Policy Brief

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Trinidad & Tobago
Prevention of Marine Litter in the Caribbean Sea

adelphi RESEARCH

UN environment programme

Government of the Republic of Trinidad and Tobago
Ministry of Planning and Development

INSTITUTE OF MARINE AFFAIRS

Supported by:

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Government of the Republic of Trinidad and Tobago
Ministry of Planning and Development

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Abbreviation

BCRC Caribbean	Basel Convention Regional Centre for Training and Technology Transfer for the Caribbean Region
BCDRP	Beverage Containers Deposit Return Policy
BRP	Bottle Rejex Programme
CARICOM	Caribbean Community
CNIRD	Caribbean Network for Integrated Rural Development
CEC	Certificate of Environmental Clearance
EBBTT	Every Bottle Back Trinidad and Tobago
EMA	Environmental Management Authority
EPR	Extended Producer Responsibility
EPSP	Environmental Polymer Sequestration Programme
FTEM	Flying Tree Environmental Management
GPML-Caribe	Caribbean Node of the Global Partnership on Plastic Pollution and Marine Litter
GoRTT	Government of the Republic of Trinidad and Tobago
HS	Harmonized System
iCARE	Recyclable Solid Waste Collection Project
ICC	International Coastal Cleanup
ISLANDS	Implementing Sustainable Low and Non-Chemical Development in Small Island Developing States
GEF	Global Environment Facility
IMA	Institute of Marine Affairs
IMO	International Maritime Organization
INC	Intergovernmental Negotiating Committee
LBS	Land-Based Sources of Marine Pollution
MARPOL	International Convention for the Prevention of Pollution from Ships

MEAs	Multilateral Environmental Agreements
MPD	Ministry of Planning and Development
NEP	National Environmental Policy
NGO	Non-Governmental Organisation
NRP	National Recycling Policy
NISWRMP	National Integrated Solid Waste/Resource Management Policy
POP	Persistent organic pollutant
PROMAR	Prevention of Marine Litter in the Caribbean Sea
PSRP	Public Sector Recycling Programme
RAC	Regional Activity Centre
RAPMaLi	Regional Action Plan for Marine Litter Management
RRF	Resource Recovery Fund
SDG	Sustainable Development Goal
SWMCorp	Trinidad and Tobago Solid Waste Management Corporation
SUP	Single-use Plastic
WRAP	Workplace Reduction and Recycling Programme
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
UNEP	United Nations Environment Programme

1 Background

This 2025 policy brief on marine plastic pollution and waste management is part of the **Prevention of Marine Litter in the Caribbean Sea (PROMAR)** project, that contributes to the reduction of waste streams, namely plastic packaging and single-use plastics, into the Caribbean Sea while promoting circular economy solutions in the Dominican Republic, Costa Rica, Colombia, the British Virgin Islands, Saint Kitts and Nevis, Trinidad and Tobago, Guyana, and Suriname.

Background to the country

Trinidad and Tobago, an archipelagic nation in the southeastern Caribbean, comprises two main islands, Trinidad and Tobago, and several smaller ones. Positioned at the southernmost end of the Caribbean archipelago, the country is located at the northern coast of South America. The nation's maritime territory is bordered by several neighbouring countries, including Barbados to the northeast, Guyana to the southeast and Venezuela to the southwest (United Nation Population Fund, 2018). As a high-income nation (World Bank, 2024), it is one of the highest Gross National Income (GNI) per capita in Latin America and among Caribbean countries, primarily driven by its natural gas and petrochemical industries. The country's economic strength is reflected in its GDP per capita of US$ 18,222 and a total GDP of US$ 27.9 billion as of 2022, with projections indicating a 3.5% growth in 2023 (International Trade Administration, 2024). Its natural gas and petrochemical production contribute substantially to the national economy, accounting for 29.8% of GDP and generating about 81% of the country's export revenues in 2022 (International Trade Administration, 2024).

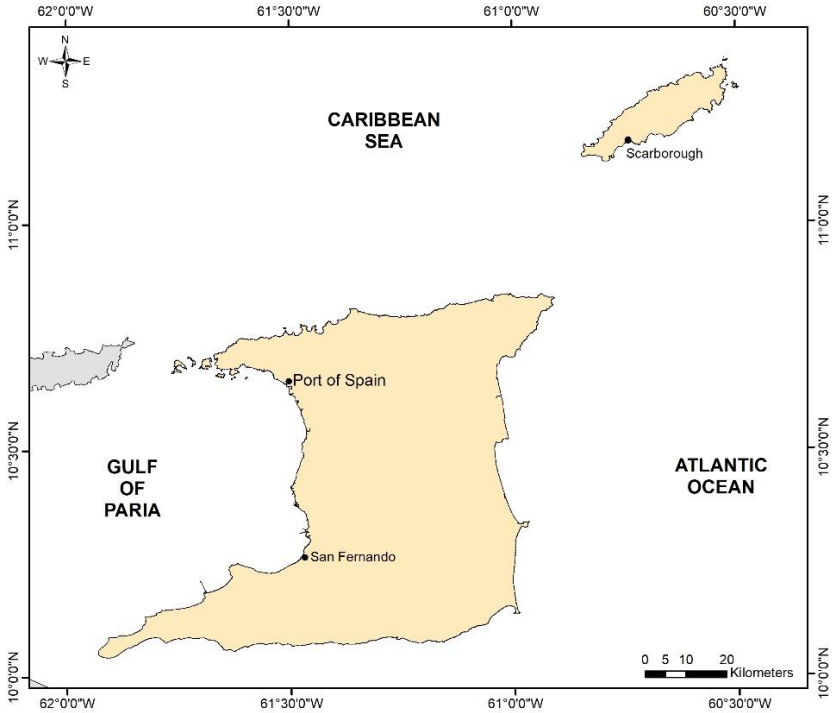

Figure 1: Map of Republic of Trinidad and Tobago. Source: Institute of Marine Affairs (2025)

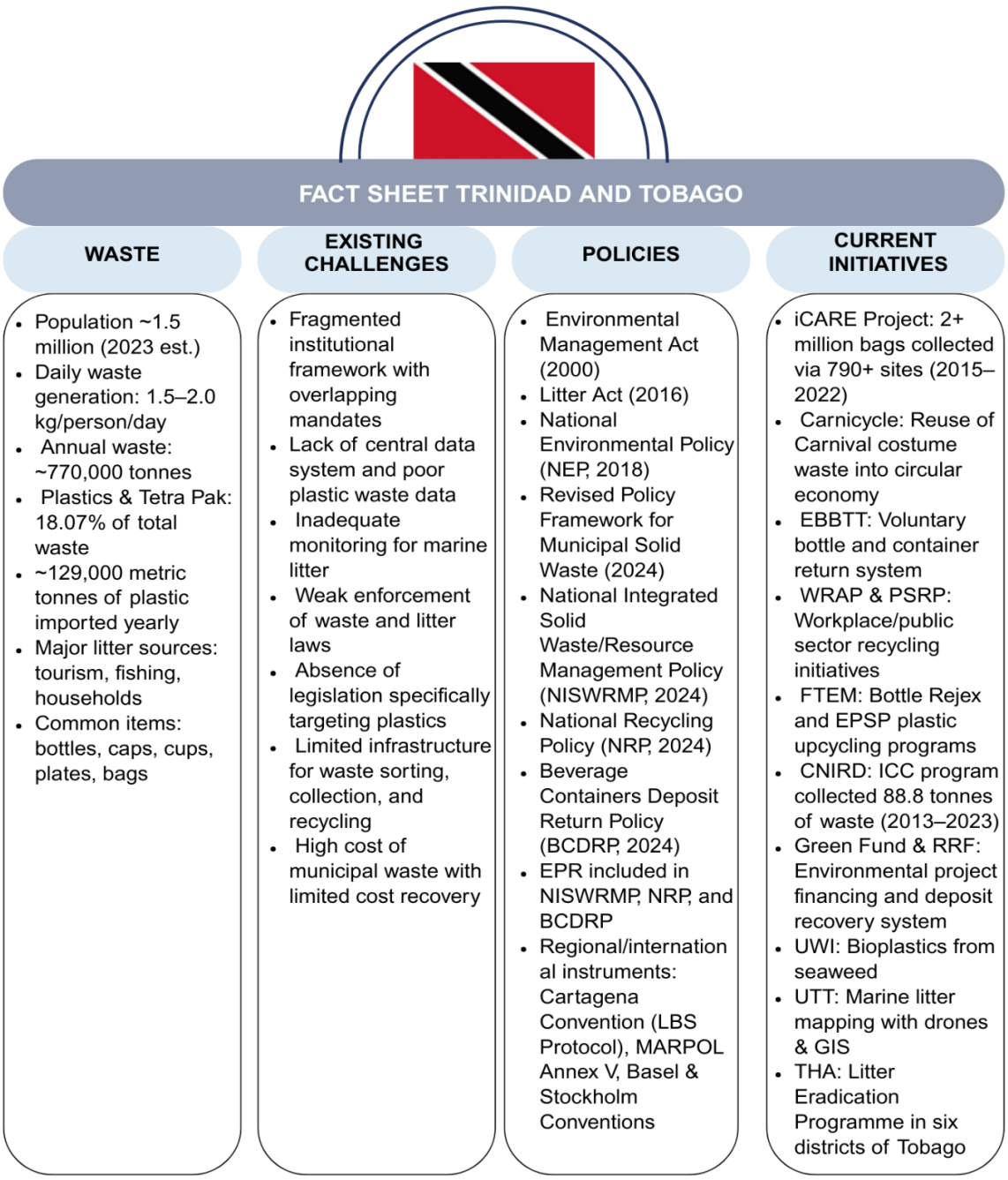

Figure 2: Fact sheet of Trinidad and Tobago

Figure 2 presents a summary of Trinidad and Tobago's current status, challenges, policies, and initiatives related to marine litter and waste management. It offers a snapshot of key data points and coordinated efforts from national, regional, and community-level stakeholders.

Existing challenges related to marine litter in the country

The country faces substantial challenges with marine litter that impact its coastal and marine environments. The vulnerability to plastic pollution is particularly acute due to its plastic import-

dependence, with annual plastic imports reaching approximately 129,000 metric tonnes in Trinidad alone (UN, 2024). Waste generation in 2023 for Trinidad and Tobago was estimated between 1.5 and 2.0 kg per person per day (SWMCOL, 2023a) and made up of approximately 770,000 tons per year (SWMCOL, 2023b). The plastics and Tetra Pak materials constituted 18.07% of total waste (SWMCOL, 2023b). This high volume of waste, combined with limited resources for treatment, directly impacts two crucial elements of the country's economy: tourism and fishing (UN, 2024).

The tourism sector has a notable role in contributing to the marine litter problem through various channels (WEF, 2019). Hotels, resorts, and cruise ships are significant sources of plastic waste, which can enter marine environments through improper disposal practices and inadequate waste management systems. Recreational activities including at beaches further exacerbate the problem through improper disposal of items such as single-use plastic plates, utensils, toys, containers, and bags. These tourism-related activities create a paradoxical situation where the industry simultaneously depends on and threatens the pristine coastal environments that attract visitors.

The country's infrastructural and systemic challenges in addressing marine litter are multifaceted and complex. Trinidad and Tobago faces limitations in several key areas, including data collection, institutional coordination, and technical capacity. The lack of comprehensive data collection activities and field studies hinders the ability to effectively identify and quantify plastic pollution sources. The absence of a central repository for plastic waste data further complicates comprehensive analysis, while self-reported data can be unreliable. Additionally, the current system of Harmonised Commodity Description and Coding System (HS) Codes, as utilised by the World Customs Organisation, fails to account for hidden plastics embedded within various products. This oversight presents significant challenges for tracking and managing these materials, affecting countries worldwide (Carolyn D. Birkbeck, 2022; UNCTAD, 2020). These infrastructural and data gaps, combined with financial and resource constraints, create significant obstacles in implementing effective waste management strategies and monitoring progress in reducing marine litter (David Simmons and Associates Limited, 2024a, 2024b).

Marine litter poses significant environmental concerns in Trinidad and Tobago. Recent data from the 2024 Ocean Conservancy Report indicates the scale of the problem, with volunteers across the islands of Trinidad and Tobago collecting 22,418 kg of ocean trash for that year (Ocean Conservancy & International Ocean Cleanup, 2024). In which, approximately 69,615 plastic bottles; 13,011 plastic bottle caps; 4,881 plastic cups and plates; 2,483 grocery plastic bags and 4,910 other plastic bags from beaches across the country. Marine debris poses significant threats to marine ecosystems biodiversity, and coastal environments (Barrow & Carter-Fisher, 2024; Diez et al., 2019). The socio-economic implications of marine litter extend beyond environmental concerns as the degradation of marine ecosystems (e.g. coral reefs, seagrass beds, mangroves) results in the loss of revenue and livelihoods (Diez et al., 2019).

Despite these challenges, Trinidad and Tobago has shown commitment to addressing marine litter through various initiatives. The country has joined the United Nations' Clean Seas Campaign alongside other nations and is actively participating in international efforts to combat plastic pollution. This includes engagement in the Intergovernmental Negotiating Committee (INC) on Plastic Pollution and participation in regional and global initiatives. These commitments, while promising, need to be supported by comprehensive local action combining improved infrastructure, enhanced waste management practices, robust monitoring systems, and increased public awareness to effectively address the marine litter crisis.

2 Policies, Key Actors and Initiatives

Policy Framework

Trinidad and Tobago actively participates in different frameworks of international, regional and national policies that guide its efforts to combat marine pollution and protect its coastal environments.

At the international level, these policy frameworks include:

United Nations Convention on the Law of the Sea (UNCLOS): Trinidad and Tobago is a party to UNCLOS, which provides the fundamental legal framework for all maritime activities and for governing the use of marine resources worldwide. The country signed the UNCLOS on 10th December 1982 and ratified it on 25th April 1986 (Republic of Trinidad and Tobago, n.d.). The Convention mandates specific obligations regarding marine pollution prevention, including requirements for Parties bordering enclosed or semi-enclosed seas to cooperate in managing living resources and environmental activities. The country has implemented UNCLOS through the Archipelagic Waters and Exclusive Zone Act (Chapter 51:06) and the Shipping (Marine Pollution) Bill, 2004 (Part IV) which implements requirements from both the 1972 London Convention and its 1996 Protocol and regulates waste disposal at sea (David Simmons and Associates Limited, 2024b).

International Convention for the Prevention of Pollution from Ships (MARPOL): As the primary global treaty that protects the marine environment from ship-related pollution, whether caused by routine operations or accidents (IMO, 2024b). Trinidad and Tobago ratified this Convention on 6th March 2000, and it entered into force for the country on 6th June 2000. Among the six (6) Annexes, particular relevance is given to Annex V, which focuses on preventing pollution by garbage from ships. The Wider Caribbean Region, including Trinidad and Tobago's waters, has held Special Area status under this Annex since 2011, providing stricter controls on operational discharges. The country is currently implementing MARPOL through the Shipping (Prevention of Pollution from Ships and Offshore Installation) Bill, 2024, which aims to create regulations that put into effect both the MARPOL Convention and other International Maritime Organization (IMO) Conventions (David Simmons and Associates Limited, 2024b).

London Protocol, adopted in 1996 and came into force in 2006, was designed to update and ultimately take the place of the original London Convention (formally known as the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter), one of the earliest worldwide agreements to protect oceans from human-caused pollution and has been created in 1972 and in force since 1975 (IMO, 2024a). The Protocol provides a more stringent regulatory framework prohibiting all dumping except for acceptable wastes specifically listed. Trinidad and Tobago acceded to the London Protocol, though it is not a Party to the original London Convention. The country is implementing the Protocol's requirements through the Shipping (Prevention of Pollution from Ships and Offshore Installation) Bill 2024, which includes provisions for waste disposal at sea and intervention in cases of marine pollution. This implementation demonstrates Trinidad and Tobago's commitment to preventing marine pollution through dumping of wastes.

Basel Convention on the Control of Transboundary Movements of Hazardous Waste and their Disposal: Trinidad and Tobago acceded to the Basel Convention on 18th February 1994 and it entered into force in Trinidad and Tobago on 19th May 1994, marking a significant commitment to controlling transboundary movements of hazardous wastes (Basel Convention, 2024). The country plays a crucial regional role by hosting the Basel Convention Regional Centre for Training and Technology Transfer for the Caribbean Region (BCRC-Caribbean)

since 1998. Recent amendments to the Convention in 2019 specifically address plastic waste management, categorizing various types of plastic waste under different annexes. The BCRC-Caribbean actively works on capacity building and technical assistance projects, including initiatives to address marine plastic litter and microplastics. This regional leadership position enables Trinidad and Tobago to influence and support regional waste management practices.

Stockholm Convention: Trinidad and Tobago acceded to the Stockholm Convention on 13th December 2002 and it entered into force in Trinidad and Tobago on 17th May 2004 (Stockholm Convention, 2024). The Convention's focus on eliminating or reducing persistent organic pollutants (POPs) has recently expanded to include plastic additives, with two plastic-related chemicals (the flame retardant dechlorane plus and the ultraviolet stabiliser UV-328) added to the controlled substances list. Through the BCRC-Caribbean, the country participates in various projects related to POPs and their impacts on human health and the environment. The implementation of the Convention helps address the chemical aspects of marine pollution, particularly concerning plastic additives that can leach into marine environments.

Intergovernmental Negotiating Committee (INC): Trinidad and Tobago has been an active participant in the INC, established by the United Nations Environment Assembly under the United Nations Environment Programme (UNEP). The INC is mandated to develop a legally binding international agreement on plastic pollution, addressing the entire life cycle of plastics through a combination of binding and voluntary measures (UNEP, 2024a). Representatives from the Ministry of Planning and Development (MPD), served as the national focal point for the INC (UNEP, 2024b), have been participating in all sessions of the INC, from its inaugural meeting (INC-1) in 2022 to the most recent session, the first part of the fifth meeting (INC-5.1) in 2024 on behalf of Trinidad and Tobago. However, INC-5.1 concluded without consensus on specific targets or timelines.

At the regional level, Trinidad and Tobago actively participates in several key frameworks, as follows:

The ***Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (Cartagena Convention)***, adopted in 1983 and entered into force in 1986, is a regional legal agreement focused on protecting the Caribbean Sea's marine environment. Three technical protocols strengthen the Convention: one addressing Oil Spills, another covering Specially Protected Areas and Wildlife (SPAW), and a third dealing with Land-Based Sources of Marine Pollution (LBS). Trinidad and Tobago plays a vital role in implementing the Convention through hosting one of its four Regional Activity Centres (RACs) - the Institute of Marine Affairs (IMA) - which specifically supports the LBS Protocol. As one of the 26 United Nations Member States that have ratified the Convention, Trinidad and Tobago participates in the Convention's comprehensive efforts to prevent, reduce and control various forms of marine pollution, including pollution from ships, dumping, sea-bed activities, airborne sources, and land-based activities, while also working to protect rare or fragile ecosystems and endangered species' habitats (UNEP, 2021).

Trinidad and Tobago, as part of the Caribbean Community (CARICOM), is included in the **St. John's Declaration**, which was adopted by CARICOM Heads of Government in July 2019 to combat the severe problem of plastics and microplastics pollution in the Caribbean Sea. The Declaration encourages CARICOM Member States to reduce or eliminate single-use plastics, commit to addressing ecosystem damage from plastics by 2030, and work with the private sector to find sustainable alternatives. This is particularly significant for Trinidad and Tobago and other Caribbean nations, as studies have found up to “200,000 pieces of plastic per square kilometre in the northeastern Caribbean”, with plastic beverage bottles alone accounting for 21% of recorded marine litter items in 2017 (Caribbean Trade Law, 2019).

As a signatory to the **Revised Treaty of Chaguaramas**, Trinidad and Tobago operates within a regional legal framework that specifically addresses marine environmental protection and

waste management. The Treaty which establishes the Caribbean Community (CARICOM) and the CARICOM Single Market and Economy (CSME) requires Member States to cooperate in protecting the marine environment from pollution and recognizes the Caribbean Sea as a "Special Area requiring protection" (CARICOM, 2001). Through this framework, Trinidad and Tobago participates in regional environmental initiatives and coordinates with other CARICOM members to address transboundary issues like marine litter. This legal foundation has enabled Trinidad and Tobago's involvement in key regional programs such as the Caribbean Node of the Global Partnership on Plastic Pollution and Marine Litter (GPML-Caribe) (GPML Caribe, 2024) and the Regional Action Plan for Marine Litter Management (RAPMaLi) for the Wider Caribbean Region 2014 (Chris Corbin et al., 2014), while also supporting the country's efforts to implement sustainable waste management practices, as demonstrated by initiatives like Carnicycle, which promotes waste reduction during Carnival celebrations (Carnicycle, 2021). Within the GPML-Caribe, the Regional Marine Litter Management Strategy for the Wider Caribbean Region provides a coordinated framework for Caribbean nations to combat marine litter by reducing plastic pollution, improving waste management, and strengthening regional collaboration to safeguard marine ecosystems and coastal economies (Ali et al., 2021).

At the national level, Trinidad and Tobago has multiple statutes addressing different aspects of waste management. The country's approach to managing marine litter is guided by a hierarchy of policy and legislative frameworks as follows:

The **National Development Strategy (Vision 2030)** (MPD, 2016) serves as the overarching strategy document for sustainable development, under which THEME V aims at “Placing the Environment at the Centre of Social and Economic Development”. Supporting this high-level strategy is **the National Environmental Policy (NEP)**, which establishes the policy basis for pollution control and sustainable waste management in the country. The NEP (Revised 2018) (Government of the Republic of Trinidad and Tobago, 2018) establishes Trinidad and Tobago's commitment to address marine pollution, encompassing both marine debris and microplastics, in line with United Nations environmental protocols.

A significant advancement in the policy landscape came in July 2024 with the launch of the **Revised Policy Framework for the Management of Municipal Solid Waste**, that established a comprehensive approach to sustainable waste management in Trinidad and Tobago, aiming to promote human health and wellbeing, environmental conservation, and economic development through improved governance, development strategies, and sustainability measures (MPU, 2024b). The Revised Policy Framework for the Management of Municipal Solid Waste introduces three integrated policies:

- The **National Integrated Solid Waste/Resource Management Policy (NISWRMP) 2024** which provides a ten-year roadmap focusing on strengthening institutional arrangements and establishing effective legislative frameworks (MPU, 2024b, 2024c). It encompasses a comprehensive approach to waste management that aims to prevent waste, including plastics, from entering the marine environment through improved collection, recycling, and disposal systems, while aligning with Sustainable Development Goal (SDG) 14 (Life Below Water) and promoting environmental conservation.
- The **National Recycling Policy (NRP)** aims to divert 50% of recyclable materials over ten years from landfills through enhanced infrastructure and public education (MPU, 2024d). Through recapturing waste (including plastics) as a resource, this will seek to prevent these materials from entering the marine environment and support sustainable industries while reducing environmental impacts.
- The **Beverage Containers Deposit Return Policy** (**BCDRP)** specifically targets the management of single-use beverage containers (MPU, 2024a). It establishes a deposit return system for single-use beverage containers (made of metal, glass, plastic, paper, or other materials) that have a high likelihood of being disposed of in

the environment, thereby creating a financial incentive for their return and recycling rather than allowing them to become marine litter.

The framework is further strengthened by the IMA as the key organisation in advancing the development and implementation of the **Integrated Coastal Zone Management Policy** (MPD, 2020). This policy aims to promote and enhance pollution control and waste management activities in coastal zones to minimize adverse impacts on human health and coastal ecosystems, specifically identifying issues like "pollution – domestic and solid waste" and the need for effective waste management systems in coastal areas.

In Trinidad and Tobago, Extended Producer Responsibility (EPR) represents a transformative policy framework in waste management strategy, extending manufacturers' responsibility beyond production and sale to encompass the post-consumer stage. The system requires producers to internalize end-of-life costs into their pricing, including waste management and environmental impacts, while being supported by economic incentives and regulatory tools (MPU, 2024c, 2024d). To facilitate implementation, the framework establishes Industry Committees (ICs) as forums for stakeholder participation, enabling direct involvement in developing environmentally and economically sound management approaches for post-consumer materials through (MPU, 2024c).

EPR is featured in three key policies in Trinidad and Tobago's waste management framework: the National Integrated Solid Waste/Resource Management Policy (NISWRMP) 2024 (MPU, 2024c), the NRP 2024 (MPU, 2024d), and the BCDRP 2024 (MPU, 2024a). These policies collectively establish EPR as a fundamental governance principle that requires manufacturers and brand owners to take responsibility for their products' end-of-life management, supported by regulatory frameworks, economic incentives, and compliance mechanisms. While the policies provide a comprehensive foundation for EPR implementation, supporting legislation to enforce manufacturer responsibility for plastic products is still under development. Without enacted legislation, the implementation and enforcement of producer responsibilities remains limited (David Simmons and Associates Limited, 2024b).

The **Environmental Management Act 2000** (Chapter 35:05), which provides the legal foundation for environmental management (Ministry of the Attorney General and Legal Affairs, 2016), is a comprehensive framework aimed at promoting sustainable development by integrating environmental considerations into public and private decision-making. It focuses on pollution control (air, water, and noise), sustainable waste management, protection of natural resources (including environmentally sensitive areas and species), and the establishment of regulatory mechanisms like environmental clearance certificates and incentive programmes to ensure environmental conservation and compliance.

In addition, the **Litter Act** 2016 (Chapter 30:52) (Litter Act, 2016) provides legal measures to prevent and manage litter in public places by establishing enforcement mechanisms through litter prevention wardens, requiring proper waste disposal facilities, and imposing penalties for violations, all of which help prevent debris from entering the marine environment.

Despite these frameworks, Trinidad and Tobago currently lacks comprehensive legislation specifically governing plastics or plastic pollution (David Simmons and Associates Limited, 2024b).

An overview of key policies, responsible authorities, and major initiatives addressing marine litter and waste management in the Trinidad and Tobago is presented in **Figure 3.**

POLICIES, ACTORS & INITIATIVES

KEY POLICIES

- Environmental Management Act (2000) – legal framework for pollution control, waste management, and environmental permits
- National Environmental Policy (NEP, 2018) – commits to addressing marine litter and microplastics
- Litter Act (2016) – penalties and enforcement through litter wardens
- Revised Policy Framework for Municipal Solid Waste (2024) – integrated waste governance and sustainability
- National Integrated Solid Waste/Resource Management Policy (2024) – roadmap to improve waste systems aligned with SDG 14
- National Recycling Policy (2024) – aims to divert 50% of recyclable materials from landfills
- Beverage Containers Deposit Return Policy (2024) – incentivizes return and recycling of beverage containers
- Integrated Coastal Zone Management Policy (2020) – pollution control in coastal areas
- Extended Producer Responsibility (EPR) – integrated into key 2024 policies

RESPONSIBLE AUTHORITIES

- Ministry of Planning and Development (MPD) – leads environmental policy, focal point for MEAs and INC on Plastic Pollution
- Ministry of Public Utilities – oversees SWMCOL and solid waste infrastructure
- Environmental Management Authority (EMA) – enforces environmental compliance and NEP
- Solid Waste Management Company Ltd. (SWMCOL) – operational waste management (landfills, collection, public awareness)
- Ministry of Health – enforces Litter Act through public health inspectors
- Tobago House of Assembly (THA) – implements local clean-up and waste strategies in Tobago
- Institute of Marine Affairs (IMA) – leads marine research and supports Cartagena Convention
- BCRC-Caribbean – supports capacity building on waste and marine litter
- Academic institutions (UWI, UTT) – contribute research on bioplastics, marine litter monitoring

MAJOR INITIATIVES

- iCARE Project – national recycling program with 790+ sites, collecting PET, glass, cans, cartons
- Every Bottle Back Trinidad and Tobago (EBBTT) – voluntary private sector-led deposit return initiative
- Carnicycle – circular economy initiative reusing Carnival costume waste
- Bottle Rejex & EPSP (by FTEM) – upcycling and polymer sequestration of waste plastics
- Public Sector & Workplace Recycling (WRAP, PSRP) – collection and awareness in public institutions
- ICC Programme (by CNIRD) – engaged 19,000+ volunteers, collected 88.8 tonnes (2013–2023)
- Santa Rosa Heights (Arima) – community-led plastic upcycling
- RRF & Green Fund – national financing mechanisms for recycling, R&D, and education projects
- Academic innovation – seaweed-based bioplastics (UWI), drone & GIS for marine litter (UTT)

Figure 2: Policies, Actors and Initiatives in Trinidad and Tobago

Finance mechanisms

Various funding mechanisms have been established in the country to tackle marine litter, including the **Green Fund**, the **Public Sector Investment Programme (PSIP)**, and **international grants** from organisations such as the Global Environment Facility (GEF) through their projects. For example, in 2021, the Caribbean initiative, part of the $515 million Implementing Sustainable Low and Non-Chemical Development in Small Island Developing States (ISLANDS) program backed by the GEF and led by UNEP, brought nine Caribbean nations (Antigua and Barbuda, Barbados, Belize, Dominican Republic, Guyana, Saint Kitt and Nevis, Saint Lucia, Suriname, and Trinidad and Tobago) to work towards the elimination of over 400 tonnes of contaminated material and prevent the release of more than 150,000 tonnes of marine litter, fostering sustainable development free from toxic substances in Small Island Developing States (GEF, 2021).

The PSIP of Trinidad and Tobago is a strategic investment programme funded through the Consolidated Fund and the Infrastructure Development Fund. It encompasses programmes and projects from various ministries, departments, and agencies aimed at achieving national socio-economic development objectives, as outlined in the National Development Strategy 2016-2030 (Vision 2030). A key focus of the PSIP, among many other focuses, is addressing environmental degradation through robust solid waste management strategies. Improper handling of solid waste poses significant risks to public health, affecting communities and urban areas by polluting water sources, degrading air quality, and land resources. This not only exacerbates climate change but also contributes to ocean plastic pollution (MPD, 2023).

The Green Fund, established under the Finance Act of 2000, serves as Trinidad and Tobago's national environmental fund. It is capitalized through a 0.3% Green Fund Levy on gross income from companies and partnerships operating in the country (Gioannetti, 2022). The Fund, which had accumulated nearly USD$8 billion by 2020 (Gioannetti, 2022; MPD, 2022), provides financial assistance to organizations and community groups engaged in environmental activities across four main focal areas: remediation, reforestation, environmental education, and conservation. Eligible organizations must be either statutorily incorporated bodies, registered non-profits, or non-governmental organisations (NGOs) registered with the (MPU, 2024d). While the Fund supports various environmental initiatives including clean-up campaigns and sustainable community projects (e.g. waste recycling) (MPU, 2024d), accessing it is difficult and requires meeting specific criteria and following established application procedures through the Green Fund Executing Unit, with projects needing to demonstrate significant environmental impact at both community and national levels (MPD, 2022).

It can be considered that the financial framework for marine litter management in Trinidad and Tobago is currently in an early transition phase. Several mechanisms have been proposed in recent policies, combining public funding, private investment, and cost recovery systems to ensure long-term sustainability of waste management initiatives.

The ***Beverage Containers Deposit Return System (BCDRS)*** *(MPU, 2024a)* under the Beverage Containers Deposit Return Policy represents an innovative approach to waste management financing in Trinidad and Tobago. This system implements a comprehensive financial structure that begins at the point of Brand Owner (Figure 1), where deposits are charged on beverage containers. The system's financial framework includes carefully structured handling fees paid to redemption depot operators, ensuring the economic viability of collection points. This financial incentive helps maintain the network of collection facilities necessary for the system's success.

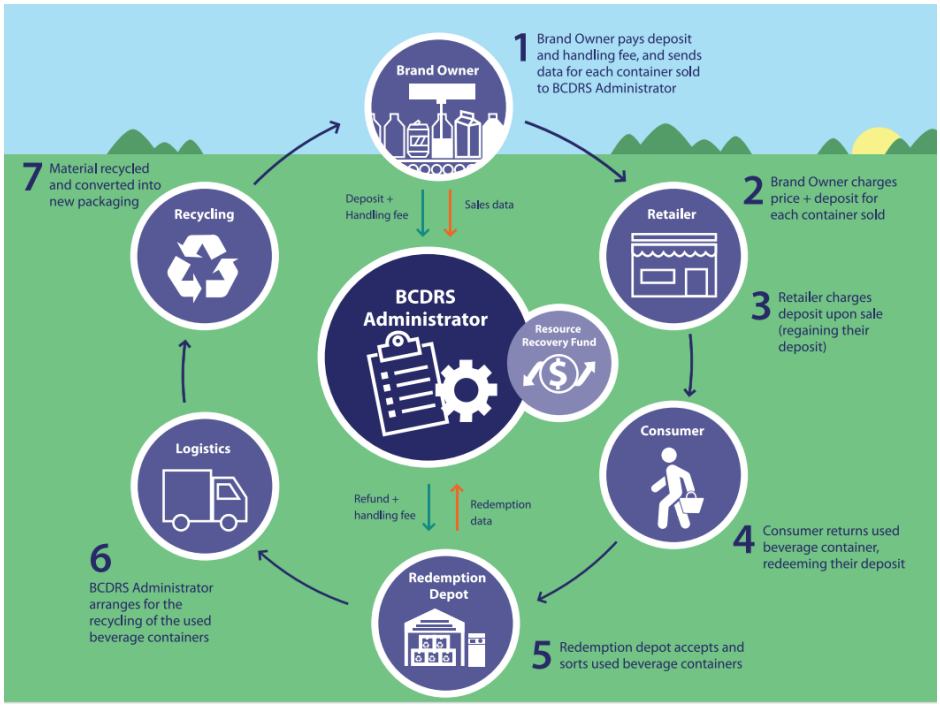

Figure 3: Flow of beverage containers, deposits, and handling fees in Beverage Containers Deposit Return System (Source: MPU (2024a))

A key feature of the BCDRS is its tiered deposit structure, which differentiates between container sizes. The system establishes two distinct deposit levels: one for containers less than 0.7 Litres and another for containers between 0.7-5 Litres. This tiered approach reflects the different environmental impacts and handling requirements of various container sizes.

To maintain the system's effectiveness and adapt to changing economic conditions, deposit values and handling fees are subject to annual review by the proposed Trinidad and Tobago Solid Waste Management Corporation (SWMCorp). This regular assessment will seek to ensure that financial incentives remain appropriate and effective over time. The financial structure of the BCDRS is designed to be self-sustaining, with deposit and handling fees creating a closed-loop system that funds its own operations (Figure 1). This approach reduces dependence on external funding while promoting environmental responsibility. The system's financial mechanisms are carefully balanced to ensure fairness and effectiveness, providing incentives for consumers to return containers while supporting the operational costs of collection and processing facilities.

Within the Beverage Containers Deposit Return Policy 2024, under the **Solid Waste Management Corporation Act**, the ***Resource Recovery Fund (RRF)*** *(MPU, 2024a)* will aim to represent a cornerstone of Trinidad and Tobago's financial strategy for waste management. This special Trust Fund will be established under the Solid Waste Management Corporation Act, marking a significant step towards sustainable waste management financing. The Fund's management structure has been carefully designed to ensure transparency and accountability, with five trustees appointed by the President to oversee its operations. This governance structure aims to maintain the Fund's integrity and ensure its effective utilization for intended purposes. The funds in the RRF will be used for development of innovative solutions for reuse and recycling, support for research and development of new technologies, sponsors for projects, education and awareness programs, and also clean-up campaigns.

The RRF will draw from multiple funding sources, demonstrating a diversified approach to financial sustainability. Parliamentary appropriations will provide a stable baseline of funding, ensuring consistent support for waste management initiatives. This will be supplemented by deposit and handling fees collected through various deposit return systems, which will be collected by the SWMCorp. A significant portion of the fund's resources will come from unredeemed deposit and handling fees (MPU, 2024a), creating a self-sustaining component of the financial mechanism. This approach incentivizes proper waste disposal while generating funds for system maintenance and improvement. The fund also demonstrates international engagement by incorporating funding opportunities from foreign sources, including international organizations and agencies. This international component provides additional financial stability and access to global expertise in waste management. The establishment of the RRF represents a crucial step towards creating a financially sustainable waste management system in Trinidad and Tobago.

Stakeholders and Initiatives

Addressing marine litter in Trinidad and Tobago involves a network of various stakeholders, such as government institutions, research institutions, private sector entities, NGOs and civil society organizations. According to David Simmons and Associates Limited (2024b), the private sector and some actors have shown their commitment to tackling plastic waste management by advocating for recyclable and biodegradable packaging, integrating recycled materials into product manufacturing, adopting strategies to reduce plastic waste, and engaging in recycling initiatives. Some of them include the **Trinidad and Tobago Solid Waste Management Company Limited** (SWMCOL) which is involved in plastic waste management (collection, sorting, recycling programmes in collaboration with, for example, the EMA's iCARE Recyclable Solid Waste Collection Project (RSWCP), and the Ministry of Public Utilities' Workplace Reduction and Recycling Programme (WRAP), and Public Sector Recycling Programme (PSRP). Container Recycling Services Limited operates a voluntary private sector-led initiative as a deposit refund system, the so-called "Every Bottle Back Trinidad and Tobago" (EBBTT) initiative by collecting, sorting and exporting plastic bottles, cans and Tetra Pak containers. Companies that take part in plastic collection, sorting, exportation and recycling are NB Environmental Services Limited, Rays Export and Disposal Services and Total Recycling Limited, among others.

At the governmental level, the **Ministry of Planning and Development** (MPD) leads national environmental policy and coordination and is the focal point for different multilateral environmental agreements (MEAs) related to chemicals and waste (e.g. Basel, Rotterdam and Stockholm Conventions). MPD is also the focal point for the INC on Plastic Pollution responsible for developing the future instrument, and also a member of the UNEP Working Group on Marine Litter and Microplastics in Latin America and the Caribbean. The **Environmental Management Authority** (EMA) mandates the development and enforcement of regulatory compliance, among other responsibilities (EMA, 2023). Reducing waste and plastic use and increasing recycling was one of six environmental priorities of the National Environmental Policy (NEP), 2018, which were integrated into EMA's *Strategic Plan, 2022-2026* (EMA, 2022b). SWMCOL falls under the **Ministry of Public Utilities** and is responsible for waste management infrastructure and services that help prevent marine litter (MPU, 2024e). The **Ministry of Health** employs Public Health Inspectors who serve as Litter Wardens with the authority to enforce the Litter Act Chapter 30:52, imposing fines on individuals and businesses that improperly dispose of waste. Its officers conduct public education through lectures on proper waste disposal practices and perform routine inspections of various establishments to ensure compliance with waste management regulations (MOH, 2020). The **Tobago House of Assembly** (THA) operates the Litter Eradication Programme to keep Tobago clean by collecting various types of litter from six districts across the island, preventing these materials from entering the marine environment (THA, 2020). They

commissioned studies contributed to the development of a comprehensive Integrated Solid Waste Management system (THA, 2013). The **Institute of Marine Affairs**, a premier marine research organization operating under the Line Ministry of Planning and Development (EMA, 2023), provides marine and environmental research, technical support and expertise to assist the implementation of the Cartagena Convention (UNEP, 2021), and actively works on marine litter topics by joining the UNEP Working Group on Marine Litter and Microplastics in Latin America and the Caribbean and attending various workshops and conferences on marine litter and plastic pollution (IMA, 2024). This institutional framework is complemented by regional organizations, including the UNEP Cartagena Convention Secretariat, which addresses the pollution from land-based sources (UNEP, 2021), and the BCRC-Caribbean, which supports the waste management across Caribbean region (David Simmons and Associates Limited, 2024a).

Academic sector also contributes to marine litter prevention through research and innovation. Currently, the University of the West Indies (UWI) conducts polymer science research, focusing on biodegradable alternatives derived from marine biomass, specifically seaweed-based bioplastics. The University of Trinidad and Tobago (UTT) employs quantitative methodologies utilizing advanced remote sensing technologies, including drone surveillance and Geographic Information Systems (GIS), for marine debris monitoring (David Simmons and Associates Limited, 2024b). They also analyse microplastic prevalence in marine ecosystems.

Contributions to combat plastic pollution have been recognized through the participation of other organizations and communities. Key players include Flying Tree Environmental Management (FTEM), an NGO that specializes in upcycling waste plastics through Bottle Rejex Programme (BRP) and the Environmental Polymer Sequestration Programme (EPSP), clean-up activities, and education and awareness (Mahabir et al., 2020). The Cropper Foundation has taken a leading role in promoting circular economy principles through its "Catalysing and Connecting the Circular Economy Project," which focuses on behavioural change and establishing efficient recycling processes (David Simmons and Associates Limited, 2024b). The strength of Trinidad and Tobago's marine litter prevention efforts lies significantly in its community-based initiatives. The Caribbean Network for Integrated Rural Development (CNIRD) has coordinated the highly successful International Coastal Cleanup (ICC) program over the past 21 years. For the period 2013-2023, over 19,000 volunteers were engaged collecting 88.8 tonnes of waste plastics over the eleven years (David Simmons and Associates Limited, 2024b). In another example, the community of Santa Rosa Heights in Arima actively participates in combating plastic pollution by collaborating with NGOs like FTEM to upcycle collected plastics from households into useful items (Lee, 2024).

Thanks to those efforts, there have been several innovative initiatives addressing marine litter. The Recyclable Solid Waste Collection Project (iCARE) is an example. It is Trinidad and Tobago's first national recycling initiative, launched in 2015 with funding from the Green Fund, promoting voluntary public participation in beverage container recycling (PET plastic bottles, drink cartons, aluminium cans and glass bottles). From 2015 (project start year) to 2022 (as reported in iCare Brochure), through its extensive network of over 790 collection sites nationwide and four pilot depots, iCARE has successfully collected more than 2 million bags of recyclables while establishing crucial recycling infrastructure and preparing the country for the implementation of the EMA Waste Management Rules (2021) to support a more sustainable and circular waste management model (EMA, 2022a).

One among the country's innovative initiatives is the Carnicycle Program, which exemplifies the fusion of cultural celebration with environmental responsibility by applying circular economy principles to carnival waste. It collects and refurbishes discarded costumes, transforming materials like feathers and beads into valuable resources. This not only reduces landfill waste and material imports, thereby lowering the carnival's carbon footprint, but also creates jobs in transportation, collection, and processing. Additionally, it offers local artists and

designers to access to affordable materials. The initiative aligns with several SDGs, showing how cultural events can promote environmental sustainability and community development (Ali et al., 2021; Carnicycle, 2025).

Trinidad and Tobago actively participates in the RAPMaLi, which provides a comprehensive framework for addressing marine litter in the Wider Caribbean Region. The Plan emerged in 2007-2008 as a coordinated regional response to address growing concerns about marine debris in the Caribbean Sea. Developed under UNEP's Regional Seas Program, this framework represents the region policy approach to tackle marine litter accumulation in Caribbean waters. RAPMaLi enables Trinidad and Tobago to align its national efforts with regional strategies for marine litter reduction. The action plan focuses on improving waste management practices, enhancing regional cooperation, and promoting sustainable practices to combat marine pollution (UNEP-CEP, 2014).

In 2019, Trinidad and Tobago joined the UN Environment Programme's Clean Seas Campaign, highlighting its commitment to combating marine plastic pollution. As part of a global alliance of 69 countries (Clean Seas, 2024), the campaign supports Trinidad and Tobago with outreach, advocacy, and resource mobilization to reduce marine litter. It employs innovative methods, like a harmonized marine litter monitoring system and cleanup activities (Ali et al., 2021). By participating, Trinidad and Tobago pledges to reduce plastic waste in its coastal and marine environments, underscoring its dedication to protecting marine ecosystems.

3 Problem Analysis

A report by David Simmons and Associates Limited (2024b) highlights several gaps in policy, legislation, finance, and resources needed to tackle marine litter pollution in Trinidad and Tobago. This information is also supported by the NISWRMP 2024 from the Government of the Republic of Trinidad and Tobago and the Regional Marine Litter Management Strategy for the Wider et al. (2021).

The fragmented institutional framework represents a significant obstacle in Trinidad and Tobago's efforts to address marine litter. The absence of a single overarching body with comprehensive regulatory capability has led to overlapping responsibilities and unclear mandates. Multiple agencies currently share waste management responsibilities, creating inefficiencies and coordination challenges. This fragmentation often results in delayed decision-making and inconsistent policy implementation. In addition, the country´s waste management legal framework consists of multiple laws, though none specifically target plastic pollution. While the Environmental Management Act provides general oversight, supplemented by the Waste Management Rules (2021) and Certificate of Environmental Clearance (CEC) Rules (2001), enforcement primarily relies on broader legislation like the Litter Act, Public Health Ordinance, and Customs Act. New legislation, including the proposed Beverage Container Bill and Fisheries Management Bill (2023), may strengthen plastic waste management, but existing laws require revision (David Simmons and Associates Limited, 2024b).

Data collection and monitoring systems are a weak point in the current framework. The country lacks proper infrastructure and systems to assess waste composition and quantities at disposal sites, making it difficult to develop evidence-based policies. Current data on plastic imports, recycling rates, waste generation, and microplastics is limited or outdated (David Simmons and Associates Limited, 2024b). Furthermore, the absence of harmonized monitoring systems for marine litter at both national and regional levels hampers effective tracking and assessment of the problem (Ali et al., 2021).

Legislative and regulatory gaps continue to impede progress in addressing marine litter. According to the NISWRMP 2024 (MPU & SWMCOL, 2024), there has been limited advancement in establishing a recycling framework that encourages waste separation at its source, coupled with inadequate implementation of national resource recovery programs (MPU & SWMCOL, 2024). The current framework lacks sufficient legislation mandating household waste sorting and EPR. Enforcement mechanisms related to waste management and litter are inadequate.

Financial and resource constraints pose significant barriers to effective marine litter management. Limited funding availability hampers the implementation of waste management initiatives, while insufficient resources for enforcement and monitoring activities compromise the effectiveness of existing programs. The high costs associated with municipal solid waste collection and waste disposal, combined with inadequate cost recovery mechanisms, create an unsustainable financial burden on the system (MPU & SWMCOL, 2024).

While Trinidad and Tobago have made significant progress in adopting international and regional frameworks, many challenges still remain. Operational and infrastructure deficiencies pose immediate challenges, including inadequate waste sorting, inefficient collection and disposal systems, and insufficient recycling facilities (David Simmons and Associates Limited, 2024b). The challenges, which have been observed in the Wider Caribbean Region, in technical and resource limitations constrain marine litter management effectiveness. Government agencies lack adequate human, financial, and technical capacity to implement comprehensive solutions. Competing socio-economic priorities, such as food security, development, and public health, often overshadow environmental concerns, while tourism-generated waste adds further pressure to existing management systems (Ali et al., 2021). Regional coordination is another challenge due to the Caribbean's complex geopolitical landscape. Thus, a system for harmonised monitoring of marine litter at both national and regional levels is still missing.

Despite existing challenges, Trinidad and Tobago is actively strengthening its marine litter management through new legislation and policies. The country's commitment is evident in its participation in international initiatives like the UN Environment Assembly Resolutions and the International Coastal Cleanup. The introduction of three key policies in 2024 - **the National Integrated Solid Waste/Resource Management Policy, National Recycling Policy, and Beverage Containers Deposit Return Policy** - demonstrates significant progress toward sustainable waste management. However, successful implementation hinges on effective stakeholder coordination, sufficient resources, and sustained public engagement.

The figure 4 shows the key challenges facing Trinidad and Tobago in managing marine litter and solid waste. It highlights issues such as fragmented governance, weak enforcement, data gaps, limited infrastructure, and increasing waste from tourism and consumer activities.

KEY ISSUES

Fragmented Institutional Framework

- Multiple agencies with overlapping mandates hinder coordination.
- Absence of a central regulatory authority delays decisions and implementation.
- No unified legal instrument addressing plastic pollution.

Weak Enforcement & Legislative Gaps

- Existing laws (e.g., Environmental Management Act, Litter Act) lack specific plastic pollution provisions.
- No legislation mandates household waste separation or EPR enforcement.
- Monitoring and penalties are weak or inconsistently applied.

Inadequate Data & Monitoring Systems

- No central database for plastic waste statistics.
- Limited infrastructure for waste composition analysis.
- Reliance on self-reported and inconsistent data.

Financial & Resource Constraints

- High costs for waste collection and disposal.
- Limited funding for enforcement and infrastructure.
- Few cost recovery mechanisms and low private investment.

Infrastructure & Capacity Limitations

- Insufficient sorting, recycling, and recovery facilities.
- Municipalities lack human and technical capacity.
- Operational deficiencies limit system efficiency.

Public Awareness & Engagement Gaps

- Low household-level waste separation.
- Limited behavioural change campaigns.
- Environmental concerns often sidelined by other priorities.

Limited Private Sector Involvement

- Few companies engaged in large-scale plastic recovery or recycling.
- Weak participation in deposit-return or circular economy schemes.

Tourism Pressure on Waste Systems

- Tourism contributes significant single-use plastic waste.
- Recreational and hospitality sectors lack adequate disposal practices.

Figure 4: Key Issues in Waste Management and Marine litter prevention in Trinidad & Tobago

4. Recommendations

- To effectively address marine litter challenges in Trinidad and Tobago, institutional reforms might be essential. The establishment of a **centralized authority** with clear regulatory powers would streamline waste management efforts and reduce current overlapping responsibilities. This should be accompanied by policy harmonization and enhancement and legislative reform specifically targeting marine litter to enable effective management of coastal resources. Improved coordination mechanisms between national authorities and municipal corporations are essential to ensure coherent policy implementation. The recent introduction of new policies in 2024 provides a strong foundation for these institutional improvements, but their success depends on clear roles and responsibilities.
- **A robust data management and monitoring system** is crucial for evidence-based decision-making. Trinidad and Tobago should prioritize the establishment of a national data management system for waste-related data, including standardized protocols for monitoring marine litter. This should be supported by a consolidated and coordinated register of waste management stakeholders that integrates existing registers maintained by, for example, the EMA, Municipal Corporations and SWMCOL. Regular assessment of waste composition and quantities should complement this integrated approach to data management. Enhanced data collection and analysis capabilities including the strategic integration of citizen science initiatives and school-based monitoring programs that meet scientific standards will enable more targeted and effective interventions. These approaches can reliably complement formal monitoring systems while expanding data coverage and public engagement. This is aligned with recently developed policies. Notably, the 2024 NISWRMP has emphasised the importance of establishing national data management systems to facilitate the monitoring, reporting, and evaluation of solid waste management practices and results. Both the 2024 NRP and the 2024 BCDRP have highlighted the necessity of a centralised registry system for tracking recovered and recycled materials.
- **Infrastructure development and technical capacity building** represent critical areas for improvement. Significant investment is needed in waste management facilities, including efficient collection systems and recycling solutions that consider economies of scale. Given concerns about sufficient quantities and quality of recyclable materials to support profitable local facilities, regional cooperation for centralized or large-scaled processing or public-private partnerships can be considered as sustainable approaches. This infrastructure development should be accompanied by comprehensive training programs to develop technical expertise among waste management professionals. Additionally, the adoption of innovative technologies and approaches in waste management should be encouraged through appropriate incentives and support mechanisms.
- **Financial sustainability must be ensured through the implementation of diverse funding mechanisms**. The establishment of RRF and EPR systems would provide sustainable financing for waste management initiatives. Cost recovery mechanisms and incentives for recycling should be developed to ensure long-term viability of waste management programs. Considerations should also be given to solutions that embrace life-cycle approach, incorporating product design improvements, repair and reuse options. These financial instruments should be designed to encourage private sector participation including in public sector initiatives and innovation in waste management solutions.
- **Public engagement** and regional cooperation are essential elements for success. Comprehensive **public education campaigns** should be implemented to promote

behavioural change and community participation in waste management initiatives. Simultaneously, Trinidad and Tobago can contribute more to the efforts to manage marine litter through its participation in regional marine litter action plans and shared best practices with other Caribbean nations. This regional approach would help leverage shared resources and expertise while addressing the transboundary nature of marine pollution.

- The transition to a circular economy approach should be prioritized, emphasizing **sustainable product design, development of alternative materials to substitute for plastic, and implementing solutions for waste reduction at source, alongside the reuse, repurposing and recycling of plastic waste.** This should be supported by updated legislation specifically addressing plastic pollution and stronger enforcement mechanisms. Public-private partnerships should be fostered to drive innovation and investment in sustainable waste management solutions. Regular monitoring and evaluation of these initiatives will ensure their effectiveness and allow for adaptive management based on measured outcomes.

The successful implementation of these recommendations requires strong political commitment, adequate resource allocation, and effective stakeholder coordination. A phased approach should be adopted, prioritizing actions based on urgency, available resources, and potential impact. Regular assessment and adaptation of strategies will ensure continuous improvement in addressing marine litter challenges. Through these comprehensive measures, Trinidad and Tobago can make significant progress in managing marine litter while contributing to broader environmental and economic sustainability goals.

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