MEEI.

Phase II. The second phase entails the exploration process, whereby a company explores and identifies the oil and gas potential of the block.

Phase III. In the third phase, the company completes a four-step, fit-for-purpose verification process, which includes:

> Planning verification. This ensures that the company identifies all the relevant health, safety, and environment concerns including the application submission for the CEC and, if applicable, the EIA (the environmental clearance process is described in detail below); risk assessments; modelling studies; and front-end engineering design studies.
>
> Design verification. This allows the MEEI to be involved in cross-checking all design and planning measures against those highlighted in the planning verification.
>
> Construction verification. This allows the MEEI to ensure that the facility is being constructed in a manner that is aligned with local and international rules and regulations and industry standards as well as the approved construction plans.
>
> Commissioning verification. This is the final step for the MEEI to ensure that the company delivers on all its health, safety, and environment requirements and meets the performance criteria for all associated appliances and equipment.

Phase IV. The fourth and final phase is the operational preparedness verification and the issuance of approval by the MEEI. This phase ensures that the company and the energy-based facility is in a state of readiness, including its human resource capacity and capability.

Having satisfied these evaluations, the MEEI may either issue a provisional approval if the company wishes to test the facility and its systems or the final facility approval if the company has successfully met all the requirements for commencing official operations. Once the operations have commenced, the mandate for regulatory oversight is on the MEEI for operational compliance and the EMA for environmental issues and breaches of the Environmental Management Act. However, studies have identified that due to significant resource constraints, major energy companies tend to self-regulate and self-manage environmental impacts based on their corporate social responsibility to ensure compliance and upkeep of appropriate environmental standards (Khan 2020; Morton 2012).

Environmental Clearance

During the planning verification process of phase three, companies are required to submit an application to the EMA for a CEC, which may include the requirement of an EIA if the activity presents a potential risk of causing significant adverse environmental impacts. This process, illustrated in Figure 3.10, commences with the company's submission of the application to the EMA, which screens the application to determine the activity's potential environmental

impacts based on its nature, scale, and location (Chin 2014). If an EIA is required, which is normally the case for oil and gas extraction operations, the EMA and the company (or agent/consultant functioning on its behalf) and the relevant stakeholders will develop the draft terms of reference. Within this process, a public consultation is facilitated, as the company is required to consult with all relevant governmental agencies, NGOs, and other relevant stakeholders. Any modification required will be made to the terms of reference, and upon agreement by the relevant parties, the EMA issues the final terms of reference. The company will then proceed to develop the EIA report in accordance with the terms of reference and the CEC rules. Once the EIA is submitted to the EMA, it is subject to a multidisciplinary review by the EMA, which may also include public consultations on the findings and environmental management plans contained therein. Once the EIA is approved, the company will be issued a CEC by the EMA and can then proceed to the design verification process under the MEEI. In the event that the CEC is denied, the company can appeal the decision.

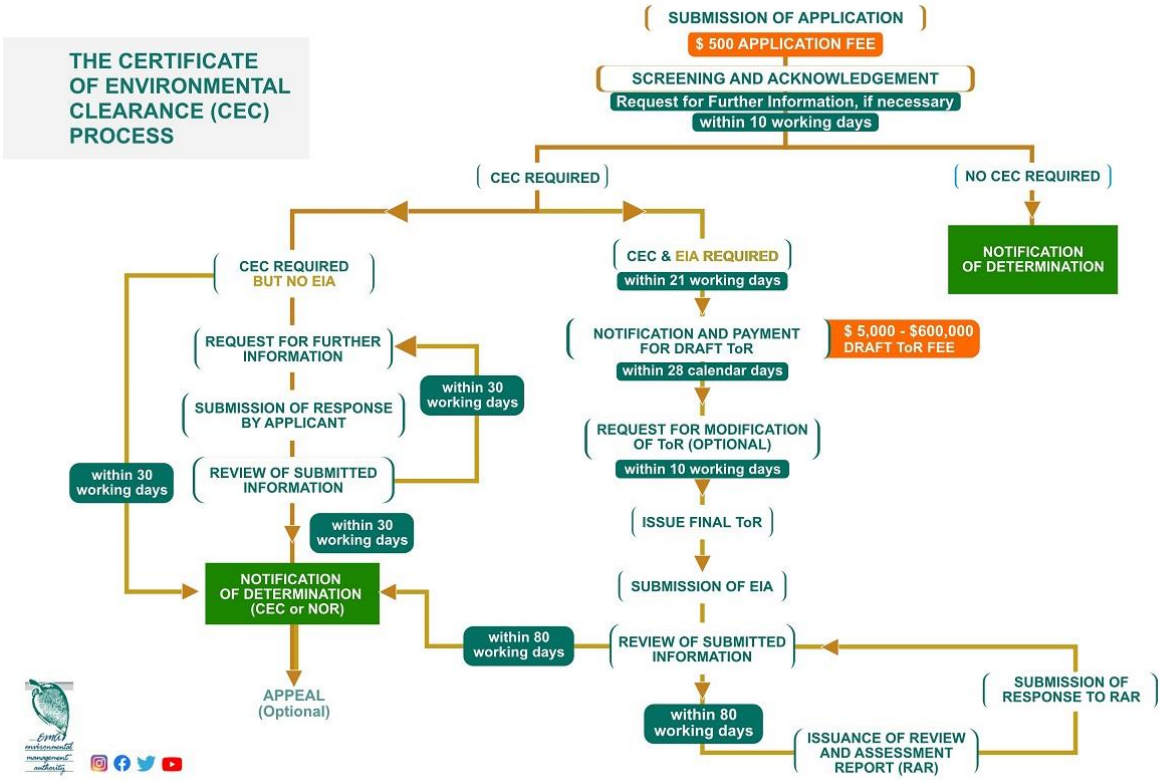


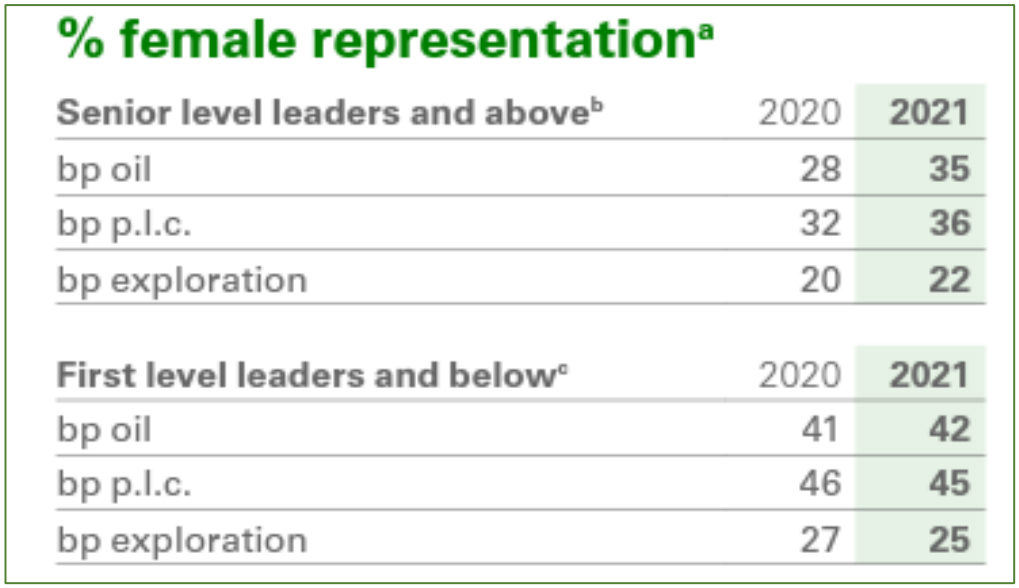
Figure 3.10. EMA, CEC, and EIA approval process

***Source*: EMA (2022).**

3.1.1.3. Consideration of cross-cutting issues: Gender and oceans and the blue economy

Gender equality and gender sensitivity are cardinal principles that complement every paradigm of sustainable development, given the empirical evidence showing enhanced business performance where women are included on boards and in executive management. Trinidad and Tobago has implemented legislation that aims to mitigate discrimination in the workplace. Moreover, an Equal Opportunity Commission was appointed on 21 April 2008, with a mandate to work towards the elimination of discrimination and the promotion of equality and good relations between persons of different statuses. The Equal Opportunity Act of 2010 seeks to protect persons against discrimination as it relates to employment, education, the provision of goods and services, and the provision of accommodation. Under the Act, all persons are entitled to equality and fair treatment, regardless of their racial, ethnic, religious, or marital status or their gender. Further, all persons are entitled to equal treatment regardless of geographical origin or physical disabilities (Equal Opportunity Commission 2022).

Many of the energy companies operating in the oil and gas sector have policies that actively create opportunities for women in senior and executive management. British Petroleum, Trinidad and Tobago's largest upstream operator, has released a gender and pay gap report that shows an increase in female participation, as illustrated in Figure 3.11 (British Petroleum 2021).



% female representation[a]

Senior level leaders and above[b]	2020	2021
bp oil	28	35
bp p.l.c.	32	36
bp exploration	20	22

First level leaders and below[c]	2020	2021
bp oil	41	42
bp p.l.c.	46	45
bp exploration	27	25

Figure 3.11. Female representation in senior and executive management at British Petroleum

***Source*: British Petroleum (2021).**

There is evidence that the Caribbean has always been quite progressive in the promotion of gender equality in the workplace. Inclusive policies for all levels of education have resulted in females dominating universities and often outperforming male counterparts in academic spheres. Nevertheless, males still dominate in the fields of science and technology. A 2018 ILO publication, *Women in Business and Management: Gaining Momentum in the Caribbean*, has provided insightful data on the rate of female participation in the private sector. The Caribbean was cited as a world leader in women's representation at the top executive level with 12 per cent of companies reporting gender balance at that level as compared with the global average of 8 per cent. The report further states that the Caribbean has a higher rate of female labour force participation (55 per cent) than the world average (49 per cent) and a smaller gender gap in the labour force participation of men and women (19 per cent compared with the world average of 27 per cent) (ILO 2018).

Trinidad and Tobago's established energy sector is primarily based on extraction from its marine areas. Pockets of governmental initiatives referring to the blue economy are beginning to emerge in the national dialogue, but there is no dedicated agency spearheading blue economy initiatives in the country. Current blue economy discussions are often managed by the Ministry of Planning and Development. For example, this Ministry hosts a Multilateral Environmental Agreements Unit that leads domestic implementation for a myriad of related environmental efforts, including the country's decarbonisation initiatives, that are complementary to the blue economy. Other key issues that impact well-being and wider societal concerns related to the blue economy are summarised in table 3.6.

Table 3.6. Institutional actors that work with Trinidad and Tobago's Ministry of Planning and Development regarding the blue economy

Partner agencies	Role
Ministry of Agriculture, Land and Fisheries / Commissioner of State Lands	Implementation of Fishing Act Management of the shoreline below high-water mark and seabed within maritime zones
Trinidad and Tobago Coast Guard	Monitoring and surveillance of marine areas
Ministry of Trade and Industry	Development of maritime industries and trade facilitation
Maritime Services Division of Ministry of Works and Transport	Implementation of the Shipping Act and supporting legislation
Port Authority of Trinidad and Tobago	Oversees the Port of Spain
Institute of Marine Affairs	Marine scientific research and monitoring of marine and coastal areas
Environmental Management Authority	Regulation and coordination of environmental management
Ministry of National Security	Implementation of the Defence Act
Pilots' Association of Trinidad and Tobago	Mitigation of risk associated with shipping in mandatory pilotage areas
Telecommunications Authority of Trinidad and Tobago	Marine communication
Ministry of Energy and Energy Industries	Regulation and development of the energy sector
Land Reclamation Committee	Monitoring of land reclamation
Integrated Coastal Zone Management Committee	Development of ICZM policy
Tobago House of Assembly	Various divisions responsible for management of marine resources under the THA Act
Non-State actors	**Role**
Caribbean Memorandum of Understanding on Port State Control	Regional cooperation for enhancing port state control
International Maritime Organization	UN agency responsible for the safety and security of shipping and the prevention of marine and atmospheric pollution by ships
International Labour Organization	Promoting the Maritime Labour Convention
Recognized Organization / Classification Societies	Creates and implements industry standards for merchant shipping
Women in Maritime Association–Caribbean	Promoting gender equality in the maritime domain
Fishermen and Friends of the Sea	Advocate for protection and preservation of fisheries and the marine environment
Shipping Association of Trinidad and Tobago	Advocate for better maritime governance
Caribbean Shipping Association	Advocate for better maritime governance in the region
Association of Upstream Operators of Trinidad and Tobago	Sharing of knowledge and resources for management of the upstream areas
Energy Chamber of Trinidad and Tobago	Promotes dialogue for a sustainable energy industry

Table 3.7 illustrates the legislative, policy and institutional gaps in the governing of Trinidad and Tobago's oil and gas industry with respect to the implementation of blue economy paradigms. Tenets of the blue economy were adapted from the World Wildlife Fund. Therefore, the table identifies the applicable components of the governing framework that are linked to achieving growth in the blue economy. Although the table is not a comprehensive evaluation of the governing framework for the sector, it provides insight into core legal and institutional mechanisms that can enable sustainable development and blue growth.

Table 3.7. Legislative, policy, and institutional gaps in the governing of Trinidad and Tobago's oil and gas industry with respect to the blue economy

Blue economy tenet	Applicable component(s) of the governing framework	Gaps preventing blue growth potential	Recommended intervention
Provides social and economic benefits	Main components --Petroleum Taxes Act --Petroleum Act & Petroleum Regulations --Production-sharing contracts --Draft ICZM Policy Framework Supporting components --National Development Strategy 2030 Development Theme I --National Environmental Policy --Occupational Safety and Health Act --The Green Fund --CARICOM Energy Policy	Economic dependency on the sector Archaic policies and laws Lack of exclusiveness and interpretation Depleting reserves Lack of Energy Policy Lack of mechanisms to train and promote local entrepreneurs in the sector Lack of high-risk financing avenues for local enterprises	Pursue avenues for investing in education Rationalize expenditures Create work-sharing agreements Use the established mechanism for granting clearances and approvals Identify resources that can be transferred to other activities Welcome global companies and develop a skilled workforce Institute an ocean tax Create a National Offshore Energy Policy
Restores, protects, and maintains the value of the marine ecosystem	Main components --Environmental Management Act --CEC Rules and Order --Draft IZCM Policy Framework --National Environmental Policy Supporting components --National Development Strategy 2030 Development Theme V --Water Pollution Rules --Environmentally Sensitive Species Rules	Lack of sufficient baseline data when granting approvals of EIAs Lack of assigned monetary value to the marine ecosystem and data to support such Carrying capacity issues are not specifically addressed within the CEC process Lack of Energy Policy Archaic policies and laws Resource constraints within EMA and MEEI Lack of marine spatial planning	Utilize evidence-based and data driven decision making Use an ecosystem-based management approach within E&P and PSC arrangements Create a National Offshore Energy Policy Promote innovation Form a regional oil spill contingency plan Use escrow funds and/or interest for environmental investment

Blue economy tenet	Applicable component(s) of the governing framework	Gaps preventing blue growth potential	Recommended intervention
	--Environmentally Sensitive Area Rules --Noise Pollution Rules --The Green Fund --CARICOM Energy Policy --National Oil Spill Contingency Plan		
Is based on clean technologies, renewable energy, and circular material flow	<u>Main components</u> --Framework for Development of a Renewable Energy Policy <u>Supporting components</u> --National Development Strategy 2030 Development Theme III --Draft IZCM Policy Framework --National Environmental Policy --CARICOM Energy Policy --Shipping Act	Lack of Energy Policy Aging infrastructure Lack of research and development in renewable energy potential Limited funding mechanism Archaic policies and laws	Make strategic structure investments Guide the sustainable use of oil and gas reserves Extend the scope of financing under the Green Fund to support large-scale projects Create government incentives Create a National Offshore Energy Policy
Governed by public and private processes	<u>Main components</u> --Petroleum Act & Petroleum Regulations --Environmental Management Act --CEC Rules and Order --Draft IZCM Policy Framework <u>Supporting components</u> --MEEI's Technical Guidance and Approval Regime for Energy-based Facilities --Exploration & Production Licenses & PSCs --National Development Strategies 2030 Development Themes II & IV	Weak institutional procedures and processes Various governmental agencies are responsible for the oversight of various aspect of the environmental laws Inability to effectively coordinate Limited public access to PSCs and E&P agreements Resource constraints within EMA and MEEI, such as the lack of enforcement capacity Lack of Energy Policy Limited stakeholder consultations with the public and coastal communities	Strengthen oversight and accountability Promote fiscal transparency Engage in data-oriented planning Align public and private sector policies and producers with the NDS development themes Require a strategic environmental assessment at the initial stage of awarding PSCs Increase collaboration and cooperation among the various State agencies towards sustainable development Create a National Offshore Energy Policy

Blue economy tenet	Applicable component(s) of the governing framework	Gaps preventing blue growth potential	Recommended intervention
	--National Environmental Policy --Occupational Safety and Health Act --CARICOM Energy Policy --Shipping Act	Sector-specific approach	

***Source*: Adapted from Razack, Rambarath-Parasram, and Nanan (2020).**

3.1.1.4. Specific observations on beneficiary State needs

Offshore Installations

Over 50 per cent of respondents to the ocean governance priorities sector survey stated that offshore installations related to oil and gas and transshipment operations were adequately regulated. However, 48 per cent of respondents were of the view that the regulation of safety and security of offshore installations was inadequate. Some responses indicated that the multinational companies involved in the management and operation of offshore installations generally defer to international best practices.

At the time of writing, it was also noted that the registry of offshore installations as shown on the MEEI website was not up to date, as many known installations were not listed. Some stakeholders underscored the need for greater use of mobile offshore drilling units and greater oversight by maritime administrations through enhanced implementation of the Code for the Construction and Equipment of Mobile Offshore Drilling Units of 2009. IMO has increased the focus on the regulation of offshore installations by maritime administrations and has taken a more proactive stance in the matter of safety and security of ships and offshore installations. Recent IMO resolutions have governed, inter alia:

- The establishment of safety zones for offshore platforms
- The certification of mobile offshore drilling units
- Guidelines for the removal of offshore installations within the continental shelf and EEZs of member States
- Safe practices for the carriage of cargoes in offshore supply vehicles (OSVs)[22]

The Shipping Bill of 2020 provides for a comprehensive oversight regime by the local maritime administration over offshore installations. Offshore installations are currently under the jurisdiction of the MEEI, and the increased oversight by the new proposed maritime authority may lead to overlaps that will need to be addressed. While responses to the survey also indicated that under the Shipping Bill of 2020, the maritime administration will focus on the safety and security of life at sea and the protection of the marine environment and leave licensing of offshore installations to the MEEI, several aspects of the current draft will result in areas of potential overlapping jurisdiction between the EMA and the MEEI.

The EMA is tasked with monitoring adherence to the environmental requirements and conditions of CECs that have been granted. Because such monitoring requires extensive resources, the level of concern that survey respondents expressed with regard to marine environmental protection and safety and regulatory oversight in relation to offshore installations was not surprising. Figure 3.12 illustrates the significant challenges in managing offshore installations as noted in the responses to the survey.

[22] Response from the ocean governance priorities sector survey.

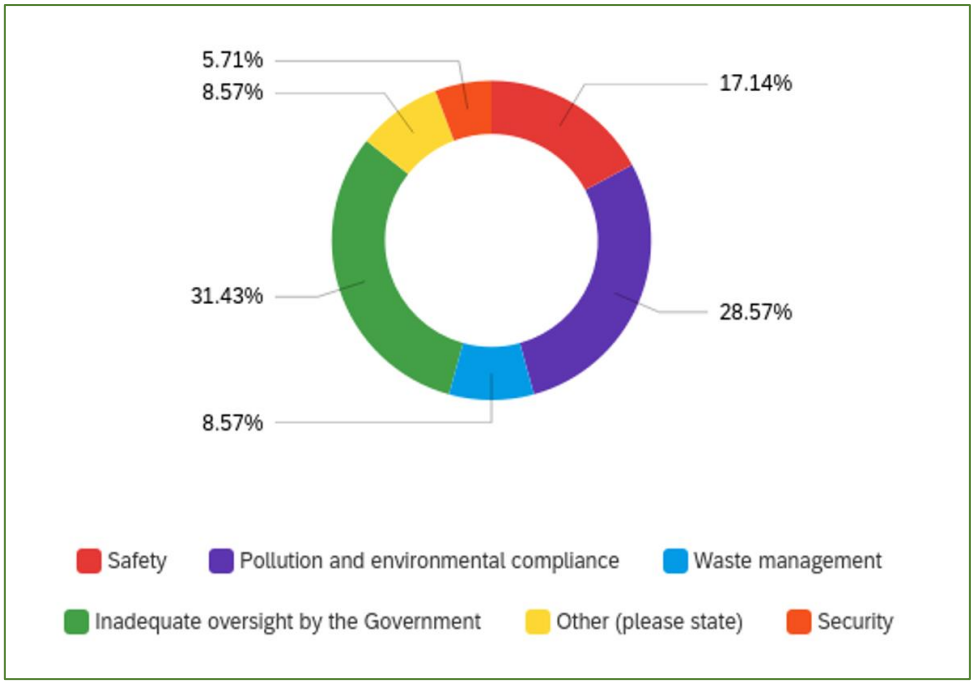


Figure 3.12. Survey respondents' perspectives on significant challenges for managing offshore installations

Two of the most significant challenges to the management of offshore installations survey respondents identified were inadequate oversight by government (31.43 per cent) and pollution and environmental compliance (28.57 per cent). Respondents also identified safety (17.14 per cent), underscoring it as a major challenge. Waste management and security were also identified but to a lesser extent.

There is certainly room for improved governance over offshore installations. However, the required legal and institutional changes must be developed in such a manner as to avoid the creation of conflicting mandates.

An operational registry of offshore installations would enhance the monitoring of offshore installations and complement the health and safety standards already implemented by the MEEI.

Recommended interventions for improving the management of these installations included the need for greater formal collaboration among government and industry operators and enhanced regulation and monitoring. These responses are summarised in figure 3.13.

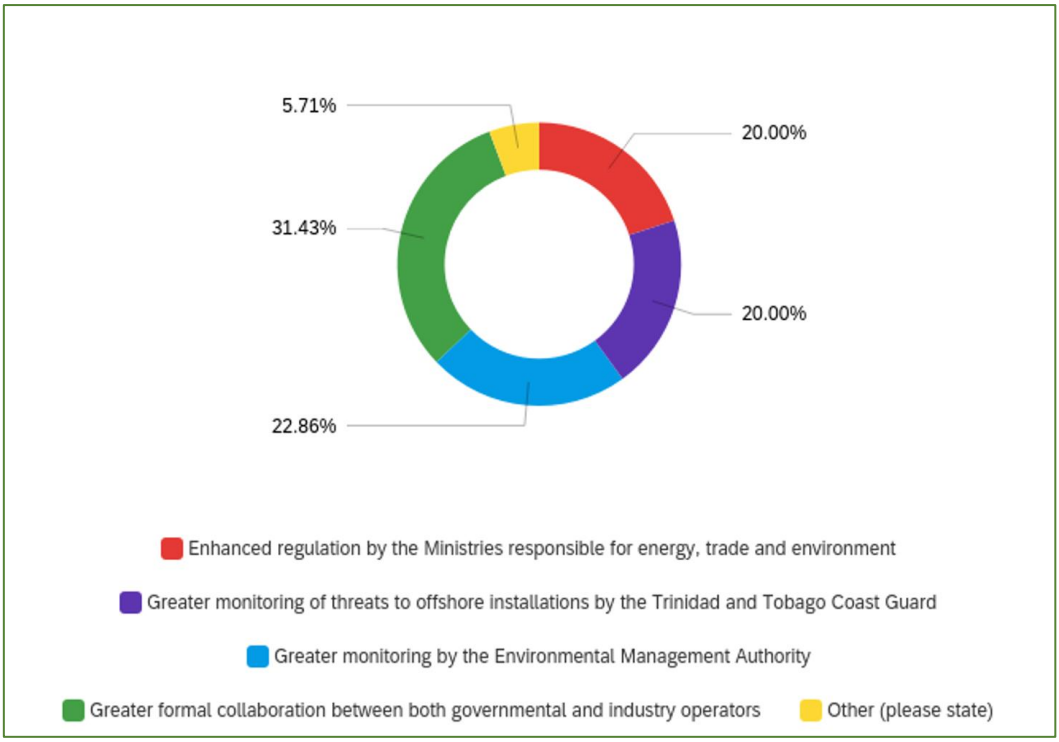


Figure 3.13. Survey respondents' recommendations for improving the management of offshore installations

Some respondents also proposed specific legislative or regulatory interventions to enhance the management of offshore installations. These were as follows:

- Removal of the proposed oversight of offshore installations from the Shipping Bill of 2020 and having the legislation focus on IMO pillar conventions
- Creation of security exclusion areas
- Installation of radars and cameras for the safety and surveillance of the surrounding areas
- Implementation of the following:
    - IMO Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and Exclusive Economic Zone
    - IMO Resolution A. 673 (16) adopted 19 October 1989
    - the IMO Code for the construction and equipment of Mobile Offshore Drilling Units of 2009
    - the IMO guidance circular for applying safety, security, and environmental protection provisions to storage and offloading facilities and floating storage units

In relation to which institution should bear the primary responsibility for regulating offshore installations, 44 per cent of respondents expressed the view that it should be the MEEI while 34 per cent are of the view that it should be the MSD.

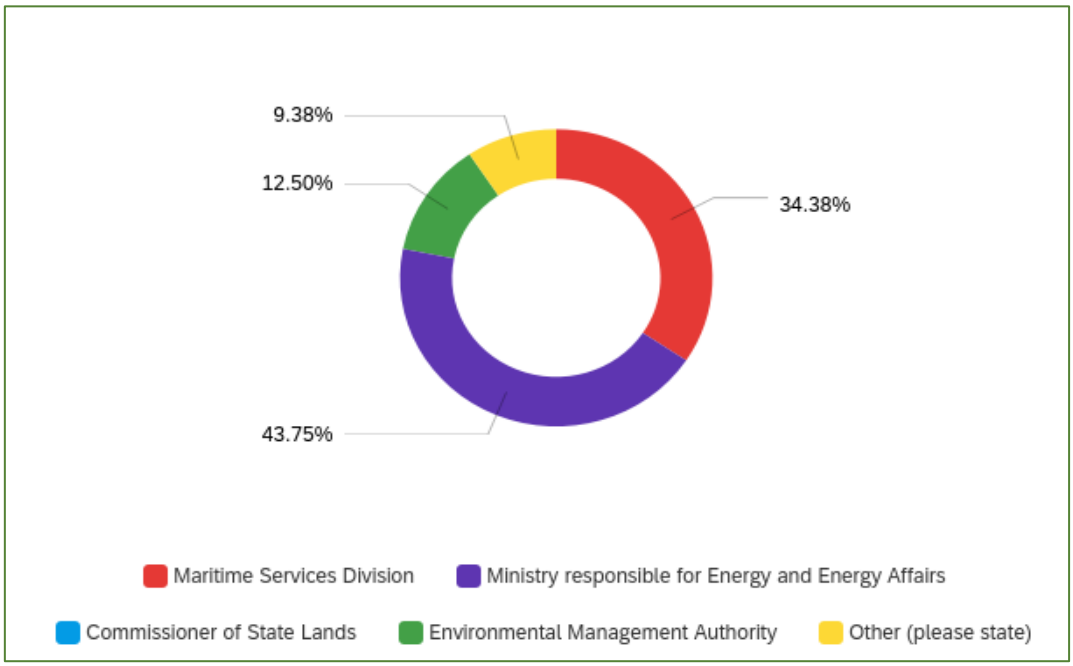


Figure 3.14. Survey respondents' perspectives on which government entity has primary responsibility for offshore installations

Some stakeholders stated that the MEEI ought to maintain responsibility for commercial oversight while the maritime administration should monitor compliance with applicable international safety standards. Others were of the view that the installations were well regulated given their adherence to international best practices that were set by oil and gas specialist organizations such as the International Association of Oil and Gas Producers. Sixty-five per cent of stakeholders were of the view that these platforms posed little risk to other marine users.

Other interventions survey respondents recommended for protection of the marine environment from the operations of offshore installations include:

- Implementation of IMO Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and Exclusive Economic Zone of 1989
- Implementation of the IMO Code for the Construction and Equipment of Mobile Offshore Drilling Units of 2009
- Adherence to the Guidelines for the application of the revised MARPOL Annex I requirements to floating production, storage, and offloading facilities and floating storage units
- Implementation of dry-docking operations to include a contingency plan for oil spills

- Strengthening of emergency response arrangements in the event of major accidents through changes in legal and institutional reform
- Installation of radars and early warning systems to enhance security and mitigate navigational hazards
- Pollution and emissions monitoring from offshore installations
- Enhanced collaboration between EMA, IMA, and the Maritime Services Division.

Transhipment and Layups

InvesTT, a governmental agency operating under the Ministry of Trade and Industry, facilitates the development of offshore transshipment in Trinidad and Tobago. The Gulf of Paria is the only designated site for transshipment and layup operations. The Gulf of Paria constitutes 7,989 km^2 of sheltered inland sea, of which Trinidad and Tobago has legal jurisdiction over 2,940km^2. It encompasses the western coast of Trinidad with a total of 156 km of coastline. Figure 3.15 illustrates the designated transshipment and layup area.

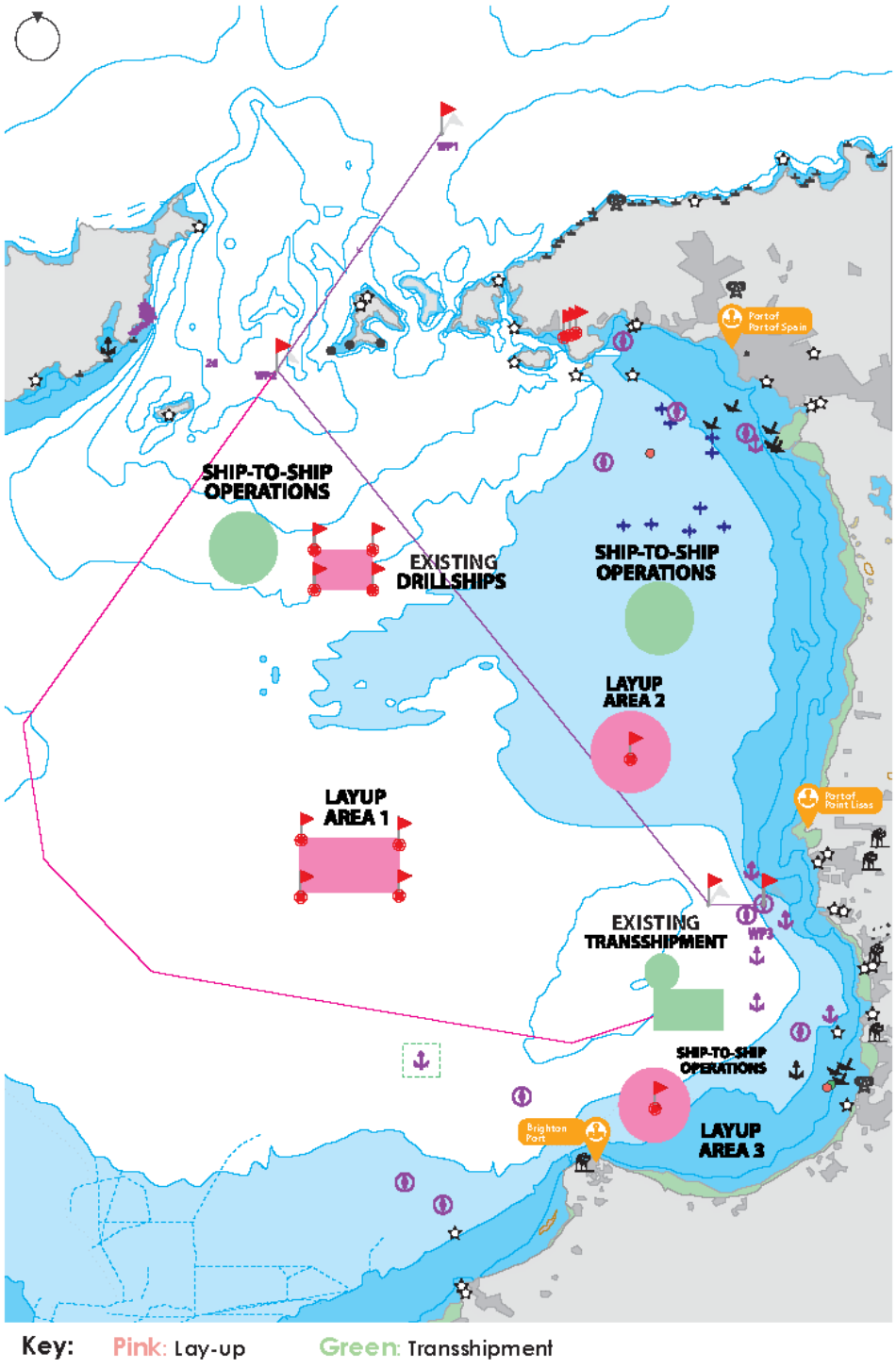


Figure 3.15. Designated maritime zones for transshipment and layups
***Source*: InvesTT (2019).**

InvestTT developed the transshipment area in recognition of the fact that companies engaged in the commodities industry in South America experience significant problems getting ores out of Guyana and Venezuela. This is primarily due to insufficient and aging port infrastructure and fluctuating river drafts that make it almost impossible to load large vessels in those areas. Because of Trinidad and Tobago's proximity to these source markets combined with its large

naturally sheltered harbour, the country developed the required maritime infrastructure as well as industry support mechanisms to make Trinidad and Tobago the preferred location for setting up and locating transshipment operations (InvesTT 2019).

Trinidad and Tobago's Gulf of Paria is one of the world's top destinations for ship storage and layups. Laying up vessels is particularly useful to oil and gas service companies during periods of low oil prices or slowdowns in business operations. Storing or laying up vessels can be an effective cost mitigation strategy. Approval for transshipment and layups requires a review from the MSD after an application is made to InvesTT. Once the MSD has reviewed the application and has made its recommendations with respect to the designated area, a contract is created and submitted to the Cabinet for approval.

3.1.2. Dry Docking

Another area that required consideration was offshore installations for the purposes of dry docking. At the time of writing there were no identified dry-docking facilities in Trinidad and Tobago that were operating on offshore installations. Unlike transshipment, there is no prescribed legal and institutional framework for the development of such an operation. However, if this were to be pursued, some of the key regulators that approval would need to be sought from would include:

- Maritime Services Division
- Commissioner of State Lands
- EMA
- Ministry of Planning and Development

Clearance, although not approval, may also be required from the MEEI. The above regulators have been known to request that notice be given and that the operation receive no objections from the MEEI in order to ensure that energy assets and operations are not adversely impacted.

3.2. Priority sector II: Coastal and marine tourism

3.2.1. Sector profile and relevance to the State from ecological, economic, and social perspectives

For the purposes of this study, coastal and marine tourism is treated in the context of cruise shipping and visitors to coastal and marine areas. Cruise shipping will be a particular focus of this section, as GORTT has identified it as a priority area. All of the legal and regulatory requirements applicable to managing vessel source pollution, as discussed in Section 2.4.2, are applicable to cruise ships.[23]

In relation to managing coastal and marine tourism in the context of visits to beaches, bays, reefs, diving sites, coastal communities, coastal resorts, and marine reserves, Trinidad and Tobago has implemented an array of domestic legislation that complements marine environmental protection initiatives and enhances the implementation of Part XII of UNCLOS. In addition, in 2018, Trinidad and Tobago approved a National Protected Areas Systems Plan

[23] IMO Resolution A.1138(31), Procedures for Port State Control 2019.

that proposes the establishment of close to 20,000 km^2 of protected land and marine space. As explained in section 2.5.3, the system plan identifies 136 protected national areas (PNAs) across Trinidad and Tobago.

With this, 38 per cent of the country's land mass will be protected by terrestrial/freshwater PNAs, while coastal, marine, and open-ocean waters and deep-sea PNAs will protect 22 per cent of Trinidad and Tobago's EEZ. While these percentages seem high, this includes 39 proposed Sustainable Use Reserves, which are equivalent in management objectives to the former forest reserves (of which there were 36) (GORTT 2019). Some of the areas that are part of a pilot plan because of their globally important biodiversity and ecosystems include the Caroni Swamp, the Nariva Swamp and coastal zone, the Matura Forest and coastal zone, the Trinity Hills, the Main Ridge Forest Reserve, and the North-East Tobago Marine Protected Area.

The Caribbean is one of the world's major tourist destinations. Visitors are hosted at coastal resorts as well as on cruise ships. The total contribution of travel and tourism to the GDP of the Caribbean region has been estimated to be 24.5 per cent (Lopez 2021). Following the impacts of the pandemic, the World Tourism and Travel Council stated that the global GDP attributable to the tourism sector had fallen from US$58.4 billion, or 14.1 per cent, of GDP in 2019 to USD$24.5 billion, or 6.4 per cent, in 2020.

In 2021 the World Travel and Tourism Council stated that travel and tourism accounted for 5.5 per cent of the country's GDP. This included 44,100 jobs. In 2021, visitors' spending decreased internationally by 11 per cent, but domestic spending increased by 31 per cent (World Travel and Tourism Council 2022). This would have been accounted for by the closed borders and the increase in local vacations.

Prior to the pandemic, cruise ship visitors to Trinidad and Tobago were on the rise. During the 2018/19 season, the number of visitors increased by a reported 10,000. Craft vendors, taxi drivers, visitor and tour guides, and others benefitted economically from this increase (GORTT/News 2022).

Bearing in mind that coastal and marine tourism is associated with anthropogenic impacts that need to be managed, the ocean governance priorities sector survey was administered to determine recommended interventions and actions to enhance the management of marine and coastal areas. When stakeholders were asked what interventions they recommended to address sanitation on the beaches, they were generally of the view that greater regulation by governmental agencies as well as education campaigns would result in improved sanitation on beaches.

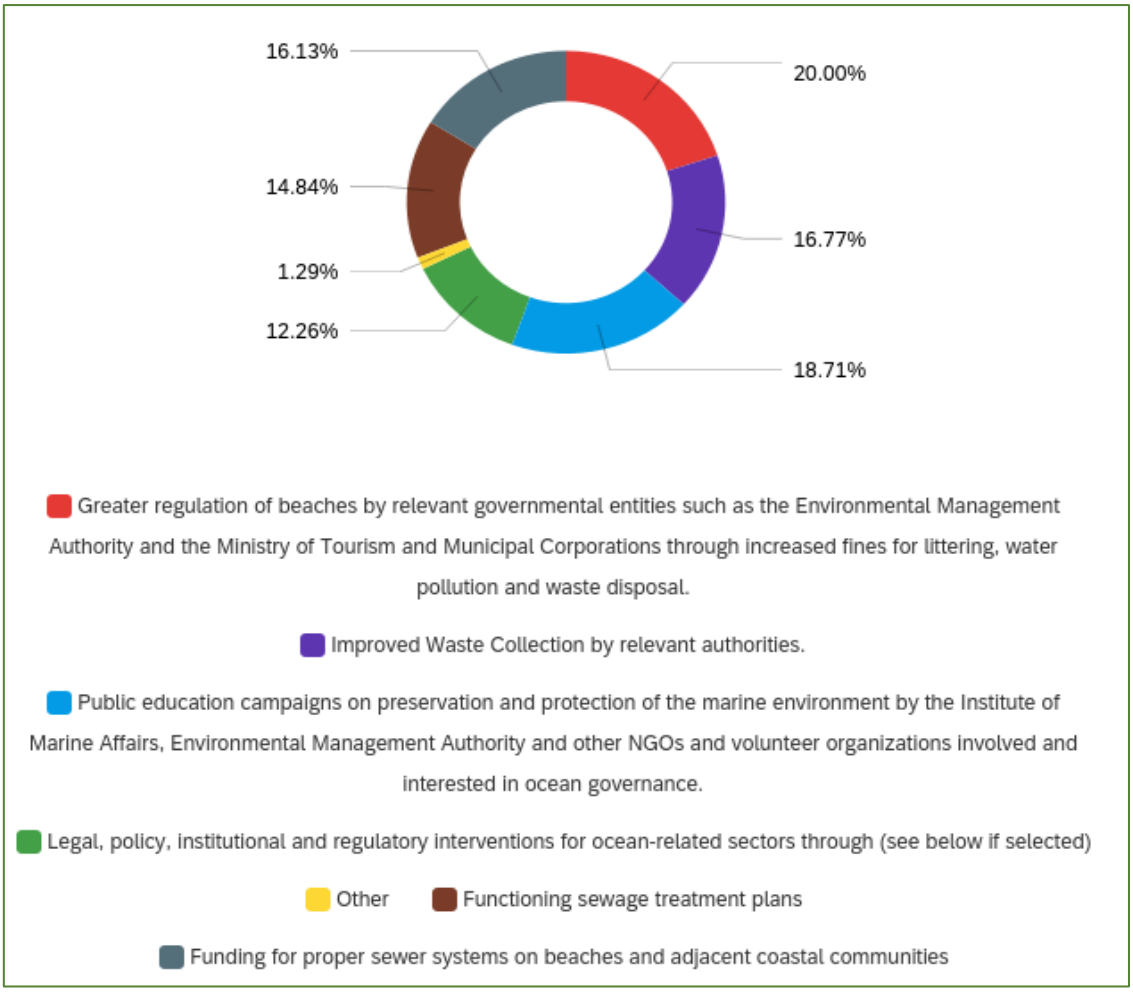


Figure 3.16. Actions survey respondents recommended to address the inadequacy of sanitation services on beaches

3.2.2. Regional and multilateral legal and institutional frameworks related to the sector

Trinidad and Tobago is a member of the United Nations World Tourism Organization (UNWTO), which has implemented several initiatives that seek to manage the impacts of tourism. Ecotourism is very important to Trinidad and Tobago; a number of establishments offer tours of the country's coastal and marine areas to cruise ship visitors. These typically include tours of the Caroni Swamp, turtle watching, snorkelling, diving, beach visits, and nature tours. In relation to ecotourism and protected areas, UNWTO defines ecotourism as forms of tourism which have the following characteristics:

- All nature-based forms of tourism in which the main motivation of the tourists is the observation and appreciation of nature as well as the traditional cultures prevailing in natural areas
- It contains educational and interpretation features
- It is generally, but not exclusively, organized by specialized tour operators for small groups. Service provider partners at the destinations tend to be small, locally owned businesses

- It minimizes negative impacts on the natural and socio-cultural environment
- It supports the maintenance of natural areas that are used as ecotourism attractions by:

  Generating economic benefits for host communities, organizations, and authorities that manage natural areas with conservation purposes

  Providing alternative employment and income opportunities for local communities

  Increasing awareness towards the conservation of natural and cultural assets among both locals and tourists (UNWTO 2022).

UNWTO has also promoted the Global Code of Ethics for Tourism, which aims to foster tourism as part of sustainable development. It asserts, inter alia, that tourism policies should be applied in such a way as to help to raise the standard of living of and meet the needs of the populations of the regions visited; that the planning and architectural approach to and operation of tourism resorts and accommodation should aim to integrate them, to the extent possible, in the local economic and social fabric; and that where skills are equal, priority should be given to local providers. Special attention should be paid to the specific problems of coastal areas and island territories and to vulnerable rural or mountain regions, for which tourism often represents a rare opportunity for development in the face of the decline of traditional economic activities.[24]

Another important initiative of UNWTO is the International Code for the Protection of Tourists, which requires that countries set minimum international standards for the protection of tourists in emergency situations and consumer rights of tourists in the post–COVID-19 context. It draws on the work produced by UNWTO and has been adjusted to adapt to the particular circumstances created by the COVID-19 pandemic with a view to ensuring a coordinated approach to the assistance of international tourists during emergency situations (UNWTO 2022).

Over 100 leading tourism companies, suppliers, business associations, NGOs, consultancies, and certification schemes have announced that they have signed the Global Tourism Plastics Initiative and have disclosed their ambitious commitments with regard to the elimination of unnecessary single-use plastics and a transition to reuse models and use of reusable, recyclable, or compostable plastic packaging and items.

The above initiatives complement the many sustainable development and blue economy principles that are being implemented through the international environmental initiatives of UNEP, IMO and UNDP. The SAMOA Pathway for the sustainable development of SIDS is of key importance, especially given its recognition, inter alia, of civil society organizations as key partners in the implementation of the SDGs, climate action, and sustainable finance. The SAMOA Pathway makes linkages between commitments focused on sustainable energy,

[24] Article 5 of the Global Code of Ethics for Tourism.

natural resource management, and ocean-based and green economy approach and partnerships, thereby providing a holistic view of adaptation measures for SIDS.[25]

The Caribbean Tourism Organization, as discussed in section 2.4.2, provides a regional framework for the development of coastal and marine tourism in the Caribbean. This is complemented by the provisions of the Cartagena Convention and its three protocols dealing with oil spills, land-based sources of marine pollution, and specially protected areas and wildlife. These are foundation instruments from which a number of regional initiatives are driven that positively impact marine and coastal areas. Implementation of these initiatives will mitigate the impacts of cruise shipping in the event of oil spills and accidental discharges. The Caribbean Environment Programme is also a focal point for blue economy initiatives for the region. Complementarity of these initiatives is an imperative for a region with limited access to resources and whose coastal infrastructure is under continuous threats from climate change and the increasing occurrence of extreme weather events.

3.2.3. National legal framework

Trinidad and Tobago has made legal and institutional interventions to facilitate the development of the tourism sector. Figure 3.17 highlights these initiatives and their impact on tourist arrivals to the country.

[25] The Small Island Developing States (SIDS) Accelerated Modalities of Action Pathway (hereafter referred to as the SAMOA Pathway) was adopted in 2014 at the United Nations Third International Conference on SIDS. The SAMOA Pathway builds on the 1994 Barbados Programme of Action for SIDS (BPOA) and the 2005 Mauritius Strategy of Implementation (MSI) for the Further Implementation of the BPOA. See Dubrie et al. (2019).

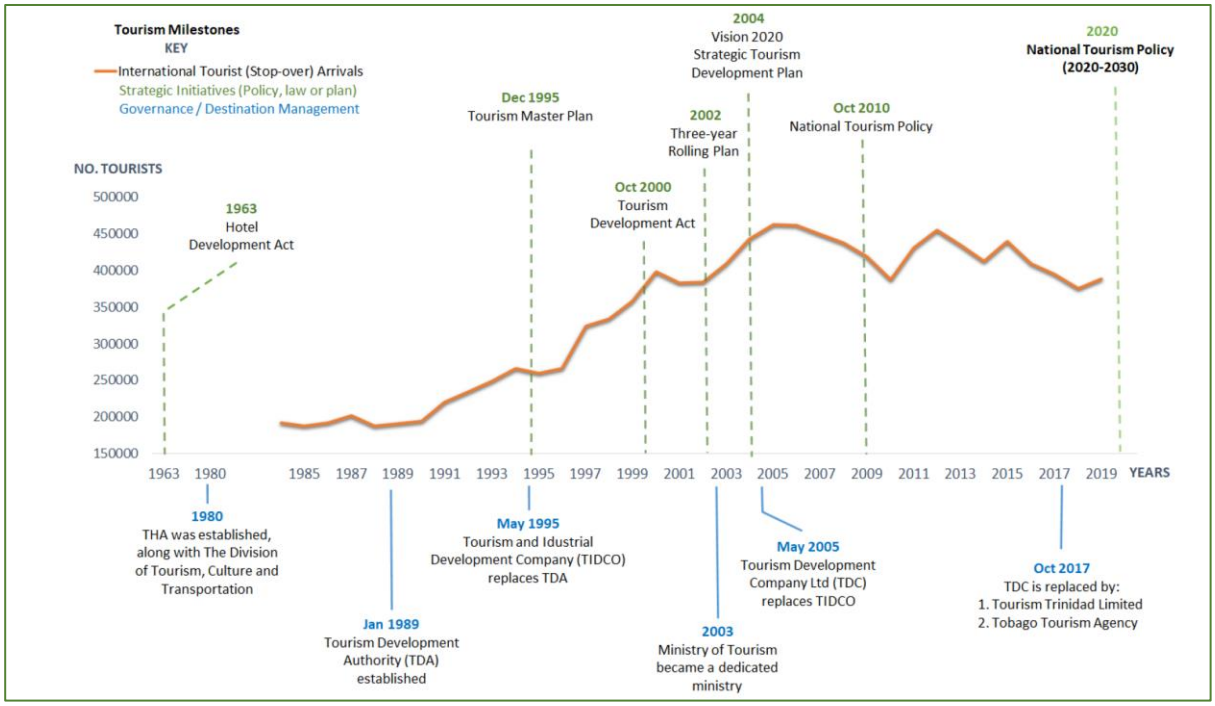


Figure 3.17. Impact of legal and institutional interventions intended to facilitate the development of the tourism sector

***Source*: Adapted from Ministry of Tourism, Culture and the Arts, GORTT (2021).**

The illustration provides a summary view of the legal, institutional, and policy interventions the GORTT made from 1963 to 2020, from the implementation of the Hotel Development Act in 1963 to the current revised draft policy. Notable changes included the formation of Ministry of Tourism in 2003 and the Tourism Development Company in 2005. The Tourism Development Company was replaced by Tourism Trinidad Limited and Tobago Tourism Limited in 2017.

Trinidad and Tobago's tourism industry has been guided by the Tourism Policy of 2010 (NTP 2010), which provides the overarching policy framework for the development of tourism. The National Tourism Policy of 2021–2030 is expected to provide a pathway for the development, sustainability, and resilience of the tourism and hospitality sector post pandemic. It was developed through the work of the Tourism Policy Development Committee, which consulted with stakeholders in the Government, NGOs, and the private sector in over 50 meetings. The policy considers 17 critical aspects of tourism, which include cruise tourism and climate resilience, disaster risk management, and environmental sustainability.

The National Tourism Policy of 2021–2030 also refers to guiding principles for the development of tourism, which include development in accordance with the Tourism Land Use Framework. The framework is to be used for approving tourism development and investing in infrastructure. In furthering land use development and spatial planning, the National Tourism Policy states that the ministry responsible for tourism will work closely with the Ministry of Planning and Development

to minimize the adverse impacts of tourism. In this regard, it was also noted that ministry responsible for tourism would work alongside the THA and municipal bodies.[26]

The National Tourism Policy also includes a section on cruise ship development that focuses on health and safety standards and procedures. It also recognized that historically, the country's growth in cruise ship arrivals have been constrained by inadequate port facility capacity. To address this, the GORTT will:

- seek to align with the regional policy position on the head tax,
- continue to engage the major cruise line operators with respect to increased calls in the short to medium term,
- seek to partner with a major cruise line in the development of a dedicated cruise port facility on the island of Trinidad,
- seek to secure smaller cruise lines calling on Tobago,
- work with destination management companies providing land-based tours to develop/enhance cruise visitor experiences, and
- advocate at the CARICOM level for a (Caribbean) regional approach to cruise tourism (GORTT/MoT 2021).

3.2.4. National Institutional Framework

Regulation of coastal and marine tourism is impacted by a myriad of committees of State actors such as the Tourism Development Committee. These committees are key players in smoothing over jurisdictional challenges and facilitating essential communication amongst government regulators and developers. The core institutions involved in coastal and marine tourism are as highlighted in section 3.2.2 and in figure 3.17. For cruise shipping, the legal and institutional framework described in section 3.1.1 will apply, as cruise ships are required to comply with the maritime clearance requirements that apply to all vessels calling at a port in Trinidad and Tobago. As the maritime administration, the MSD regulates vessel arrivals in collaboration with the Ministry of National Security and the Ministry of Finance. Trinidad and Tobago lacks adequate port waste reception facilities as required under Annex V of MARPOL. In addition, the current limited capacity of landfills and waste reception facilities make it infeasible for Trinidad and Tobago to take in ship-generated waste. In the context of managing vessel source pollution, it must be noted that the Caribbean has been designated as a special area for Annex V of MARPOL, which regulates the management and disposal of garbage from ships. Although Trinidad and Tobago is a contracting party to MARPOL, the local implementing legislation, the Shipping (Marine Pollution) Bill, is still in draft form. Vessel compliance is facilitated though voluntary compliance

[26] The term "regional" was used in the context of municipalities, but given the nature of this document, we have replaced "region" with "municipal" to prevent confusion with "Caribbean," which is often referred to as a region.

and port state control, although the latter is limited in its application, as enforcement requires the port state control enforcing country to have accepted the relevant convention into its domestic law.

Table 3.8. National institutional framework for cruise shipping

Ministry/Division	Legislation/Key Policy	Implementation Activity
Maritime Services Division of the Ministry of Works and Transport	Shipping Act, 1987 Draft National Maritime Policy and Strategy, 2021	Institute flag and port State control for compliance with applicable international standards
Immigration Division of Ministry of National Security	Immigration Act, 1965	Facilitate arrival of persons in Trinidad and Tobago to mitigate threats to the State
Customs Division of the Ministry of Finance	Customs Act, 1938 (as amended)	Implement fiscal policy and laws of the GORTT
Ministry of Trade and Industry	National Maritime Policy and Strategy	Improve trade facilitation through digitalization and policy reform to enhance the development of the maritime sector
Ministry responsible for tourism **Trinidad Tourism Limited** **Tobago Tourism Limited**	Tourism Development Act, 2000 National Tourism Policy, 2021–2030	Develop the tourism sector in accordance with the guiding principles of both existing and draft policies

3.2.5. Enforcement and implementation of the governance framework for the sector

Coastal and marine tourism has significant impacts on the land-based infrastructure, habitats, and ecosystems. To mitigate these impacts, greater collaboration between municipal corporations and local government bodies is imperative. Moreover, it is important to include coastal residents in sustainably managing coastal resources. Evidence of the success of such inclusion include the Nature Seekers, a community organization established for the conservation efforts related to the leatherback sea turtles in Matura Bay.

The majority of Trinidad and Tobago's nearshore marine litter emanates from land-based sources of pollution (IMA 2021). Respondents to the ocean governance priorities sector survey indicated that they thought the most significant challenge in keeping beaches clean was the poor implementation of existing regulations and fines. Based on those responses, there is evidence to support policy interventions for enhanced implementation of the regulatory provisions.

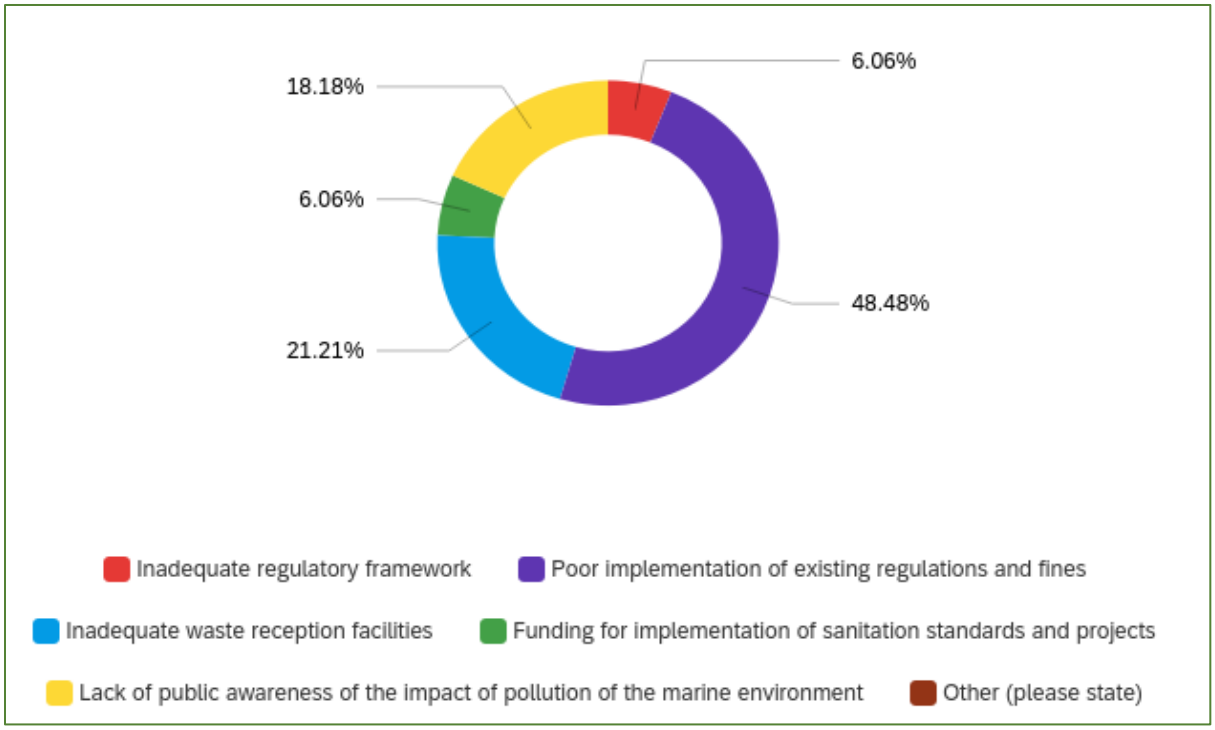


Figure 3.18. Survey respondents' perspectives about the most significant challenges regarding beaches

Moreover, stakeholders are of the view that there is a need for greater regulation of beaches by relevant governmental agencies. Their views are captured in figure 3.19.

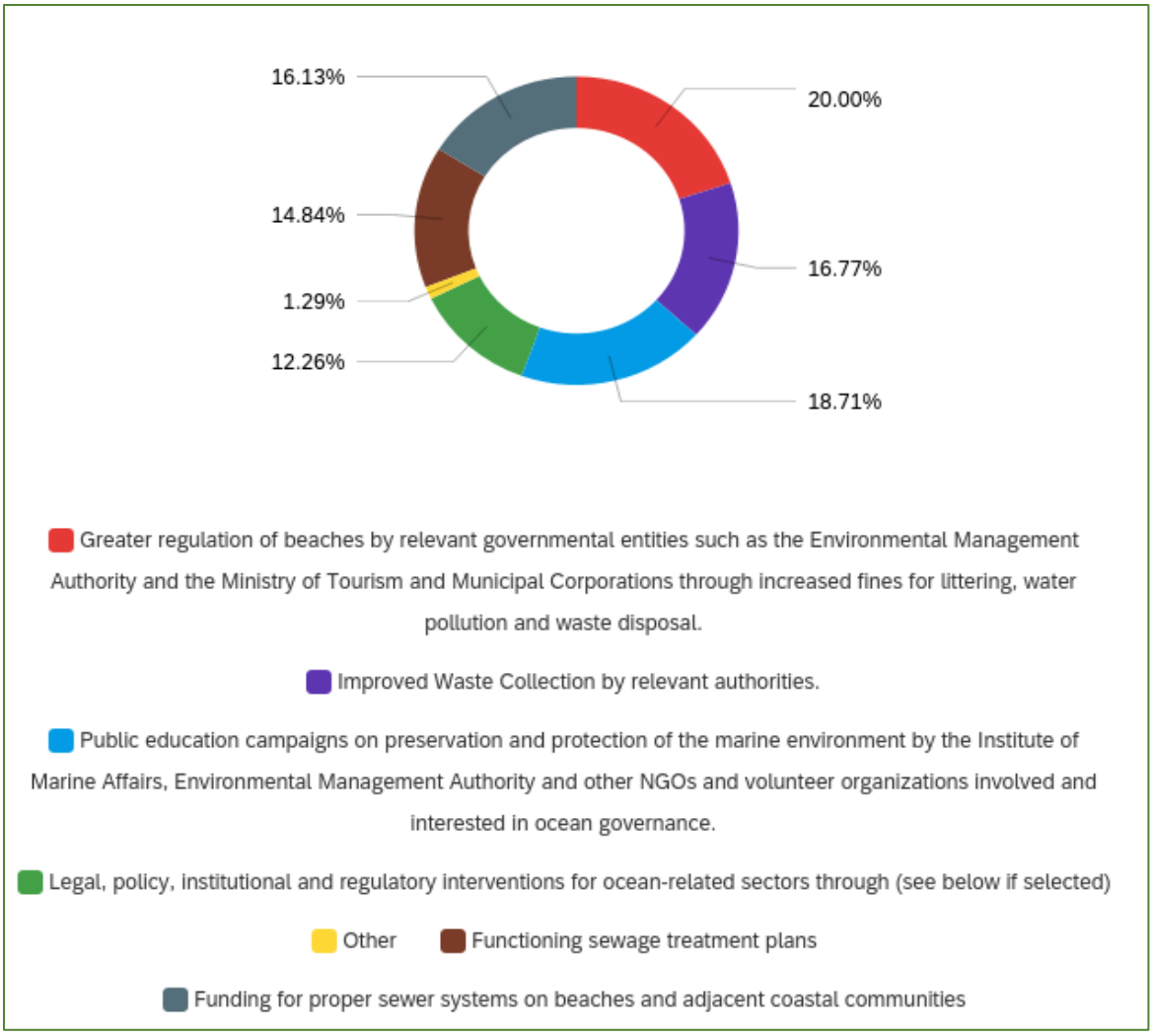


Figure 3.19. Survey respondents' perspectives about options for addressing poor waste disposal practices on beaches

3.2.6. Consideration of cross-cutting issues: Gender and oceans, the blue economy

The effective involvement of women as leaders in community groups in coastal communities has resulted in improved environmental stewardship. A wealth of research and experience supports the finding that development assistance in improving the position of women is one of the most effective ways to improve the welfare of communities in poverty (World Wildlife Fund 2008).

Greater involvement and inclusion of women in coastal community leaderships can also progress sustainable development goals for education and inclusion. In the maritime domain, women still only account for less than 2 per cent of the global workforce of seafarers. However, there is evidence that an increasing number of female officers and crew are being employed on cruise ships from Trinidad and Tobago.[27] Given the mounting evidence of the relevance of gender sensitivity

[27] In 2023, UTT seafaring graduates were being employed on cruise ships.

to successful stewardship, it is imperative that coastal and marine tourism and development factor this in to policies and development plans so the benefits of gender equality and inclusiveness can be harnessed for the advancement of coastal and marine tourism.

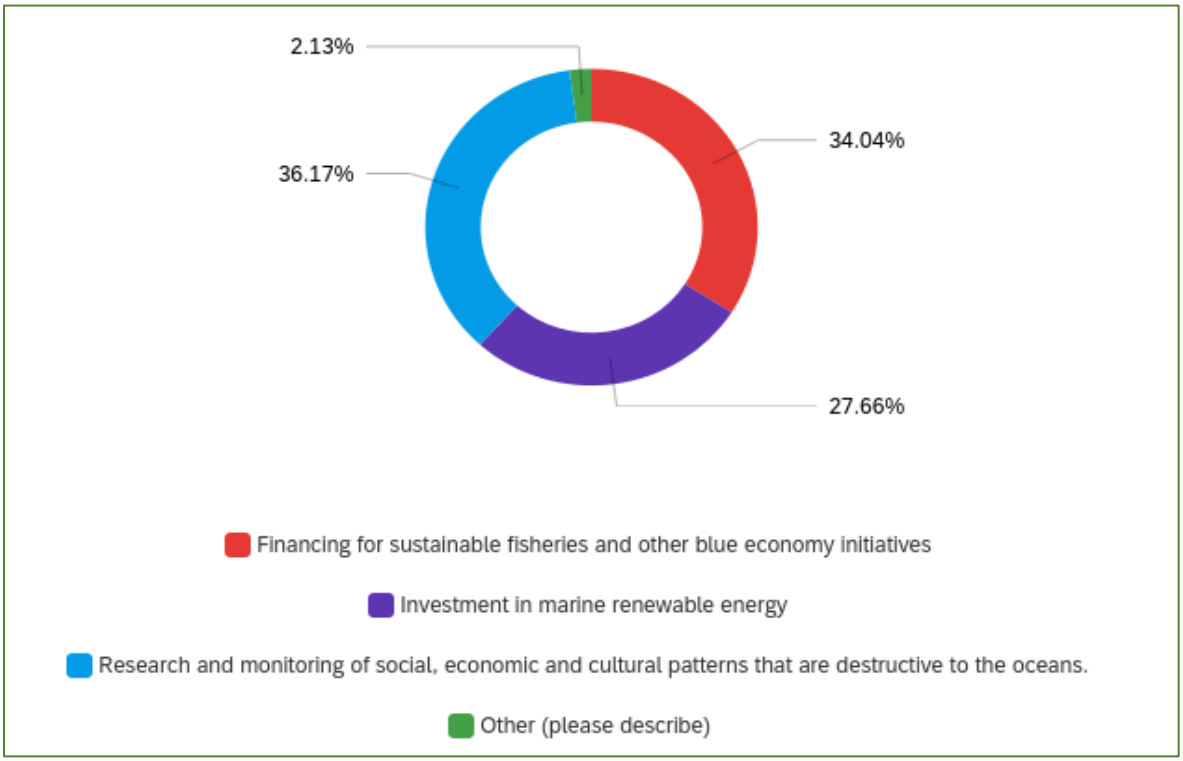


Figure 3.20. Survey respondents' opinions about legal, policy, institutional, and regulatory interventions that should be made for ocean-related sectors

Thirty-six per cent of respondents to the ocean governance priorities sector survey stated that there was a need for greater research about and monitoring of social, economic, and cultural patterns that were destructive to the ocean. Thirty-four per cent expressed the need for financing to support sustainable fisheries and other blue economy initiatives. Data from such research is needed to support the investment decisions of financiers and investors. In the absence of such data, investments in renewable energy that could facilitate greener cruise shipping will likely not materialise. Moreover, sustainable fisheries are predicated on adequate monitoring and surveillance.

In terms of the recommended actions to prevent, reduce, and control the negative impacts of coastal and marine tourism, 50 per cent of respondents identified the need for a coastal and marine policy and for a marine spatial plan for all marine and coastal areas of Trinidad and Tobago. The feedback is illustrated in figure 3.21.

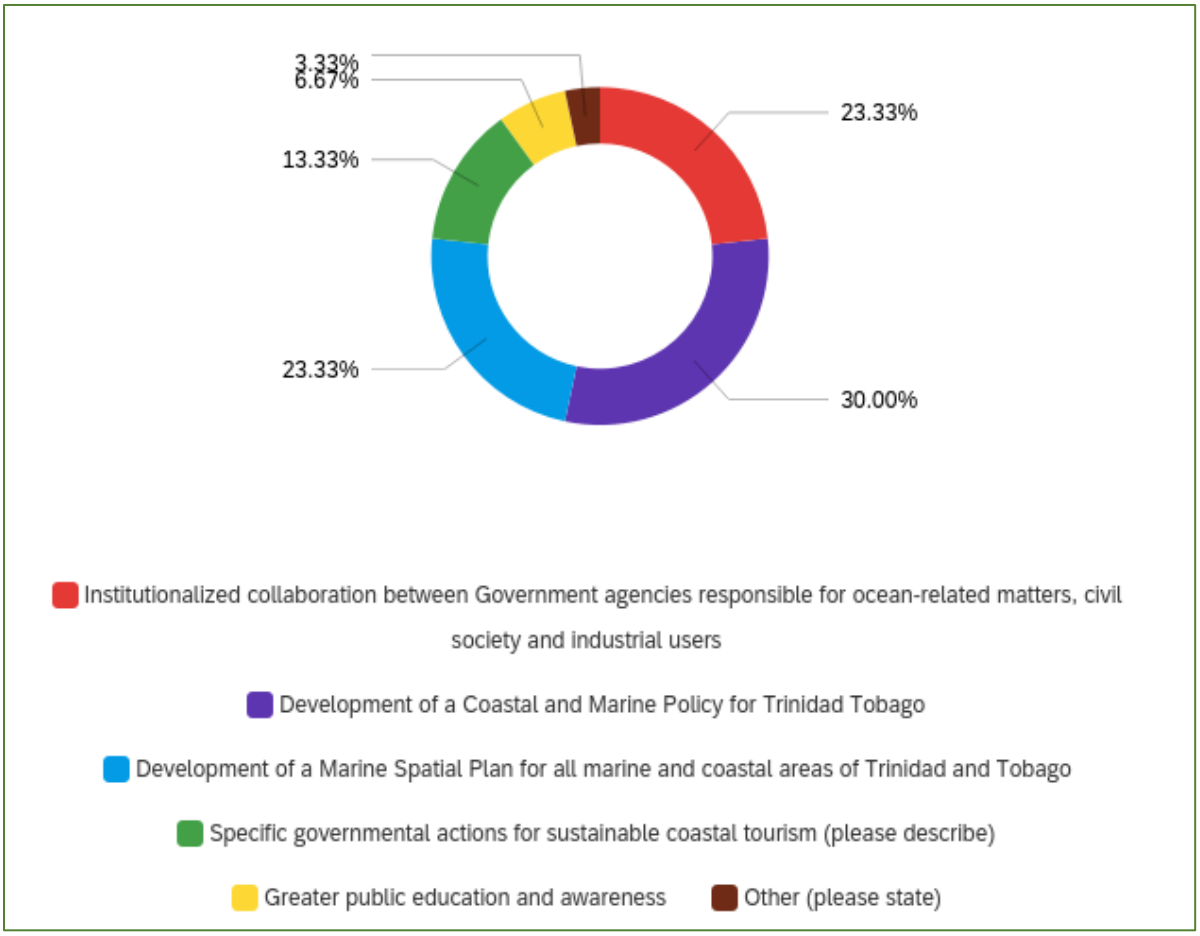


Figure 3.21. Actions survey respondents recommended to prevent, reduce, and control the negative impacts of coastal and marine tourism

4. Observations and Capacity-Building Needs

4.1. Observations for enhanced ocean governance in Trinidad and Tobago

Trinidad and Tobago has many laws, policies, institutions, and regulations that address ocean governance. While the blue economy paradigm is not yet mentioned explicitly in the policies affecting ocean governance, polices are in place that are reflective of the principles of the blue economy. The stakeholder consultations and responses from the legal and institutional priorities sections of the ocean governance survey have identified specific areas for improvement.

4.1.1. Policy and legislative capacity

While Trinidad and Tobago has an abundance of legislation on ocean governance, many legislative instruments are outdated.[28] Stakeholder institutions have reported policy gaps and the lack of updated amendments, making it difficult to implement international best practices for the conservation and sustainable use of ocean and marine resources; meet international obligations as a coastal, flag, and port State; and participate fully in regional ocean-related initiatives.

A lack of enforcement and limited enforcement capacity encourages unlawful exploitation of coastal and ocean resources. Ten of the 14 governmental stakeholders who responded to the legal and institutional priorities sections of the ocean governance survey identified a lack of priority in the legislative agenda as a challenge in implementing ocean governance initiatives.

4.1.2. Institutional coordination to enhance institutional capacity

A capacity needs exercise conducted with relevant stakeholders revealed that 50 per cent of organizations experienced challenges in implementing ocean governance initiatives. 55 per cent of the participants stated that their organization had no mandate relating to ocean governance. The 45 per cent whose participating organization did have a mandate for ocean governance gave their organization's capacity to achieve their goals and mandates a score of 5.8 on a scale of 0 to 10. Additionally, only 18 per cent of responding organizations indicated that they had sector-specific ocean programmes.

These responses suggest the need for a coordinating mechanism to ensure greater collaboration between the various institutions to manage marine resources effectively.

4.1.3. Human resource and leadership capacity

Overall, there appears to be significantly low human resource capacity to fulfil core mandates. Staffing is inadequate to fulfil governmental mandates for both priority sectors and ocean governance in general. The proposed legal and institutional reform of the maritime administration, if implemented, will bring enhanced capacity for promoting the blue economy. The creation of the

[28] Refer to Section 3.

Maritime Authority will allow for better flag, port, and coastal State control and monitoring of maritime zones. The IMA remains an institutional powerhouse that needs to be adequately staffed and supported to fulfil its mandate.

The survey of relevant stakeholders indicated that 75 per cent of participating organizations could not meet their organizational goal or mandate in relation to ocean governance with their current level of staff expertise. Furthermore, 75 per cent of organizations indicated that they did not have institutionalised (planned) procedures for developing staff capacity in ocean governance.

Ten per cent of the participants identified a lack of technical capacity as a challenge in implementing ocean governance initiatives. Organisations also anticipated that access to technical experts and capacity building would assist in meeting institutional need for ocean governance.

4.1.4. Multistakeholder involvement in ocean governance

Most of the initiatives that complement the blue economy strategies are government led. While government has a key role to play in creating appropriate legal and institutional frameworks, these frameworks should facilitate the inclusion of the private sector, NGOs, community-based organizations, academia, and civil society organizations.

4.1.5. Funding

Stakeholders highlighted gaps in funding to support the enforcement of legislation and limited human resources for the implementation of policies, legislation, and the use of technology to facilitate enforcement activities.

Ten per cent of the stakeholder respondents identified a lack of financial support to undertake reforms as a challenge in implementing ocean governance initiatives. Financial resources were also identified as a limitation when organizations were asked to identify their most pressing capacity needs in ocean governance.

Trinidad and Tobago, unlike many other countries, has a designated pool of financial resources that can be used to financing of protected areas. The Green Fund, established in 2001 under Section 65 (1) of the Miscellaneous Taxes Act (Chapter 77:01), is intended to financially assist organizations and community groups that are engaged in activities related to the remediation of, reforestation of, environmental education about, and public awareness of environmental issues and conservation of the environment. In 2021, the Green Fund had a balance of TT$8,438,216,227.32 (US$1,259,435,257.80).

Given the fact that only TT$500 million of that fund has been disbursed since its establishment, it can be seen as a potential source of funding for environmental projects. Unfortunately, limitations on projects that can be funded and entities that can qualify for funding have limited its accessibility. According to the Green Fund Regulations of 2011, companies registered under the Companies Act, groups registered under the Ministry of Sports and Community Development in Trinidad as community-based organizations or NGOs, and community groups and NGOs registered with the THA are eligible to access funding.

Some of the relevant projects approved by the Green Fund include projects involving wetlands rehabilitation, a capacity-building initiative for fishers regarding sustainable harvest, and an underwater turtle monitoring and related ecotourism development project (Trinidad and Tobago Express 2022).

The associated objectives of SDG 14 can be realised only if appropriate access to funding and expertise is available. While Trinidad and Tobago may need to explore opportunities for funding by leveraging natural resources as protected assets for concessional financing, the authorities could also explore innovative changes to the Green Fund by widening the group of recipients who may access the funds as well as the pool of projects that are eligible for funding. The financing opportunities could take the form of blue bonds or reforestation for carbon credits.

5. Observations and Prioritized Inventory of Capacity-Building Needs

The prioritized inventory of capacity-building needs, as evidenced from the stakeholder feedback and the review of the existing legal and institutional frameworks for enhancing ocean governance in Trinidad and Tobago, are captured in the tables 5.1 (short-term needs), 5.2 (medium-term needs), and 5.3 (long-term needs).

Table 5.1. Prioritized inventory of short-term capacity-building needs

Priority	Observations	Capacity-building needs
Conservation and management of living marine resources		
Creating a fisheries information and management system	There is insufficient information about the economic and social aspects of the fisheries sector, including its contribution to the country's GDP, the number of people employed in the sector, and the social and cultural importance of fishing communities.	Development of a national research agenda to inform management decision-making in the fisheries and aquaculture sector
Conducting a fish-stock assessment	Most stocks are either fully exploited or overexploited. Many assessments are dated, and the current situation is likely worse than it appears to be.	Adequate financial resources to undertake a stock assessment
Addressing the staff shortage	There has been a significant reduction in the HR capacity of the Fisheries Division to conduct core activities	Additional staffing
Safety and security of shipping		
Approval of the Shipping (Marine Pollution Prevention) Bill	This bill is intended to repeal and replace the Shipping Act (Chap. 50:10), the Harbours Act (Chap. 50:06), the Droghers Act (Chap. 50:07), and the Motor Launches Act (Chap. 50:08) and to amend the Port Authority Act (Chap. 51:01) and the Coroners Act (Chap. 6:04). It will provide for the certification and registration of seafarers and the certification and registration of vessels and offshore installations and will cover matters relating to crew safety and security of life at sea and matters incidental thereto.	Harmonisation of legislation governing the security and safety of shipping Building awareness and providing support for the adoption and approval of the Shipping (Marine Pollution) Prevention Bill Adoption of an efficient, quality management system per ISO 9001 Exploration of new avenues (e.g., memorandums of understanding) for cooperation among the various entities with responsibility for and management of matters related to shipping. Regular and coordinated patrol of the marine environment to address issues of piracy and other illegal activities plaguing the industry
Non-living resources		
Legal and institutional reform	The current legal and institutional maritime governance framework is archaic and is being reformed. The Shipping	Build awareness on effective legislative regimes for governing offshore installations.

Priority	Observations	Capacity-building needs
for shipping and offshore installations	(Marine Pollution Prevention) Bill 2020 provides for extensive oversight by the maritime administration over offshore installations. This is likely to create significant jurisdictional overlap with MEEI.	Document areas of specific jurisdiction by the proposed Maritime Authority and that of the Ministry of Energy and Energy Industries
Legal and institutional reform of the framework for regulating marine pollution from Ships	Trinidad and Tobago has not implemented most of the IMO marine pollution conventions in its domestic law.	Educate policymakers about the urgency of the need to make the Shipping (Marine Pollution) Bill 2004 a priority on the legislative agenda. Enhance maritime surveillance to monitor oil spills, hazardous waste dumping, and pollution resulting from shipping accidents and other deliberate discharges into the marine environment.
Enhanced implementation of existing legislation	The current ecological stresses to marine and coastal areas can be alleviated with improved enforcement of existing legislation	Use smart technology to enhance patrol of maritime areas to guard against trafficking, illegal fishing, crimes related to the marine environment, and maritime piracy
Creation of a 500-mile exclusion zone around offshore installations	There is a 500-mile exclusion zone in the Continental Shelf Act, but a safety zone applicable to the water column does not exist in the current legislative regime	Amend the Archipelagic and Exclusive Economic Zones Act to create a 500-mile exclusion zone around offshore installations.
Preservation of the marine environment		
Approval of the Integrated Coastal Zone Management (ICZM) Policy	The Draft ICZM policy is awaiting cabinet approval. As of 2023, it was before a Joint Select Committee.	Obtain funding to support legislation enforcement and address the lack of human resources that are needed for implementing policies, legislation, and use of technology to facilitate enforcement activities
Creation of interministerial committees for ocean governance	Progressing the agenda for improved ocean governance requires coordination across various ministries and support from nonstate actors.	Institutionalise the creation of a standing committee on ocean governance comprising government representatives, the private sector, NGOs, academia, and other relevant stakeholders to progress the blue economy. Establish a funding mechanism to provide sustainable financing for initiatives to preserve and protect the marine environment. Heighten awareness of the value of marine ecosystems and their important role in supporting livelihoods and providing ecosystem services.
Enactment of the Draft Forestry, Protected Areas, and	This bill, when enacted, will repeal and replace the Conservation of Wildlife Act (Ch. 67:01), the Forests Act (Ch. 66:01), the Sawmills Act (Ch. 66:02) and amend the Environmental Management Act (Ch.	Enact the Forestry, Protected Areas, and Wildlife Conservation Bill and establish the Authority with the requisite authority

Priority	Observations	Capacity-building needs
Wildlife Conservation Bill	35:05), the Fisheries Act (Ch. 67:51), the State Lands Act (Ch. 57:01), the Water and Sewerage Act (Ch. 54:40), the National Trust of Trinidad and Tobago Act (Ch. 40:53), and the Marine Areas (Preservation and Enhancement) Act (Ch. 37:02).	for establishing and managing marine protected areas.

Table 5.2. Prioritized inventory of medium-term capacity-building needs

Priority	Observations	Capacity building needs
Living resources		
Fragmented planning and decision-making	The institutional structure for managing fisheries is inadequate and does not meet Trinidad and Tobago's international obligations as a signatory to a number of fisheries and fisheries-related agreements and conventions. It must implement the proposed Fisheries Management Bill once it becomes law.	Establish memorandums of agreement among agencies involved in fisheries management to formalise and strengthen collaboration in fisheries management (e.g., data sharing etc.).
Regional collaboration for improved ocean governance	Existing regional initiatives are ad hoc and often are not informed of each other's objectives.	Create an inventory of initiatives related to the blue economy and the ocean in the Caribbean to reduce areas of duplication and enhance the use of available resources.
Safety and Security of Shipping		
A registry for offshore installations	The existing online registry of offshore installation is outdated.	A registry for offshore installations under a maritime administration will require technical expertise in data management, database design, and information technology under the Maritime Administration.
Preservation of the marine environment		
The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits	The country has yet to ratify the Nagoya Protocol of the Convention on Biological Diversity, which facilitates the fair and equitable sharing of benefits derived from MSR.	Build awareness of the importance of the Nagoya Protocol and put in place mechanisms for ensuring that relevant policies align with intellectual property rights, establishing focal points, and engaging the relevant stakeholders and financial management systems to manage the access and benefit-sharing benefits arising from the utilisation of genetic resources.
A marine spatial plan	Trinidad and Tobago has developed a solid ocean-based economy, relying on natural resources and economic activities in its exclusive economic zone. However, the exploration and exploitation of these marine	Develop and approve a marine spatial plan to balance important ecological, social, economic, and cultural uses of the coastal zone, marine resources, and the blue economy.

Priority	Observations	Capacity building needs
	resources are subject to a fragmented ocean governance model.	
A review of current and prospective policies and regulations affecting ocean governance and coastal issues to ensure that synergistic and sustainable blue economy opportunities are factored into those policies.	At the national level, many laws and institutions are responsible for managing ocean resources. However, several laws are outdated.	Develop/improve/update and enact national policies, strategies, and management plans on area-based and MPA management and ecosystems-based management plans. Conduct gap and comparative analyses of existing ocean policies and regulations to drive evidence-based decision-making that informs the development of legal documentation that fosters a sustainable blue economy.
Policies and plans that are consistent with the Kunming Montreal Global Biodiversity Framework, including the 30 X 30 initiative to ensure the preservation and management of marine	Trinidad and Tobago is committed to the goals and principles enshrined in the Kunming-Montreal Global Biodiversity Framework and has commenced the review of the country's National Biodiversity Strategy and Action Plan (NBSAP) to ensure it aligns to the goals and targets of the GBF so it can be implemented soon.	Revise the National Biodiversity Strategy and Action Plan to include new targets for preserving and managing marine resources consistent with the Global Biodiversity Framework.
Marine scientific research		
Marine scientific research policy	The MSR policy is dated.	Prepare an MSR policy and legislation to safeguard genetic diversity, undertake research and pursue development opportunities, and ensure implementation and compliance with international, regional, and national obligations related to MSR.

Table 5.3. Prioritized inventory of long-term capacity-building needs

Priority	Observation	Capacity building needs
Living marine resources		
Create a harmonised ocean policy for the Caribbean region	Apart from the Cartagena Convention and its three protocols, the region lacks cohesion in marine and maritime governance	Support the development of a regional sustainable blue economy policy for the Caribbean and create a regional coordination mechanism to promote and pursue policy implementation.
Improve monitoring, control, surveillance, and enforcement		Strengthen cooperation in fisheries management with other States whose fishing vessels utilise the ports of Trinidad and Tobago through specific memorandums of understanding. Initial discussions have commenced with Ministry of Foreign and CARICOM Affairs (MFCA), and drafting of one memorandum of understanding has begun.
Safety and Security of Shipping		
Improve monitoring and surveillance of shipping		Enhance flag and port State infrastructure.
Coastal and Marine Tourism		
Create a regional head tax on cruise ships	Caribbean countries compete for cruise ship arrivals to their shores to their detriment. Previous efforts at establishing a harmonised policy and tax did not meet with much success. A common head tax across the region would provide the only guarantee against threats by individual cruise lines to boycott destinations that have attempted to implement such policies.	Promote the adoption of a common head tax for cruise ship arrivals across the Caribbean region that is consistent with the benefits derived from passengers who visit the respective countries. Creating a cruise ship head tax will require a comprehensive approach involving legal, administrative, financial, and technical considerations and stakeholder engagement.
Preservation of the marine environment		
Coordinate and facilitate the development of a national strategy for ocean and coastal sustainability.	No strategy is currently associated with short-, mid-, or long-term actions on the ocean and coastal sustainability.	Support for an ocean and coastal sustainability strategy is needed and must be supported by other relevant policy and legislative frameworks. This strategy requires engaging stakeholders in the developmental process.
Marine Scientific Research		
Establish the capacity and training of personnel	MSR requires long-term training and education facilitated through national, regional, and international institutions.	Develop research programs through memorandums of understanding, partnerships, and increasing access to funding that is available for necessary equipment and resources.

6. Conclusion

Trinidad and Tobago has significant potential to leverage the blue economy, which encompasses critical sectors such as living resources, maritime services (shipping, dry docking, etc.), non-living resources, coastal and marine tourism, preservation of the marine environment, and marine scientific research. Maritime services have been identified as priority areas for the country, particularly dry docking, offshore installations, and coastal and marine tourism. International, regional, and national policies and legislation influence the ocean governance framework in Trinidad and Tobago.

Legal and regulatory reform

While Trinidad and Tobago has taken steps to develop aspects of the blue economy, there is still room for improvement in implementing comprehensive and integrated policies to address cross-cutting issues such as climate change, overfishing, pollution, gender inclusiveness, education awareness, and capacity building. The country has yet to finalise and implement key legislative instruments (e.g., the Shipping Bill of 2019; the Fisheries Management (No. 2) Bill of 2021; the Shipping Bill of 2020; the Shipping (Marine Pollution) Bill of 2004; the Forestry, Protected Areas and Wildlife Conservation Bill of 2015; and the Tobago Marine Parks Bill) and vital national policies (e.g., The draft National Maritime Policy and Strategy of 2021 and the draft ICZM Policy Framework). It also has not ratified the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits. All of these Bills and Policies can contribute significantly to developing these sectors while also contributing to integrating gender equality and capacity building in the blue economy sectors.

Enhanced institutional coordination

A critical gap in ocean governance is the need for an overarching governing body to manage ocean resources and maritime services in Trinidad and Tobago. In this regard, there is a need to establish a coordinating mechanism or centralised authority consisting of representatives from all relevant governmental entities involved in ocean governance and maritime services to facilitate collaboration, streamline decision-making, and promote effective and integrated ocean governance. It would also work to identify and address gaps, overlaps, and inconsistencies in policies, regulations, and management approaches.

An integrated mechanism for ocean governance that would prioritise the development of cohesive national policies, improve the coordination of various sectors and stakeholders, and align national efforts with regional and international commitments is crucial. Furthermore, this would ensure the sustainable management of the country's marine resources and promote education and awareness of the importance of ocean governance and the role of gender in the blue economy.

Policy coherence

While the absence of critical policies was noted, it is also evident that there is a need for a comprehensive national ocean policy framework that outlines the country's vision, goals, and priorities for sustainable ocean governance and management. This policy should integrate and harmonise the mandates and responsibilities of the various agencies involved and provide clear guidance on the roles and responsibilities of different actors.

Stakeholder institutions have reported policy gaps and the lack of updated amendments, making it difficult to implement international best practices for the conservation and sustainable use of ocean and marine resources; meet international obligations as a coastal, flag, and port State; or participate fully in regional ocean-related initiatives. Addressing this should involve the review of existing laws and regulations related to ocean governance and maritime services to ensure consistency and alignment with the country's National Ocean Policy.

Emerging areas that can promote the blue economy

There is increasing awareness of the need to decarbonize shipping and maritime operations in Trinidad and Tobago. The major ports of the country are involved in activities aimed at determining their greenhouse emissions in order to inform their energy efficiency strategies for reducing these emissions. As maritime shipping grapples with the net zero ambitions of the IMO, countries need to take strides to make alternative fuels available and accessible as a means of realising a holistic decarbonization agenda. There is also research under way at local universities on the use of marine renewable energy. However, if any commercially viable projects materialise, it would likely materialise in the medium to long term. Alternative fuels such as green methanol and hydrogen are also under consideration as a path to decarbonizing shipping in light of the IMO's aim to significantly reduce GHG emissions from shipping by 2050.

Building capacity

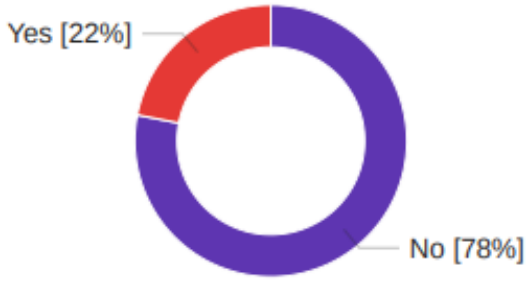
Several of the institutions consulted noted the need to build capacity to implement ocean governance initiatives, including enforcing compliance with the laws and regulations intended to manage resources in the ocean sector. There is, therefore, a need to invest in capacity-building and training programs for government staff and other stakeholders involved in ocean governance and maritime services. Also, by focusing on developing priority sectors such as maritime services and coastal and marine tourism and addressing cross-cutting issues through capacity-building initiatives, Trinidad and Tobago can maximise the potential benefits of the blue economy for its citizens and the environment, fostering a more inclusive, resilient, and sustainable future. These recommendations can help Trinidad and Tobago achieve a more effective, integrated, and sustainable approach to ocean governance and maritime services management.

Appendix I. Ocean Governance Study: Priority Sector Survey

Number of completed responses: 33

Priority Sector 1: Maritime Sector

Question 1. Is the impact of shipping on the marine environment adequately regulated by the Government of Trinidad and Tobago?



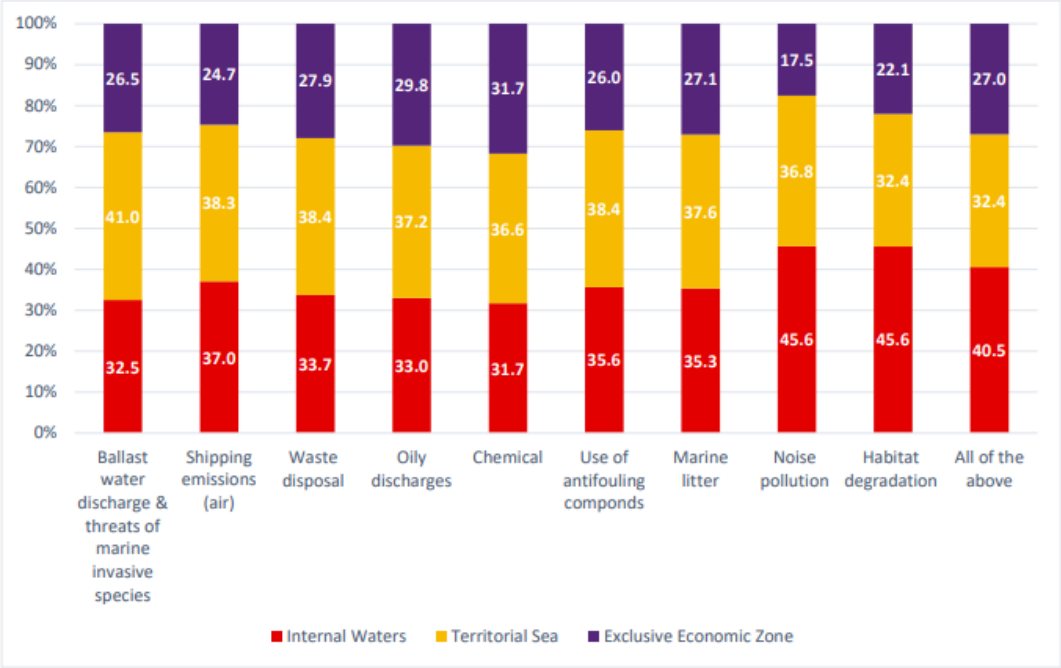
Question 1.1. If no, what aspects of Trinidad and Tobago's legal or institutional framework should be enhanced to adequately regulate the impact of shipping?

Maritime services division restructuring, and allocation of additional resources needs to happen along with full understanding of laws applicable.
MARPOL, port State control
Enforcement and regular checks to ensure accordance with laws
Marine Pollution enforcement, Ballast Water Rules enforcement
Enhancement and enforcement of Marine Laws especially as it pertains to disposal of waste at sea
Pollution Bill to be enacted into domestic legislation so that provisions of MARPOL can be addressed and enforced.
Marine Pollution Bill, especially as it relates to oily discharges, sewage, and solid waste pollution.
Legislation to address the discharge of ballast water as it relates to alien invasive species.
Legislation that pertains to the storage/disposal of derelict vessels
Regulation to ban the use of anti-fouling paints with TBT.
Improve capacity of regulatory agencies to implement polices and enforce legislation.
The overarching Integrated Coastal Zone Management Policy should be approved to coordinate/manage all activities within the EEZ including shipping.
Ease of doing business, namely droghers license.
Marine environmental monitoring and control via implementation of MARPOL annex in a sensible manner.
Legislation is required to address national oil spill management as may be required in the event of an oil spill from marine vessels.
Regulations to be developed to strengthen monitoring, control, and surveillance of pollution from ships, e.g. bilge and ballast water.

Enforcement of environmental protection
Monitoring and enforcement
The existing codes and policies need to be enforced for better compliance. In addition, the public needs to have greater awareness of the codes and policies in order to meet the requisite requirements.
There have been incidents of fuel in the water in Chaguaramas. No investigation, no one held accountable, and no fines.
The parliamentary legislation needs updating, especially when it comes to fines and enforcement of new codes in regard to ship safety
More stringent fines and enforcement of the MARPOL Convention. A department designed specifically for examining and testing ballast tanks of foreign vessels to ensure unwanted micro-organisms do not enter our local ecosystem. Additionally, bills should be passed with stricter fines towards persons conducting illegal trawling activities. The Trinidad and Tobago Coast Guard should be working in tandem with Maritime Services Division to form a Task Force designed to protect our local fish population.
[Speaking] as a mariner and business owner, clearing of customs and immigration has never been anywhere near as difficult as [it is in] TnT! You are clearing in and out yachties who come to TnT for repairs and services. These folks spend major money: 10% of a boat's value for repairs and maintenance annually is [the] general cost figured into ownership. Besides helping the local economy by making purchases, these folks employ many who work in the boat yards, rentals, groceries, the list is extensive. These yachties are not major shipping lines bringing in supplies. There should realistically be an easy, straightforward computerized method to achieve this process, rather than the antiquated waiting for a government representative to often rudely make sure you have filled multiple forms with 4 carbon copies. It would seem to me kindly welcoming with open arms is far more attractive than the current arrogant "have a seat" attitude.
Maritime Laws
Monitoring, control, and management of vessels anchoring in territorial waters. Mandatory permission must be gained and fees should be applied. Fines must be imposed on deballasting, discharging of any waste [should] not [be] permitted. An authority with proper equipment should be established to monitor and enforce the laws.
A VTMS should be established and enforced in the Gulf of Paria.
Regulation of fuels used by ships to ensure a gradual reduction in greenhouse gas emissions.
There needs to be more focus on port state inspections for compliance with the ballast water convention and other conventions such as MARPOL.
1/ penalties for malpractice 2 /regular inspections of vessels
The Marine (Shipping) bill
Illegal dumping of ballast water, disposal of oily bilge water, observance of MARPOL regulations
The design and implementation of a maritime pollution act and the updating of the shipping act
The Oil Pollution in Territorial Waters Act should be repealed and replaced with comprehensive Marine Pollution legislation incorporating the IMO Marine Pollution Conventions to which Trinidad and Tobago is party.
Port Authority Act Shipping Act Pilots Act EMA Act Municipal Corporations Act

The Oil Pollution in Territorial Waters Act (Chapter 37:03) should be repealed and replaced by modern marine pollution legislation based on recent IMO Convention law.
Shipping Act, of which a related adequate bill is currently before the Parliament which seeks to provide for a Maritime Authority with qualified staff members to administer the law when it is passed. The bill will seek to repeal and replace the Shipping Act (Chap. 50:10), and to provide for the certification and registration of seafarers, certification and registration of ships and offshore installations, and matters related to crew safety and security of lives at sea, to repeal the Harbours Act (Chap. 50:06), the Droghers Act (Chap. 50:07), and the Motor Launches Act (Chap. 50:08) and to amend the Port Authority Act (Chap 51:01), and the Coroners Act (Chap. 6:04). Shipping (Marine Pollution Prevention) Bill 2022, the sister legislation to the Shipping Bill above, currently being drafted by the Office of the Deputy Chief Parliamentary Counsel, which will provide for the implementation of UNCLOS and all other international maritime conventions which treat protection of the marine environment from ship generated wastes. The Act when passed seeks to provide powers and jurisdiction in relation to the prevention of pollution of the seas from ships and offshore installations, the intervention on the high seas in cases of pollution, the dumping of waste at sea, the prevention of pollution from ships and the regulation of reception facilities, the preparedness and response for oil and hazardous substances pollution emergencies, the liability and compensation from pollution damage, the antifouling and biofouling systems on ships, the ballast water management, the repeal of the Oil Pollution of the Territorial Waters Act (Chap. 37:03) and matters incidental thereto.
National policy needs to reflect more environmentally sound legislation to combat the following areas: Illegal wildlife trade Climate change and mitigation measures Hazardous material and waste transportation restrictions Sea space governance to encompass biodiversity protection
Legislation needs to be amended and promulgated and relevant resources (financial, human, investment, technical) directed to implement said legislation.

Question 2. What are some of the main impacts of shipping on the marine environment in the maritime zones of Trinidad and Tobago? Select all that apply to each of the zones.



Question 3. Are offshore installations related to oil and gas and transhipment operations adequately regulated in Trinidad and Tobago's maritime territory?

Question 3.1. Explain your position.

Lack of monitoring and understanding
Little to no enforcement.
They run their operations privately.
Not nationally specifically
I am actually unsure as to such regulations relating to offshore installations.
Energy industry for the most part is self-regulating using best practices that often surpass governmental regulations.

Not aware of legislation, guidelines, or SOP to regulate that activity.
Marine installations may be in the ocean but fixed to the seabed. This should then fall under a regime controlled by the ministry of energy related to pipelines and sub-sea structures made fast to the seabed. Maritime should only have purview over the water column and surface. Offshore installation made fast to the seabed are NOT ships. DRILL ships and other floating oil and gas facilities are already governed by IMO regulation as related to the construction and operations.
There is already legislation in place to address these activities.
It is uncertain whether these installations and transshipment related to the oil and gas sector is regulated. However, as it pertains to the impacts of oil and gas installations on the fishing industry, there is no legislation that addresses safety issues for fisherfolk nor for placing the responsibility on the entities that disrupt fishing activity to address the impacts on loss of livelihood and impacts on the living natural resources which ultimately may have implications for food security.
Regulations and guidelines exist.
Due to international requirements, they adopt a strict adherence to the laws.
The oil companies work in all parts of the world and usually follow international regulations even if the host country has little or no regulations and enforcement.
I don't see much from the government in terms of regulation, but the private companies operate by best international practices, which keeps the standard high.
I cannot categorically state that they are not. However, I do believe that existing policies can always be improved.
Lack of proper auditing and inspections by the appropriate authorities.
Bunker vessels frequently conduct operations within territorial waters even though they do not have permission to do so. Transshipment vessels and operations are also not inspected frequently or rigorously enough.
Insufficient knowledge on regulations
In an environment where offshore installations exist, should be following all protocol developed by the laws of the land and otherwise by companies within this industry as it relates to conservation and protection or the marine environment. I believe that this has to be maintained and thus it is why I believe that it is adequately regulated.
More can be done by agencies outside of the TTCG alone. Port authorities and a unit whose sole task is to enforce MARPOL & other regulations can be set up.
The Petroleum Act does not adequately regulate the use of offshore installations and there is need for new legislation based on IMO resolutions and directives in this area.
As a nation, culturally Trinidad and Tobago tends to neglect enforcement of laws and seems prepared to accept the consequences of doing so. My view may be based on perception, but I could see where the relevant authorities would simply trust the multinational companies carrying out oil and gas transshipment to do the responsible thing. After all, it's not very visible to the public eye. Economic incentives would probably outweigh other considerations when it comes to applying pressure and enforcing appropriate regulations.
Offshore installations related to oil and gas and transshipment operations are regulated by the Petroleum Act 1969 provides, an Act to consolidate and amend the law relating to petroleum so as to make better provision for the exploration for, and the development and production of, petroleum, and for matters consequential or incidental thereto. Over the last 50 years there has been hardly any adequate local regulations to deal with certain issues of safety and security, safety of navigation in the vicinity of offshore installations and decommissioning of offshore installations. UNCLOS provides under several articles for the regulation of installations, for example articles

56 (rights and jurisdiction)

60(safety zones) (abandoned offshore installations should be removed)

80 (offshore installations on the Continental Shelf).

The IMO has provided Conventions, codes, and guidelines on safety and security of lives at sea and protection of the marine environment on the above aspects and Trinidad and Tobago has not implemented some of these critical issues just yet. The IMO SOLAS MODU Code (now mandatory) provides for mobile offshore drilling units, and local regulation of fixed offshore installations are still inadequate. viz;

IMO Resolution A.671(16); (safety zones for offshore installations);

Guidelines for the removal of offshore installations (Resolution A.672(16)) and safe practices for the carriage of cargoes in offshore supply vessels that interact with offshore installations

OSV Code A.863 (20) and

Guidelines on the design and construction of OSVs Resolution MSC, 235 (82).

The following codes are contemplated in the local legislation: fire test procedures, fire safety systems, the life-saving appliances code, the international safety management code, and the International Ship and Port Facility Security Code. Need to provide for offshore installation managers and staff minimum qualifications and adequate radio communications.

The Ministry of Energy and Energy Industries (licensing for operations) can along with the Maritime Authority (registration for safety of navigation and safety and security of lives at sea and protection of the marine environment) and other authorities can concurrently regulate the offshore installations each in their particular sphere of operations. All these issues are currently before a Joint Select Committee of Parliament and can be sourced from the Hansard.

The IMO has increased the focus on the regulation of offshore installations by maritime administrations and has taken a more proactive stance in the matter of safety and security of ships and offshore installations. Recent IMO Resolutions have governed, inter alia

• the establishment of safety zones for offshore platforms;

• the certification of mobile offshore drilling units;

• guidelines for the removal of offshore installations within the Continental Shelf and EEZs of member States; and

• safe practices for the carriage of cargoes in offshore supply vehicles

The MSD, as part of its administrative functions under the Shipping Act (Chapter 50:10) currently conducts the inspection, survey and investigation of floating offshore installations by way of trained Flag State inspectors in order to ensure compliance with the provisions of the Mobile Offshore Drilling Unit Code, made by the IMO under the International Convention for Safety of Life at Sea (SOLAS 74/78). This Code provides for the construction and certification of mobile offshore drilling units, which recommends design criteria, construction standards, and other safety measures to minimise the risk to such units, to personnel on board, and to the environment. In addition to SOLAS and the Mobile Offshore Drilling Unit Code, flag State inspections seek to ensure compliance with the following IMO instruments:

• The International Convention for the Prevention of Marine Pollution from Ships (MARPOL 73/78); and

• The International Safety Management (ISM) Code, which forms part of SOLAS, and is geared toward safety for self-propelled vessels and mobile offshore drilling units.

A Bill has recently been introduced to the Trinidad and Tobago Parliament which seeks to repeal and replace the current Shipping Act, which dates back to 1987, with modernised legislation more reflective of twenty-first-century shipping: the Shipping Bill, 2020. A feature of this Bill is the establishment of a proper regulatory regime for offshore installations, an area conspicuous by its absence in the present legislation. In like manner with other jurisdictions worldwide, the Bill seeks to enable the regulation of offshore installation operation and activity from a perspective of safety,

security, and pollution prevention in accordance with international best practices as set out in the various international maritime conventions, codes, and resolutions of the IMO. Through a combination of enabling provisions within the Bill itself and regulations to be drafted upon its promulgation, the Bill shall strengthen the existing Flag State inspection regime and establish the following new standards to be met:

• The registration of offshore installations for the purposes of Flag State and Coastal State Control, as mandated by the United Nations Convention on the Law of the Sea (UNCLOS), through the inspection and survey regime for fixed offshore installations, in like manner to the inspection and survey of ships;

• The protection of offshore installations through the establishing of the following:

--safety and security zones around offshore installations;

--standards for safety and security on board, security assessments, and plans, in accordance with IMO resolutions and international best practices;

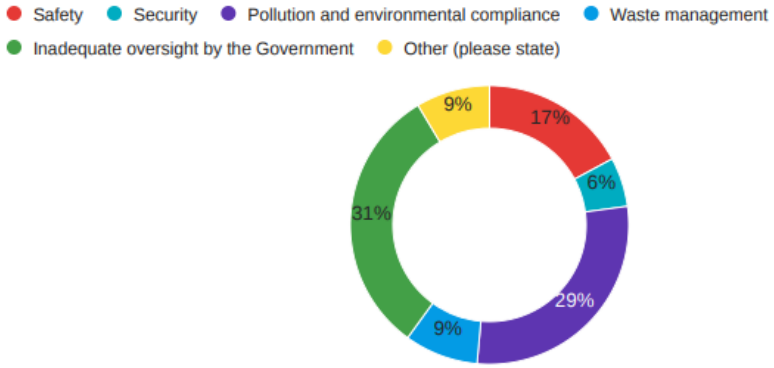
--life-saving appliances and arrangements for offshore installations;

--fire detection, fire protection, and fire extinction procedures for offshore installations and radio communication requirements.

--safe practices for the carriage of cargoes in offshore supply vehicles and their interface with offshore installations;

• Provision for the construction of offshore installations as well as the manner of their decommissioning, in like manner to the building and breaking of ships to provide clean seas for the safety of navigation. It is not the intention of MSD to interfere with or to impede in any way the licensing and commercial concerns that have currently been established by the MEEI under the Petroleum Act. The MSD's concerns remain the safety and security of life at sea and the protection of the marine environment.

Question 4. What do you consider to be the most significant challenge to managing offshore installations related to oil and gas and transhipment operations?

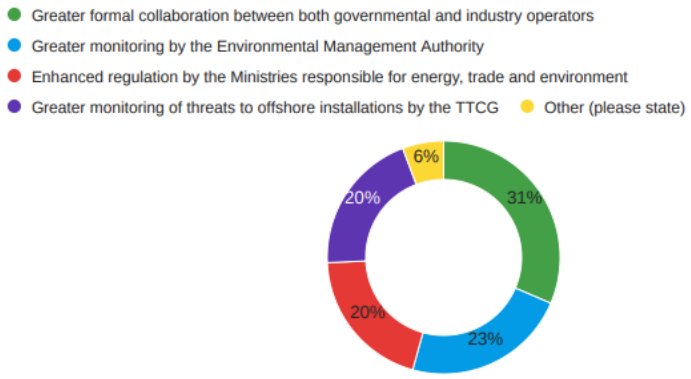


Question 4.1. Other (please state).

Inadequate presence by national security arms to prepare for defence and resist harmful acts to the facilities.
Nobody from the Authority is there to govern that best practice is taking place.
All of the above, but they are all being addressed in the two main pieces of draft legislation the Shipping Act and the Shipping (Marine Pollution Prevention) Bill.

Question 5. What changes would you recommend for improving the management of these installations?

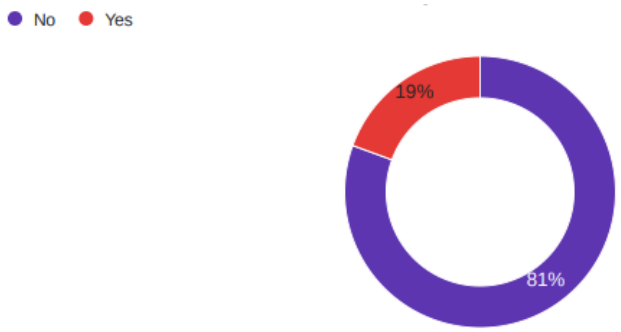
(Select all that apply.)



Question 5.1. Other (please state).

Having effective legislation and capacity by the regulatory agencies to enforce.
Proper linkages with relevant government agencies to manage certain aspects of operation.
The operators manage to international standards and government is only interested in compliance with inadequate legislation. There also needs to be increase competence by the enforcement arms to execute any action.
Greater formal collaboration between government agencies
Greater involvement from the Maritime Administration regarding the establishment of, registration of, and proper disposal of offshore installations and related activity.

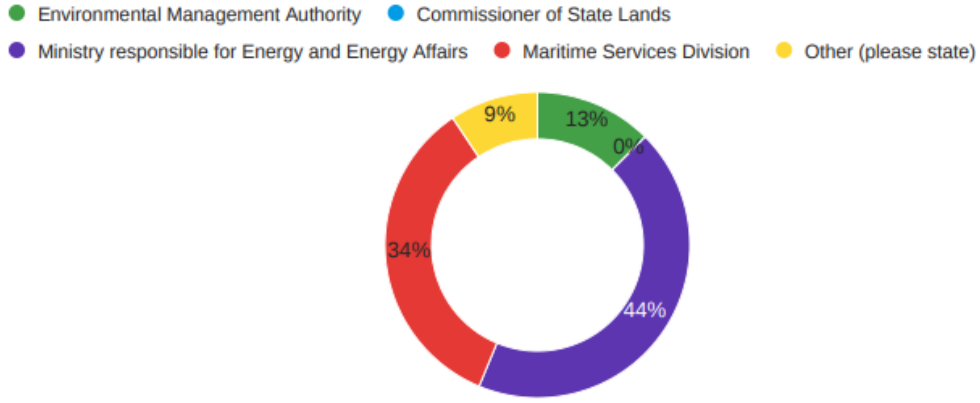
Question 6. Do you have any recommendations pertaining to specific legislative or regulatory interventions that could enhance the management of offshore installations?



Question 6.1. If yes, please state them.

Remove the management of offshore facilities currently included in the shipping act from that piece of legislation. Ensure the folks that manage the maritime services know the definition of "what is a ship/vessel" and make sure the shipping act is focused on commercial shipping and its effects, which is sorely NEEDED! The shipping act should seek to create enabling legislation to codify the four pillar IMO legislation and the management of commercial shipping!, and not be seen to try and "pull" offshore installation simply for the fact [of] extracting value for the operation. This act is totally misguided in its current format! Include compliance of certain aspects under a new piece of legislation related to pipelines and sub-sea infrastructure, as well as the "management of offshore installation" to be overseen by Ministry of Energy.
Security exclusion area
Offshore installations should be required to install radars and surveillance cameras for safety and security surveillance of the surrounding area. A feed from these sensors should be made available to the Trinidad and Tobago Coast Guard. Offshore installations should also be required to install oil spill detection systems for automatic detection of spills by the installation or their supporting vessels.
—IMO Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and Exclusive Economic Zone, IMO Resolution A. 673 (16) adopted 19 October 1989 —IMO Code for the construction and equipment of Mobile Offshore Drilling Units, 2009 —IMO Circular (MSC-MEPC.2/Circ.9) of 25 May 2010 —Guidance circular from the IMO for the application of safety, security, and environmental protection provisions to FPSOs and FSUs
See the Shipping Bill 2020 which is before the Joint Select Committee of Parliament and online (https://www.ttparliament.org/publication/the-shipping-bill-2020/) and the Shipping (Marine Pollution Prevention) Bill which I spoke to above.
See previous response.

Question 7. The primary governmental responsibility for managing offshore installations should rest with:



Question 7.1. Other (please state).

As stated in previous comment.
The managing of offshore installations should rest concurrently with the ministry responsible for energy and the energy industry and the Maritime Authority when enacted (safety zones around offshore installations; fire detection, fire extinction, and fire prevention; life-saving appliances; radio communications and security of lives at sea; safety of navigation; decommissioning of offshore installations, and the like.
Ministry of Energy and Energy Industries for safety aspects, commercial and petroleum exploration aspects with support of the MSD for —safety and security zones around offshore installations; —standards for safety and security onboard, security assessments and plans, in accordance with IMO resolutions and international best practices; —life-saving appliances and arrangements for offshore installations; —fire detection, fire protection, and fire extinction procedures for offshore installations and radio communication requirements. —safe practices for the carriage of cargoes in offshore supply vehicles and their interface with offshore installations.

Question 8. Identify and explain the risks that offshore installations and dry-docking operations pose to marine users as well as any legislative interventions you would recommend for improving the management of these installations for the protection and preservation of the marine environment.

Pollution (accidental spills/ leaks), user conflicts re: offshore installation and dry docking in fishing areas, risk to navigational safety
Marine Pollution Bill needs to be passed in Parliament.
Need for Marine Spatial Planning.
Protected areas legislation. Protected Areas System Plan was approved by Cabinet.

Offshore installation risk: location in ocean poses risk to shipping. This is controlled with appropriate notice to mariners and on nautical charts. Currently adequately managed and can be enhanced by vessel-monitoring operations center. Offshore Installation risk: pollution from their operations, air, water and seabed. If only we can have the Marine Pollution Act fast-tracked with proper enforcement, that would help to mitigate this risk. Offshore installation: safety risk currently managed according to best industry practices; however strengthened emergency response arrangements in response to major accident remain non-existent. Dry docking risk: major would be pollution to the marine environment, both air and water. Currently no umbrella legislation to government it. Operations based on disparate legislation to manage narrow aspect of operation.
Dry-docking operations should have an oil spill response plan to address oil spill spillage as well as implement measures to address risks identified so as to prevent and mitigate against oil spillage. Their oil spill plans should be in alignment with the national oil spill response plan. Environmental pollution is the greatest risk. Active monitoring is one solution.
Safety continues to be a risk since some users are forced to continue their operation since there is no compensation for downtime.
No legislative intervention as there will be no enforcement. Trinidad's biggest problem is there is no enforcement of any laws.
Dry-docking operations usually occur on the coastlines. If the waste generated by operations is not treated and removed safely, it can kill or severely harm the juvenile species of many marine life which usually occupy those areas for safety. Offshore installations are normally constructed within 50 to 100 nautical miles from the coast. Any adverse use or disposal of waste or spillage could have serious environmental impacts on local marine species critical for the environment's survival.
Pollution and emissions management
Waste, chemical/coating/oil/fuel spills into sea. Inadequate emergency response/spill response in such instances. Financial responsibility of the offending party to resolve such issues and rehabilitate the affected environment.
1) Pollution 2) Dangers to navigation These can be improved by reducing carbon footprint and ensuring that all navigational aids are implemented and regularly maintained at these installations
A risk that can be identified that offshore installations and dry-docking operations pose to marine users is the use of harsh chemicals and solutions for either respective application. A recommendation to improve the effects of same should be to looked into much more environmental products that are geared towards working efficiently and maintaining the natural beauty of the sea.
If potential discharge of waste (cleaning agents/detergents) are not monitored then this can lead to contamination of the various aquatic habitats
Navigational hazards in high traffic density areas
The following is a summary of possible risks to marine users: —an event involving a fire, explosion, loss of well control, or the release of a dangerous substance causing, or with a significant potential to cause, death or serious personal injury to persons on the installation or engaged in an activity on or in connection with it

—an event involving major damage to the structure of the installation or plant affixed to it or any loss in the stability of the installation causing, or with a significant potential to cause, death or serious personal injury to persons on the installation or engaged in an activity on or in connection with it

—the failure of life support systems for diving operations in connection with the installation, the detachment of a diving bell used for such operations or the trapping of a diver in a diving bell or other sub-sea chamber used for such operations

—any other event arising from a work activity involving death or serious personal injury to five or more persons on the installation or engaged in an activity on or in connection with it; or

—any major /pollution environmental incident resulting from any event referred to above

All the above can be addressed by way of proper enabling legislation implementing IMO conventions and guidelines and regulations made thereunder.

Marine users, especially those economically dependent, are particularly vulnerable to degradation of habitat which leads to dislocation of the marine life in those areas. In Trinidad and Tobago, we have a number of offshore oil rig installations, which generates significant revenues and contributes to GDP. Oil slick or waste discharges from sea vessels are more than an inconvenience to domestic users seeking to earn a livelihood from the sea, inclusive of tourism-based businesses.

In terms of legislation, I would bolster the Environmental Management Authority Act by amendment specific to the marine environment. The institutional capacity of the EMA could be strengthened to provide adequate resources to support enforcement of the legislation working in collaboration with the Maritime Services Division of the Ministry of Works and Transport.

There are many risks that offshore installations and dry-docking operations pose to marine users. These include fuel theft and other operations [that] can cause fire and explosion hazard, robbery at sea, the proper management of offshore installations, lack of safety, firefighting and radio communications equipment, lack of means of escape, abandonment of offshore installations causing safety of navigation risks. Dry-docking has similar risks, particularly for the marine environment, and a lack of legislation is highly risky. All the required legislative interventions have been articulated above in the Shipping Bill and Shipping (Marine Pollution Prevention) Bill, which is still being drafted and includes repeal of the Oil Pollution in Territorial Waters Act.

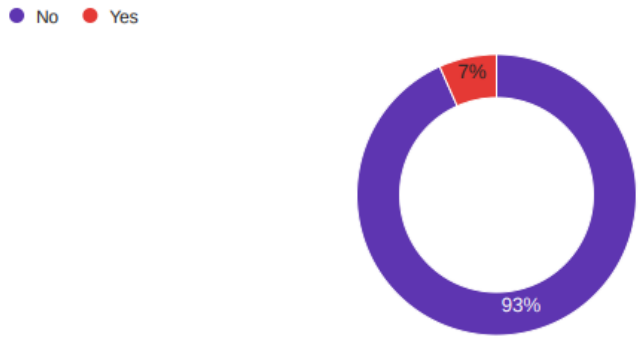
Offshore installations

1) Pollution discharges and emissions—constant monitoring and enforcement is needed
2) Safety and security zones around offshore installations
3) Oil spill risk

Dry-docking operations

1) Pollution discharges and emissions—constant monitoring and enforcement is needed
2) Reception facilities may need more regulation

Question 9. To your knowledge, are offshore installations currently used to facilitate dry-docking operations in Trinidad and Tobago?

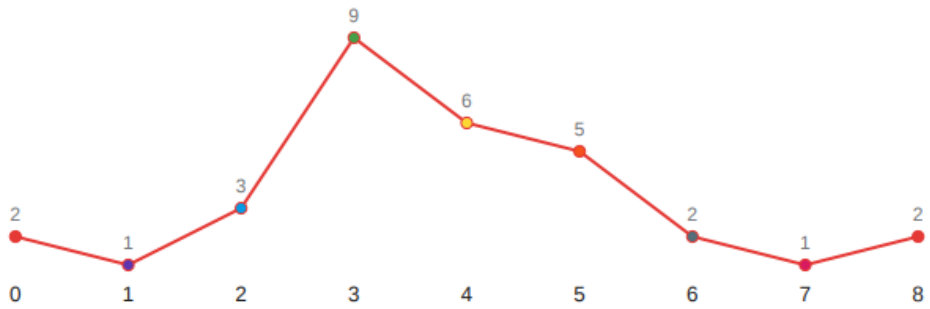


Question 9.1. If yes, please identify the location of these operations.

Gulf of Paria
To confirm: Caribbean Dockyard

Priority Sector 2: Coastal Tourism

Question 10. On a scale of 1 to 10, rate the adequacy of Trinidad and Tobago's regulation of the environment impacts of cruise shipping on the preservation and protection of the marine environment.

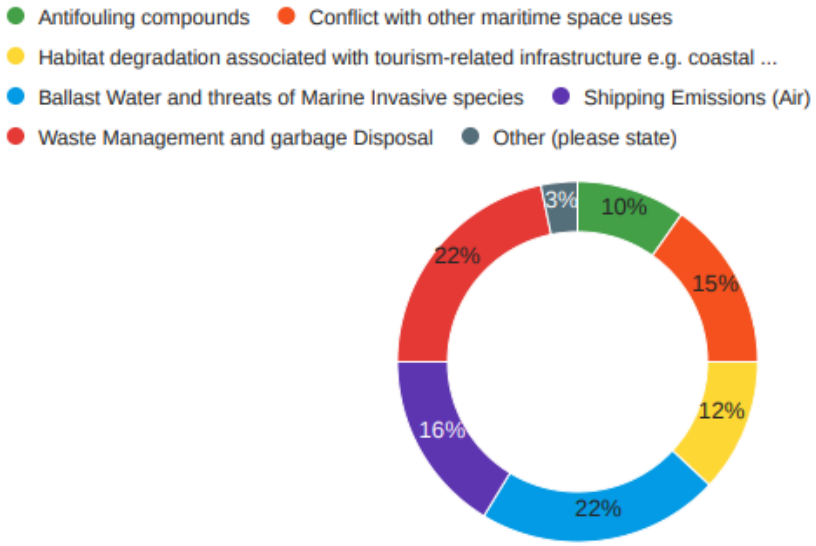


Question 11. What are some of the main legal and institutional challenges to the regulation of cruise shipping in Trinidad and Tobago?

Same as the Maritime Shipping Sector
Enactment of pollution bill Waste disposal capability, including sludge; monitoring of activities on board.
Not aware of any specific regulation that addresses pollution from cruise shipping.
Pollution of the port areas—air pollution Adequate facilities to dispose of waste in shore areas Emergency response to major accident from these vessels
N/A
Currently these vessels are likely “regulated” in general under the Shipping Act and/or Harbour Master’s Act. However, I am not aware of specific legislation that requires such entities to be licenced to conduct business within the jurisdiction of Trinidad and Tobago, nor to outline specific terms and conditions under which they may operate under which they may be held accountable for any violations as regards the preservation and protection of the marine environment as well as other matters.
N/A
Again no one will enforce
1. Popularity of Trinidad as a tourist destination 2. Adequate facilities to house cruise ships
I would say some main legal and institutional challenges to the regulations of cruise shipping in Trinidad and Tobago is to make sure [of] the adherence [to] MARPOL and all other conventions.
Port Authority Act
As previously stated, inadequate marine pollution legislation provides no framework upon which to regulate the cruise industry. Proper legislation [and] adopting and implementing IMO marine pollution prevention conventions and guidelines shall assist in this issue.
To my knowledge, cruise tourism in Trinidad and Tobago is regulated by the market comprised of a few players in the industry. Government continues to make efforts to make Trinidad and Tobago a more

competitive destination [in order] to attract visitors and that seems to be the focus for now. The Institute of Marine Affairs would probably be the agency to assess environmental impacts of cruise vessels, but that isn't happening. The main challenge faced would be resources to regularise inspections related to cruise vessels. Regulating the industry for improved stewardship and greater transparency would give the institutions greater leverage to enforce their mandate.
The cruise shipping industry comprises foreign vessels in the main. They are regulated through port State control. Port State control is the inspection of all certifications on board. The certificates are evidence of the status of the ship [and] the inspection of certificates is to ensure that they are valid, but where there are clear grounds for believing that the certificate does not reflect a true picture of what the inspector is seeing on board, he may inspect further. Port State control is regulated regionwide in that once a cruise ship enters the region and is inspected for all regulatory aspects, it is not inspected for another six months.
MSD is mandated to ensure safety and seaworthiness of vessels arriving and departing T&T whether it is container vessels; roll-on, roll-off; tankers; barges of cruise liners. Perhaps the Ministry of Tourism can speak to more about legal and institutional challenges to the regulation of cruise shipping in Trinidad and Tobago

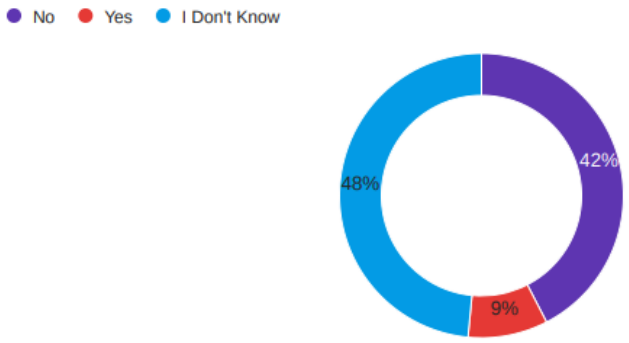
Question 12. What are some of the marine environmental challenges encountered by Trinidad and Tobago in facilitating cruise ship calls? (Select all that apply.)



Question 12.1. Other (please state).

Unknown
None of the above
All of the above are relevant. Inspections are important to verify that ships calling are fit for purpose and do not pose a threat to the marine environment.

Question 13. Are there adequate waste reception facilities in the ports of Trinidad and Tobago to manage waste from cruise ships?



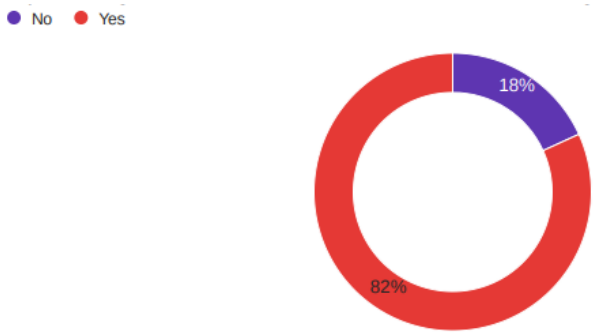
Question 13.1. If yes, briefly describe your understanding of the discharge and treatment of such waste from cruise ships.

There are private sector–managed facilities capable of processing sewage, garbage from cruise ships when the need arises. The ships themselves operate in accordance with established convention law (MARPOL, ballast water management, etc.). Trinidad and Tobago is party to these conventions, but they do not as yet form part of the national law. The MSD therefore takes the advisory approach and makes recommendations in these areas to cruise operators, etc., to follow and implement IMO recommendations for waste disposal.
Trinidad and Tobago Solid Waste Management Company manages waste from cruise ships as I understand it. This is done by pre-arrangements with ports and vessels.

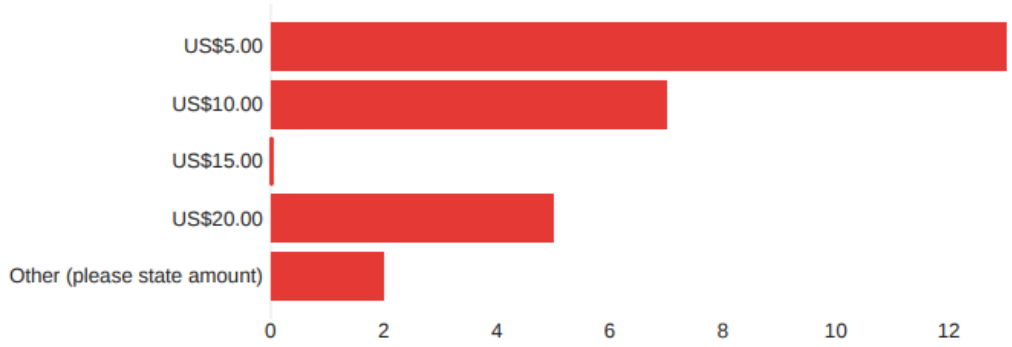
Question 13.2. Who are institutional (public and private) actors and agencies involved in managing such facilities?

Private agencies, Trinidad and Tobago Solid Waste Management Company (landfills), the EMA (waste management rules, etc.)

Question 14. Should cruise ships or cruise passengers be required to contribute financially to protecting and preserving the marine environment in the destination being visited?



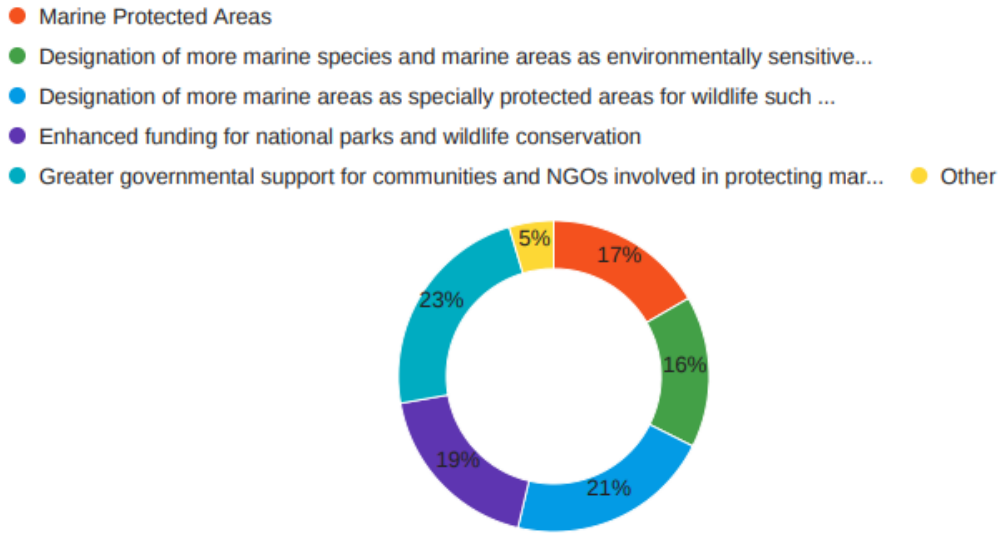
14.1. If yes, how much should they contribute per passenger?



Question 14.2. Other (please state amount).

$2
Uncertain how this cost may be calculated—need for research to better inform this requirement

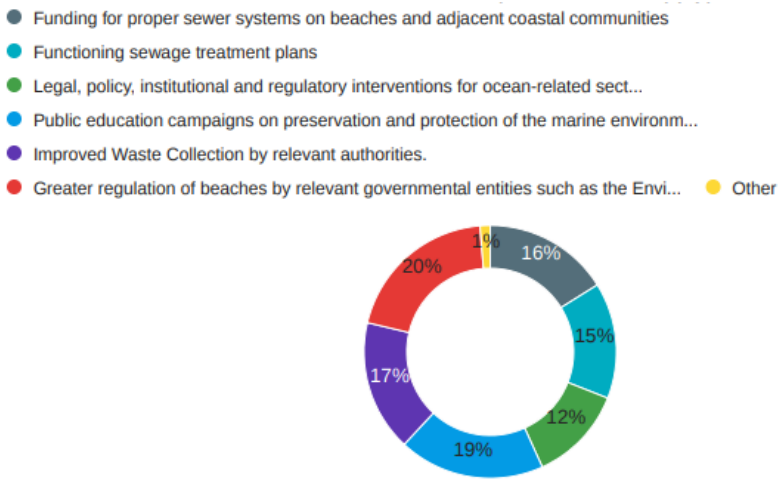
Question 15. How can the management of Marine Protected Areas in Trinidad and Tobago be improved? (Select all that apply.)



Question 15.1. Other

Designation of more MPAs, development and implementation of management plans for MPAs, enforcement of all legislation pertaining to the protection of marine ecosystem and marine species
Protect what we have adequately first before looking to expand.
Stop commercial fishing. It is all exported and the people of Trinidad do not benefit and are left with a lot less fish in the sea.
Task force comprised of Forestry Reserves, coastal rangers whose focus is the preservation and protection of these sensitive areas.
All of the above

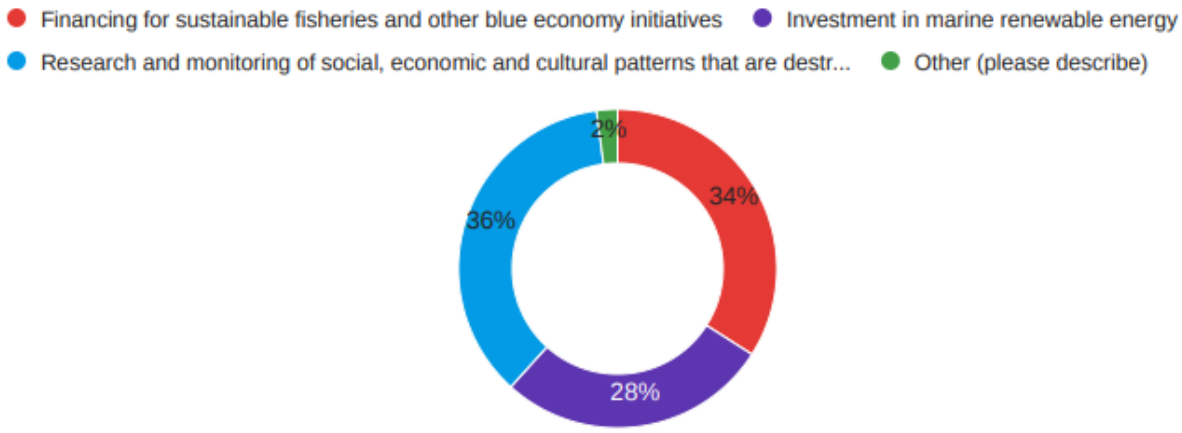
Question 16. Beaches in Trinidad and Tobago are adversely affected by poor waste disposal practices by users as well as inadequate regulation/enforcement of regulation and implementation of sanitation services. How can this be addressed? (Select all that apply)



16.1. Other

Need to consider litter coming on the beach from land-based sources/ runoff via rivers, drains etc.
Address unplanned coastal development that pollutes beaches.
Increase monitoring and enforcement of legislation, e.g. Litter Act. Who enforces the Litter Act?
Again no one will enforce.

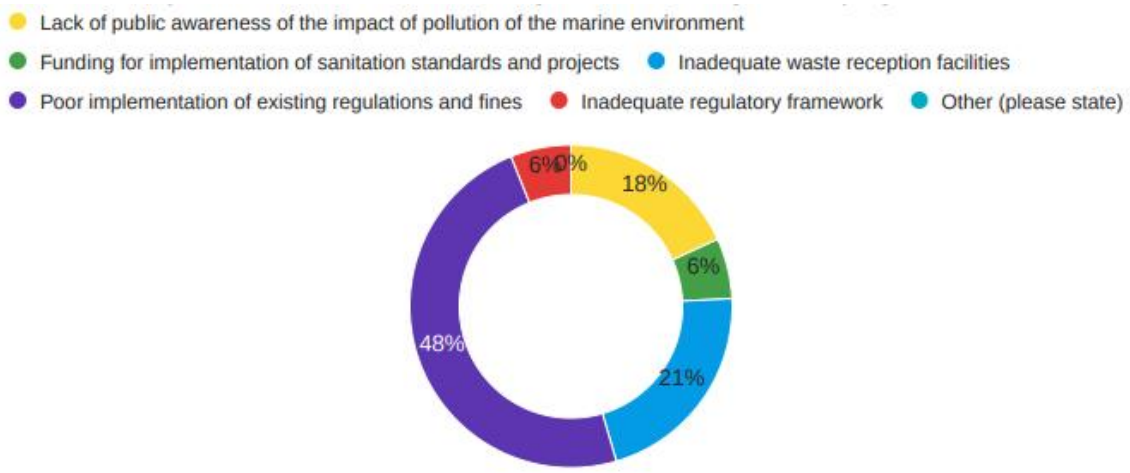
Question 17. Legal, policy, institutional and regulatory interventions for ocean-related sectors.



Question 17.1. Other (please describe).

All of the above.

Question 18. What do you consider to be the most significant challenge to keeping beaches clean?

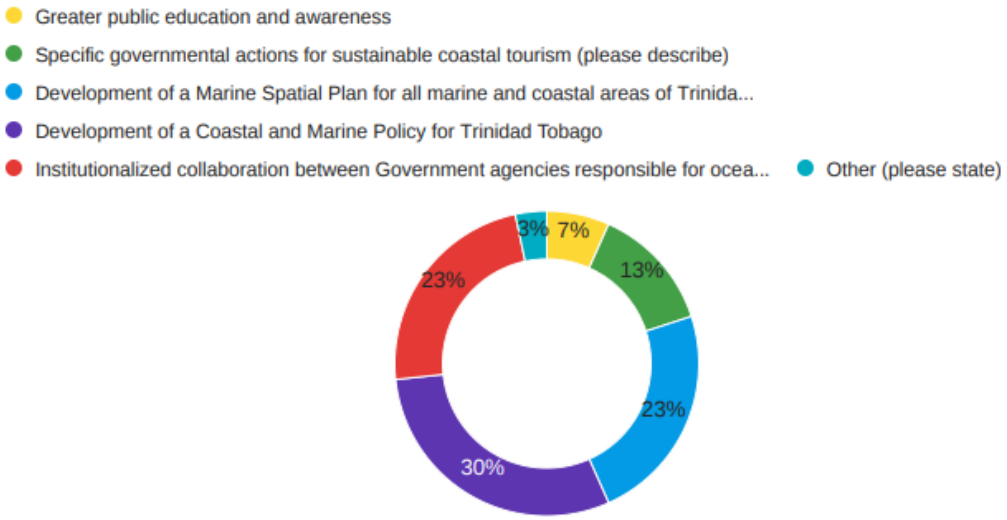


Question 19. Please share your perspective on the impact of coastal tourism on the marine environment. Are these impacts generally negative or positive?

Tourism is not that substantial in Trinidad, so the effects are limited and do not seem to pose a significant threat to coastal areas.
The impacts of coastal tourism can be positive once all the laws/ policies are approved and enforced, e.g. CEC Rule, Water Pollution Rule, pending Marine Pollution Bills, pending ICZM Policy, pending Maritime Policy and Strategy. Coastal tourism can support sustainable livelihoods once properly managed.
It has a negative effect due mainly to poor sanitation habits of the people who go to the beaches.
1. Destruction of mangrove areas to facilitate construction of hotels and other accommodations for tourists 2. Loss of critical fish habitat—nursery areas 3. Untreated sewage outflow to the ocean, eutrophication, pollution—impacts on water quality and marine life
Building of new facilities threaten natural environment. Generally negative.
Pose great destruction to the marine environment. Negatively impacts the marine space.
Garbage in the sea. Campers leave a mess.
Coastal tourism has impacted positively by bringing more awareness to the importance of keeping our coastlines clean.
These impacts are negative, not only on the beach but also when waste is disposed of at sea during boat rides that eventually makes its way to the shoreline.
Citizens of this beautiful twin-island Republic need to take more pride in making our country the true paradise that it has the potential to become. That starts with the general cleanliness of our lands.

Negative
I believe generally negative if the public is unaware of how detrimental our negative impact is on the environment.
Positive if managed appropriately. Tourism can lead to increased economic activities and opportunities in coastal communities which in turn can reduce the propensity for coastal residents to turn to other, less sustainable sources of income or criminal activities.
Impacts are usually negative with heavy pollution and damage to aquatic life.
While they may negatively affect the marine environment, the potential revenue can be used to implement protective measures, such as proper waste disposal.
Negative
The impacts are generally negative.
Coastal tourism should be positive for the marine environment in the sense that the industry creates economic value from the environment as an asset. Destination sustainability and competitiveness are two sides of the same coin, such that by protecting the asset and making the industry more sustainable, you enhance the medium- to long-term viability of the coastal tourism sector, the employment prospects, and revenue generation. Doing so helps build a case for the industry as a means of economic diversification, comparing the pros and cons against other sectors that create other environmental risks.
There needs to be greater public policy education supported by economic incentives and deterrents in order to change business (producers) and public (consumers) behaviour.
There should be more educational videos and signs on these impacts both for locals and tourists. I think the impact of coastal tourism on the marine environment for the most part is negative.
Coastal tourism, while being a major economic driver, it contributes to degradation in gradual stages to marine environments. This can be remedied by raising awareness and empowering the intersectoral entities that operate and rely on marine spaces (coastal areas) for their economic output and products in general. Additionally, we can now use existing local framework to get the message out in terms of conservation, awareness and advocacy. This is a very important and key function in any policy development strategy (using local entities to get grassroots level buy-in and participation).
Positive 1) Streams of revenue 2) Expansion of small businesses, e.g. artisanal craft vendors 3) Charges for reception facilities 4) Revenue opportunities for chandlery services providers and bunkering Negative 1) Invasive species from ballast water and hull fouling 2) Public health issues, contagious diseases 3) Rogue discharges/pollution

Question 20. What would be your recommended action to prevent, reduce and control the negative impacts of coastal tourism on the marine environment in Trinidad and Tobago?



Question 20.1. Specific governmental actions for sustainable coastal tourism

Implement regulations and fines for breaches
Just need someone to enforce no-pollution laws already in place. Need officials in boats to politely intervene by education and enforcement of laws in place already
Enforcement of existing regulations; updating of existing regulations; greater funding of agency/agencies responsible for enforcement.

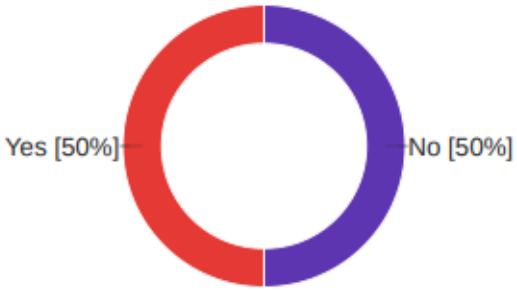
20.2. Other (please state).

Approval and implementation of the ICZM Policy

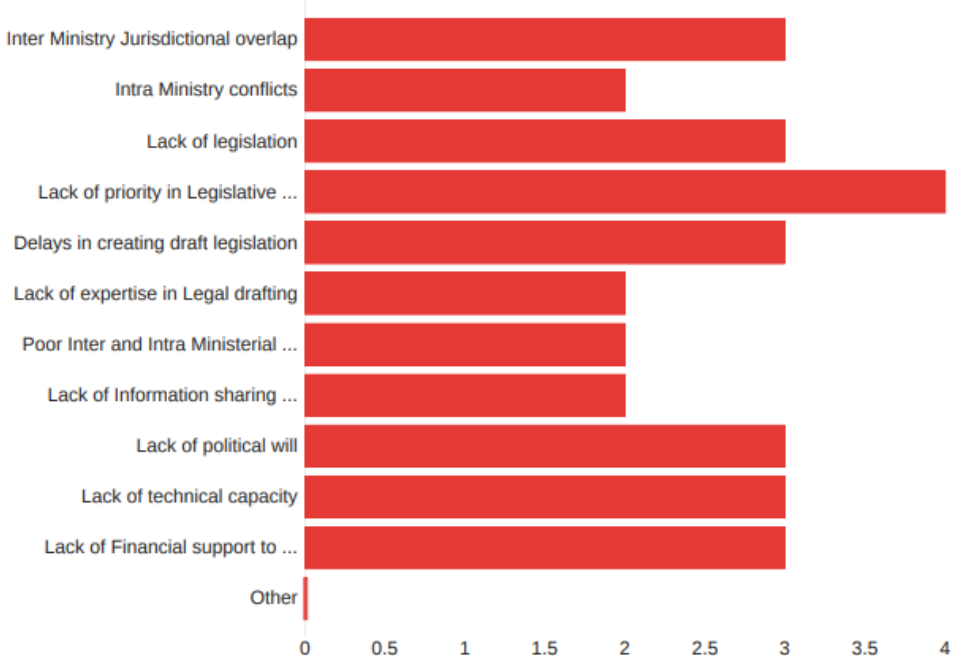
Appendix II. Ocean Governance Study: Capacity Needs and Stakeholder Survey

Number of completed responses: 8

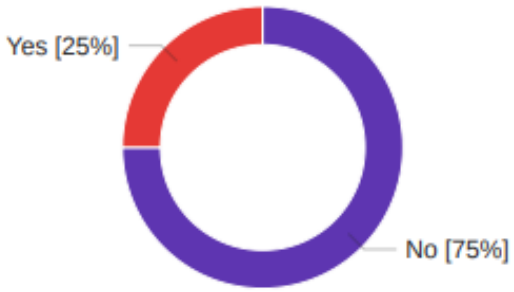
Question 1. Has your institution experienced challenges in implementing ocean governance initiatives?



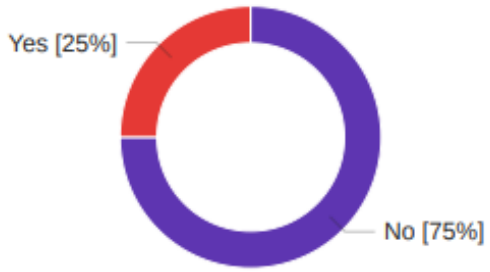
Question 1.1. If yes, click all that apply:



Question 2. Do you have the capacity to meet your institutional goal/mandate (in relation to ocean governance) with the current level of staff expertise?



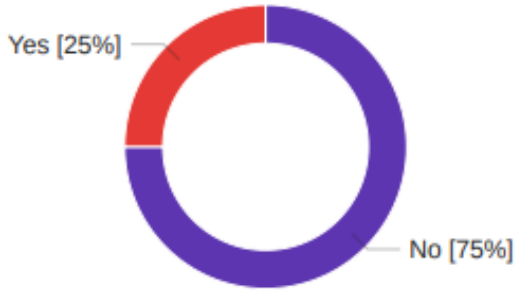
Question 3. Do you have institutionalized (planned) procedures to develop the capacity of staff in ocean governance?



Question 3.1. If yes, briefly describe.

The POMD section of the MEEI oversees hydrocarbon pollution and response and train staff in such, including response via the use of the Incident Command System.
Ministry of Works Strategic Plan 2019–24 and Draft National Maritime Strategy and Policy

Question 4. Does your institution have any operational capacity in ocean sectors (sensors, equipment, boats, staff)?



Question 5. What are the most pressing capacity needs, nationally or within your institution, in the field of ocean governance?

More robust and streamlined monitoring systems and updated legislation
Financial and human resources
Training
Local recent and relevant policy and laws in order for compliance. In absence, best industry practice is used, which is far exceeding local laws.
Boats and accessories
A coastal seawall, of which is designed and constructed by another ministry

Question 6. What do you anticipate will be your institution's future capacity needs with relevance to ocean governance?

Increased need for financial and human resources and capacity building
Training
Information sharing. My institution gathers information on the seabed and water columns. This is relevant to governmental institutions for research and decision making.
Resources: Financial and in-kind support Intra-agency and interagency MoUs Legislation
Monitoring tourism-based water activities/sports on beaches within the Ministry’s jurisdiction

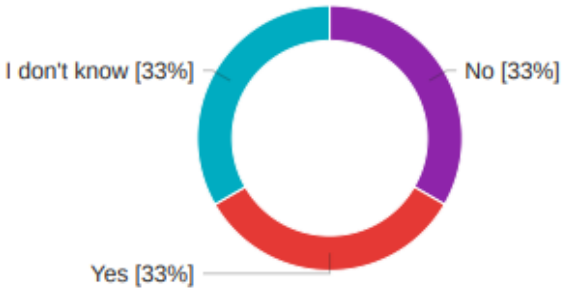
Question 7. Who are some of the key NGO stakeholders involved in ocean governance in Trinidad and Tobago that should be consulted?

Nature Seekers, Turtle Village Trust, Green T&T, Save our Sea Turtles, Buccoo Reef Trust, Green T&T
UTT, Shipping Association of T&T
CANARI Future Fishers Nature Seekers Fishermen and Friends of the Sea Turtle Village Trust COPE Environment Tobago ERIC Grande Riviere Nature Tour Guides Association SOS Tobago Speseas Trinidad and Tobago Field Naturalists' Club Buccoo Reef Trust CYEN
Industry participants Oil and gas, ports, bunkering entities. interest groups Fishermen, recreations, yachting
Ministry of Planning and Development Institute of Marine Affairs Environmental Management Authority Tobago House of Assembly Fishing Associations Seamen and Waterfront Workers Association TT Seamen Employment Association

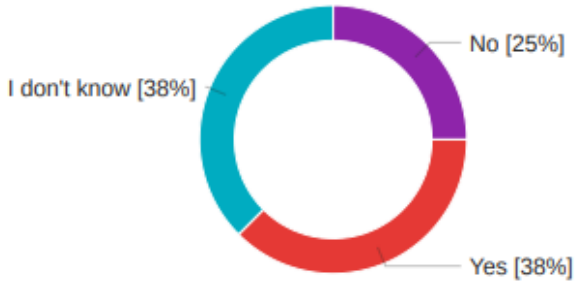
Question 8. What role, if any, does civil society play in ocean governance in Trinidad and Tobago?

They integrate local knowledge whilst improving public representation and conserving resources
Awareness, education, and enforcement
Civil society and NGOs are critical in ocean governance. Stakeholder listings can be obtained from the various government institutions.

Question 9. Are there formal mechanisms or informal arrangements to facilitate this role?



Question 10. Are you aware of any formal and/or informal roles for traditional, local and indigenous stakeholders, including local fishing communities, in ocean governance in Trinidad and Tobago?



Question 10.1. If yes, briefly describe.

Real-time feedback on the effectiveness of present legislation and governance processes to update governance laws and procedures more effectively.
The Grande Riviere Nature Tour Guides Association have been trained in sea turtle conservation and management. They are involved in the stakeholder consultations for policy development and various related projects. When a pollution event occurs offshore, they are usually the first to report.

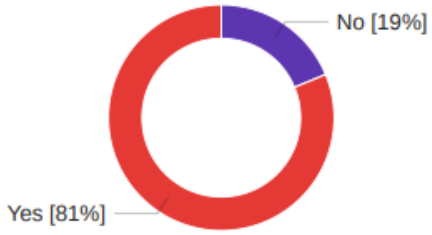
Question 11. What role, if any, does the private sector play in ocean governance in Trinidad and Tobago?

Support conservation efforts and sustainable resource use
Advocating obedience to the laws and reporting as necessary to support the governance initiatives.
Fishermen, recreational beach and water users (snorkelers, divers, etc), hoteliers and the tourism at large are users of the users. Pollution from shipping, tourism and manufacturing sectors would be deleterious to the resources.
Relevant groups therefore must be and are included in stakeholder consultations.
Oil spill plans and coordination
They are a key partner. In absence of relevant legislation, there is a "free for all" exploitation. This is to the detriment of ocean resources. Strong legislation can bring about compliance with the private sector. The private sector in the local context is generally interested in exploitation for profit, with no focus on sustainability.
Definitely an important role, private sector is responsible for much of the oceans use and ensuring sustainability at the core of this in compliance with local and international standards is imperative.

Appendix III. Ocean Governance Study: Legal and Institutional Framework Survey

Number of completed responses: 15

Question 1. Is your Ministry/Division involved in matters related to ocean affairs?



Question 1.1. If yes, what policies, laws or regulations enable your organization's involvement in ocean affairs?

Environmental Management Act (Chap. 35:05) and elements of its subsidiary legislation
Water Pollution Rules (2019), Tourism Development Act (2000), Town and Country Planning Act, Environmental Management Act
EM Act and its subsidiary legislation
National Fisheries Management Bill (1916), THA Act
Fisheries Act (1916), Act 24 of 1986
We are a trade union for shipping/maritime companies locally.
UNCLOS, the Shipping Act of Trinidad and Tobago (1987), the Trinidad and Tobago Shipping Bill (2020), Maritime Policy and Strategic Plan
Environmental Management Act Environmentally Sensitive Areas Rules Waste Management Rules (2021) Legal Notice No. 184 National Environmental Policy National Protected Areas Policy National Wetlands Policy National Development Strategy 2016–2030 (Vision 2030) Waste Recycling Policy Water Resources Management Policy
IMA Act Chap. 37:01 of the Revised Laws of the Republic of Trinidad and Tobago, as amended by Act No. of 1990
Petroleum Act and Regulations. The Ministry of Energy and Energy Industries (MEEI) look at offshore installation and infrastructure in addition to exploration, drilling, and production of hydrocarbons.

Shipping Act Harbours Act Droghers Act
Oil Pollution in Territorial Waters Act Pilotage Act

Question 2. In addition to the listing of key legislation below, are there any other pieces of legislation that must be included in mapping the legal and institutional framework related to ocean matters?

Legislation

1. Territorial Sea Act
2. Continental Shelf Act
3. Archipelagic Waters and Exclusive Economic Zones Act
4. Environmental Management Act
5. Institute of Marine Affairs Act
6. Oil Pollution in Territorial Waters Act
7. Defence Act
8. Petroleum Act
9. Shipping Act
10. Town and Country Planning Act
11. Planning and Facilitation of Development Act
12. Municipal Corporations Act
13. Marine Areas (Preservation and Enhancement Act)
14. Fisheries Act
15. Conservation of Wildlife Act
16. Tobago House of Assembly Act
17. Caribbean Fisheries Training and Development Institute Act
18. State Lands Act
19. Minerals Act
20. Customs Act
21. Immigration Act
22. Chaguaramas Development Authority Act
23. Control and Importation of Live Fish Act
24. Protection of Wrecks Act
25. Tourism Development Act
26. Tourism Development Miscellaneous Provisions Act

27. Water and Sewerage Act 1965

Draft Bills

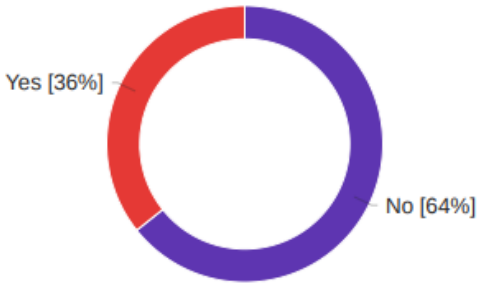
1. Shipping Bill (2020)
2. Shipping (Marine Pollution) Bill (2004)
3. Fisheries Management Bill
4. Marine Parks Bill (Tobago)
5. Forestry, Protected Areas and Wildlife Conservation Regulations (2014)
6. Trade in CITES and Non-CITES Species) Regulations (2015)

Key Subsidiary Legislation

1. Certificate of Environmental Clearance Rules
2. Water Pollution Rules
3. Certificate of Environmental Clearance (Designated Activities) Order
4. Environmentally Sensitive Species Rules
5. Environmentally Sensitive Areas Rules
6. Environment Sensitive Area Matura National Park
7. ESA Nariva Swamp Notice
8. Fishing Industry (Assistance) Act (1955)
9. Waste Management Legal Notice No. 185 (2021)
10. Waste Management Rules Legal Notice No. 184 (2021)

Key Policies

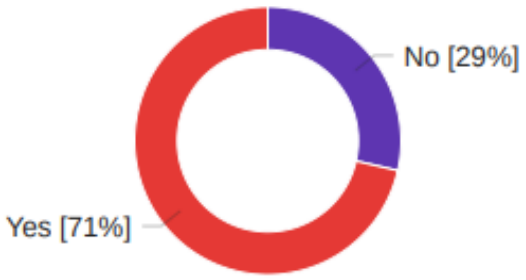
1. National Environmental Policy
2. National Protected Areas Policy
3. National Wetlands Policy
4. National Development Strategy 2016–2030 (Vision 2030)
5. Waste Recycling Policy
6. Water Resources Management Policy
7. Yachting Policy



Question 2.1. If yes, please state them.

Harbours Act (Chap. 50:06); Droghers Act (Chap. 50:07)
Legislation and Policy relating to seafarers, ports, and the offshore industry
Integrated Solid Waste Management Policy
Motor Launches Act (Chap. 50:08) (rev. 2011) Harbours Act (Chap. 50:06) (rev. 2011) Port Authority Act (Chap. 51:01) (rev. 2011) Carriage of Goods by Sea Act (Chap. 50:02) (rev. 2011) Three Chains (Tobago) Act 1865 (Chap. 57:04) (rev. 2011) Submarine Areas of Gulf of Paria (Annexation) Order (1942) Carenage Pier Act (Chap. 51:03) (rev. 2011) La Brea Jetty and Tramway Act (Chap. 51:04)
Draft National Maritime Strategy and Policy (2022)

Question 3. Are you aware of any implementation challenges, including capacity gaps, that exist in relation to ocean affairs?



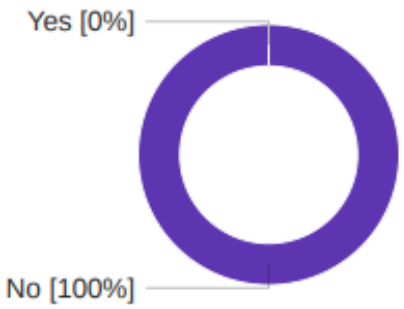
Question 3.1. If yes, please describe.

Funding to support enforcement of legislation, limited number of human resources for implementation of policies & legislation, use of technology to facilitate enforcement activities
Interagency MOUs Dated laws and policies Lack of reliance on technical expertise Limited to no data and data sharing Insufficient workforce Insufficient funding Insufficient political will
Inadequate legal framework Human and financial constraints Lack of knowledge of good fishing practices
Largely the length of time it takes for key legislation (draft bills) to pass through Parliament and be implemented. By the time this is done, the landscape has changed and the laws are outdated.
Coordinated and the effective enforcement of flag State, port State, SAR, and coastal State responsibilities and effective marine environmental protection measures
Solving problems in sub-systems without addressing the challenge in a system of systems approach leads to frustration as other systems are required to make changes so that problems in a sub-system can be resolved.
Safety of offshore installations
Lack of resources—financial and human, lack of enforcement, low financial penalties for breaches of the law, and the need for a coordinated approach as there are overlapping jurisdictions
1) Implementation of buffer zone around offshore infrastructure 2) Many areas can be grey areas for jurisdiction of various agencies
Passage of the Shipping Bill 2020 will bring into being a new Maritime Authority that will be sufficiently able to regulate and facilitate development of the maritime industry.

Question 4. Are there any ocean governance-related legislations, institutions, or initiatives being developed that you would like to bring attention to?

Fisheries Management Bill (2020)
Draft Fisheries Management Bill
The Marine Pollution Bill (2020)
Recycling Bill Integrated Solid Waste Management Policy
Wrecks and removal of wrecks
Draft Integrated Coastal Zone Management Policy (2020) Proposed development of a Marine Spatial Plan for T&T Draft Maritime Policy (2021)
Institute of Marine Affairs Integrated Coastal Zone Management Committee Land Reclamation Committee Marine Spatial Planning under the IMA and Ministry of Planning and Development

Question 5. Are you aware of any traditional and/or indigenous justice systems related to ocean governance in place?



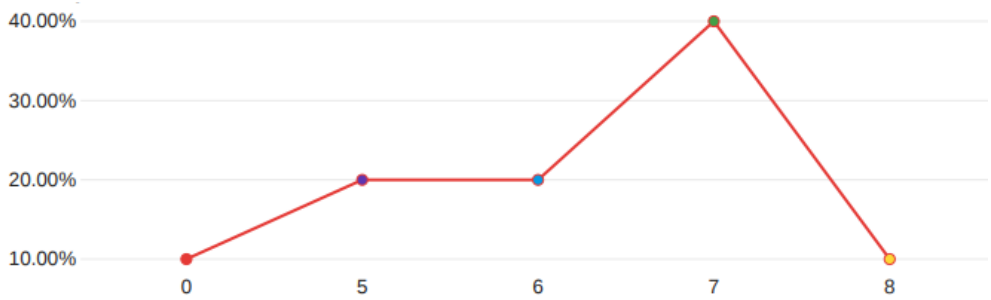
Question 6. Are you familiar with the overarching institutional framework for ocean governance activities and use of resources?

Question 7. Does your organization have a mandate relating to ocean governance or the blue economy?

Question 7.1. If yes, briefly describe this mandate or provide the relevant link where it may be found.

The safety of the lives of seafarers and persons involved in the manning and operation of seagoing crafts and marine installation in addition to the prevention of pollution from ships and maritime installations operating offshore
The mission of the Environmental Policy and Planning Division is to ensure that the pattern of development pursued by Trinidad and Tobago is sustainable, taking into account social, economic, and environmental considerations in order to secure continuous improvements in the state of our natural environment. http://eppd-tt.blogspot.com/
Advisory- www.ima.gov.tt
Only area that can be considered a mandate somewhat would be the area of pollution and oil spill response. There is an approved National Oil Spill Contingency Plan (2013) that can be found on the Ministry of energy website: https://www.energy.gov.tt/wp-content/uploads/2013/11/National_Oil_Spill_Contingency_Plan_2013.pdf.
It is related to shipping as one of the many sub-sectors of the blue economy

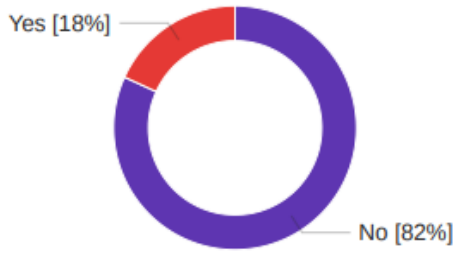
Question 8. On a scale of 0 to 10 (0 = lowest, 10 = highest), how would you rate your institution's capacity to achieve the goals and mandates associated with Ocean Governance and the Blue Economy?



Question 9. Describe the bodies and/or processes within your institution working on issues relating to ocean governance.

The Executive Council
The entire institution
Within the Ministry of Planning ad Development: The Institute of Marine Affairs The Environmental Management Authority The Town and Country Planning Division Within the Environmental Policy and Planning Division: The National Environmental Policies
Our goals relate to reducing waste entering the landfills but also to increasing the recycling of waste from municipal and other contributors. Proper collection and recycling systems can reduce the occurrence of plastic and other debris in our waterways.
We are users and not policy formulators. We may influence policy.
IMA conducts research on the ocean environment and provide advice as it relates to ocean governance and the blue economy. Advice is provided though participation on cabinet-appointed committees, advice to consulates in other countries (e.g., UN), and through the review of plans and polices—national, regional and international. IMA also have a vibrant public education and outreach programme to assist with lobbying for environmental conservation.
As aforementioned, MEEI looks at issues dealing with hydrocarbon pollution, offshore installations and infrastructure, exploration, drilling, completions and production of wells, etc.
A proactive approach for many of these issues is taken through inspections and monitoring.
Ministry of Energy and Energy Industries Ministry of Trade and Industry Institute of Marine Affairs Environmental Management Authority Coastal Protection Unit, MOWT Fisheries Division, MALF Hydrographic Unit, MALF
We do not deal directly with ocean affairs. The Ministry's current projects/facilities are kept on land (beachfront) at most.

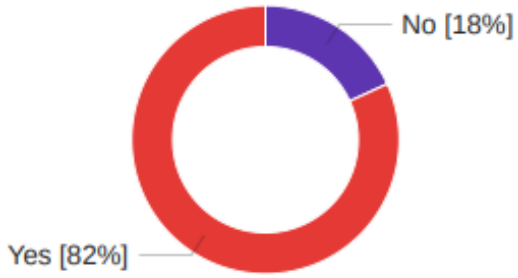
Question 10. Does your institution have sector-specific ocean programmes?



Question 10.1. If yes, please describe and provide relevant links.

Providing full technical support to The Maritime Administration of Trinidad and Tobago
Regulation of STS transshipment and regulation of cold stacking/layups

Question 11. Does your institution work with other bodies or processes at a national, regional or international level on issues relating to oceans?



Question 11.1. If yes, kindly list.

National	Regional	International
N/A	N/A	N/A
Green T&T Institute of Marine Affairs Port Authority of Trinidad and Tobago Yachting Association of Trinidad and Tobago	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
Immigration **Customs & Excise** **Maritime Services Division**	N/A	N/A
MSD UTT Ministry of Fisheries NTA	St. Vincent Antigua Dominica St. Lucia St. Maarten Curacao Guyana Suriname	CMOU IMO (RMA)
N/A	N/A	N/A
The Institute of Marine Affairs The Environmental Management Authority The Town and Country Planning Division	The Forum of Ministers of Environment of Latin America and the Caribbean The Cartagena Convention	UNCBD UNCCD UNFCCC The Basel Convention
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Ministry of Works Ministry of Energy	Nil	Industry bodies related to oil and gas regulations
N/A	N/A	N/A
N/A	N/A	N/A
Cabinet-appointed committees Diplomatic service	UNEP CEP CARICOM CCCCC ACS-Caribbean Sea Commission	UN
ODPM, IMA, EMA, MSD etc.	NA	IMO etc.
Listed above	Regional Marine Pollution Emergency Information and Training Centre–Caribe	International Maritime Organization
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Question 12. Is your institution a Focal Institute (Point) for any regional and/or sub-regional ocean governance programmes or processes?

Question 13. Does your institution have any institutional arrangements for ocean governance with other national or regional entities?

Question 13.1. If yes, please identify.

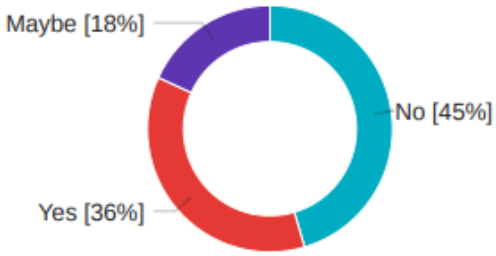
National	Regional
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
MSD	CMOU
N/A	N/A
N/A	Cartagena Convention
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
Deputy Chair Interministerial ICZM	Regional Activity Centre for the LBS Protocol under the Cartagena Committee Convention
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

Question 14. Are you aware of any institutional agreements or arrangements for ocean governance between national entities (public and/or private) and similar at the regional level (e.g., joint patrols, joint management, joint search and rescue and pollution control)?

Question 14.1. If yes, please state them.

OECS, SAR NRCC
Bilateral agreement with Venezuela to address oil spills
The MEEI work in tandem with EMA, other govt agencies, and private companies to address and monitor pollution incidents.
Search and rescue—Coast Guard
Ministry of Energy NOSCP Oil spill preparedness, response, and cooperation

Question 15. Does your institution have support structures for women working on ocean governance (e.g. women's networks, mentoring or leadership programmes, etc.)?



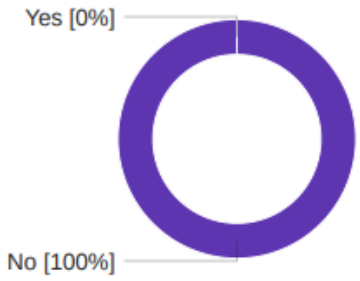
Question 16. Kindly provide an estimated percentage for the following questions.

A. What percentage of the overall staff of your institution are women?

B. What percentage of the senior positions are occupied by women?

A	B
NA	NA
>50	50
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
33	100
70	40
NA	NA
63	33
NA	NA
NA	NA
NA	NA
NA	NA
25	67
20–30	50
NA	NA
NA	NA
About 60	50
NA	NA
50	75
NA	NA
70	70
NA	NA

Question 17. Is gender-disaggregated data related to ocean governance collected and analyzed in your institution?



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