TroyMUN'26

IMO

Protecting Oceans from Plastic Pollution and Maritime Waste

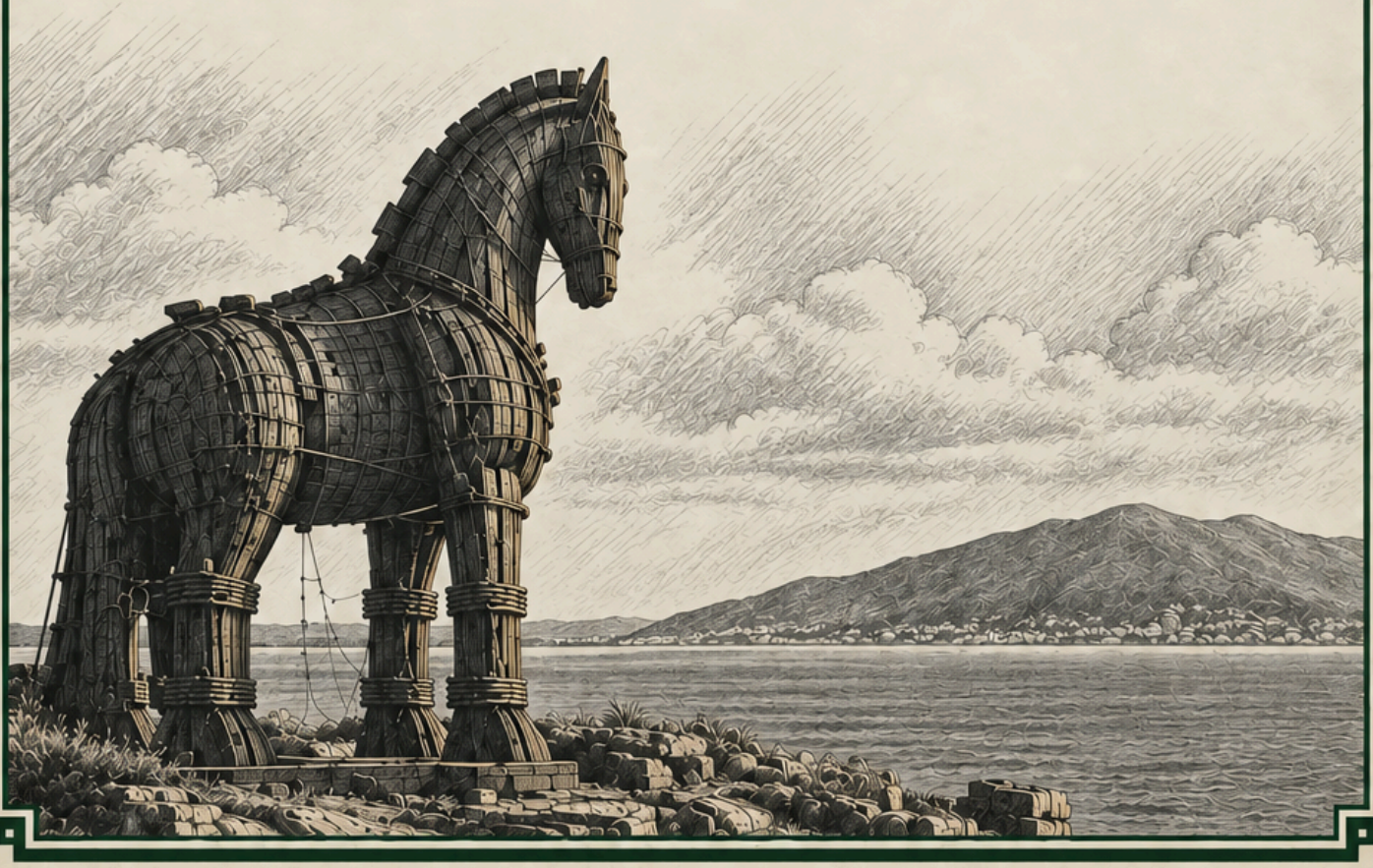


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I. Letter from Secretary-General

Esteemed Prospective Participants,

On behalf of TROYMUN Family, I would like to welcome you all to the ninth edition of TROY Model United Nations Conference. My name is Baran Akarsu and it is an utmost honor and privilege to serve as the Secretary-General of TROYMUN 2026. The ninth edition of TROYMUN will be held with the collaboration of Parion Hotel and Çanakkale College once again and it will take place in Çanakkale. While the junior edition of TROYMUN will take place between 23th-25th of November, the senior edition will be held between 27th and 29th of November. Since our last edition We are extremely delighted and excited to meet once again and discuss some of the world's current problems. This year, we will host five committees in each of our editions. The committees will be a bit more interesting, more related to our current life and new rather than our past editions. The topic of Ensuring Habitat Protection and Biodiversity Conservation will be discussed in United Nations Environmental Programme for our Junior Edition. Reminding that it will be the first time of hosting UNCoST, The discussion is going to be covered under Raising Awareness on Usage of AI and Combatting the Misuse of Artificial Intelligence for our Junior Edition. UNICEF with the topic of The Effects of Social Media Usage and Digital Bullying on Children's Mental Health: International Maritime Organization with the issue of Protecting Oceans from Plastic Pollution and Maritime Waste for our Junior Edition. Not to forget our last and another new gen committee for Junior Edition, include an exciting wait for you to shine as a star. FCC: The Galactic Senate In the Futuristic Crisis Committee, delegates will prepare for the upcoming galactic elections with their factions. There will be four factions

competing in the elections.

Besides the elections, delegates will also cooperate with each other to solve the problems of the galaxy. Meanwhile for our Senior Edition,
United Nations Office on Drugs and Crime will discuss Combating the Rise of Cyber-Enabled Transnational Organized Crime and Darknet Marketplaces. UNWomen with the topic of Council of Europe Convention on Preventing and Combating Violence against Women and Domestic Violence (Istanbul Convention). Senior Edition Of UNICEF's Agenda Item will be Ensuring the Protection of Children's Rights in Armed Conflicts: The Case of Gaza. As you knew from our last edition, We gathered together in a committee to dream about the America. We know it is in your dreams before your sleeps, American Dreams! An exciting rehandling of Historical U.S Senate comes with a new discussion; The Civil Rights. Our last and fifth for our Senior Edition will be a Crisis Committee. JCC will be with us in order to discuss The Napoleonic Era. We are looking forward to see you as a star, a delegate, a diplomat in our ninth edition which is special and the last before the double digits. Delighted to hear your solutions on these crucial topics and wish you fruitful debates. A group of experienced MUN delegates as well as successful and exemplary individuals well versed in the topics at hand will chair and monitor our committees. I have full faith in each and every member of our Academic Team and I believe they will guide you towards enhancing your academic knowledge along with practicing your debating and negotiating skills through presenting the best environment for a spirit of diplomacy. Meanwhile, now that they can arrange physical challenges, coffee breaks and social events again, I believe our amazing and all-mighty Organization Team members are in a frenzy! They are working with great dedication to ensure that you leave TROYMUN 2026 with unforgettable memories and

lots of new friends. Overall, we are all looking forward to meet you again!

On behalf of TROYMUN family and Parion Hotel, I would like to thank you for your time and consideration and once again, with great pleasure, welcome you to TROYMUN 2026. Do not forget to apply, to read your study guides, prepare some speeches and motions, and buckle your seatbelts for three days of fun, discussion, games and politics! In case of any questions, do not hesitate to contact us. We would be more than happy to help you. See you in November

Your Sincerely,

Baran Akarsu

Secretary-General of TroyMUN

II. Letter from Mentor Under-Secretary-General

TROYMUN has a really special place in my heart. Every November since I started high school, for six years, it's the place I go back to. It's a place where I know I'll be welcomed. And now I welcome you, dear delegates and advisors to TROYMUN'26 Junior Conference.

I would like to thank my teachers Ms. Çağlayan Nazlıca and Ms. Arzu Kotan Deveci for making TROYMUN possible and welcoming me again this year.

I would also like to thank our Secretary-General Baran Akarsu for his efforts and my Under-Secretary-General Alperen Belek for his hard work in preparation for this committee.

Dear delegates, I hope after three wonderful days you'll be back next year and TROYMUN will hold place in your fondest memories as well.

Yours truly,

Nur Elif Battal

Mentor Under-Secretary-General responsible for International Maritime Organization

III. Letter from Under-Secretary-General

Esteemed Delegates,

First of all, I would like to welcome all of you to the ninth annual session of TroyMUN'26! I am Alperen Belek and I will be serving as your Under-Secretary-General for this year's conference on the IMO committee. I would also like to thank my supportive Mentor USG Nur Elif for guiding me and helping me whenever I needed it and my hardworking chairboard ; Önem and Umut Ege for their appreciated efforts.

From my own experience, I know that standing up and speaking in front of people isn't easy. I wasn't even your age when I was a delegate for the first time. But we need to understand that Model UN is not just about discussing a topic, or writing a resolution. It's about gaining new experiences, generating different ideas, and developing as an individual.

This year's agenda focuses on protecting the oceans from marine waste. Ensuring access to clean water and protecting underwater life are just two of our humanitarian responsibilities for future generations and a more livable world. We are the young people who will shape the world, so we believe in you bringing creative, effective, and fresh ideas to the table. As the Chairboard, we look forward to seeing your passion, ambition, and energy on the committee.

Lastly I would like to thank Ms. Çağlayan Nazlıca and Ms. Arzu Kotan Deveci for their years of efforts to make TroyMUN conferences a reality for all. And I also would like to thank my Secretary-General Baran Akarsu for supporting us until now.

With all my best,

Alperen Belek

Under-Secretary-General responsible for International Maritime Organization

IV. Introduction to the Committee: International Maritime Organization

IMO - the International Maritime Organization - is the United Nations specialized agency with responsibility for the safety and security of shipping and prevention of marine and atmospheric pollution by ships. IMO's work supports the UN SDGs.

As a specialized agency of the United Nations, IMO is the global standard-setting authority for the safety, security and environmental performance of international shipping. The world relies on a safe, secure and efficient international shipping industry- and IMO's main role is to create a regulatory framework for the shipping industry that is *fair and effective*, universally adopted and universally implemented.

Energy efficiency, new technology and innovation, maritime education and training, maritime infrastructure: the development and implementation, through IMO, of global standards covering these and other issues will underpin IMO's commitment to provide the institutional framework necessary for a green and sustainable global maritime. [1]

V. Introduction to the Agenda Item

A. Overview of the Agenda

Marine litter presents a huge problem for the world's oceans. It refers to long-lasting, human-made solid materials that end up in the ocean or along coastlines. While marine litter can come from land-based sources, it can also originate from ships and fishing activities, including operational waste, cargo residues, fishing gear and other materials. Plastic litter is a particular concern because of its strength and durability, allowing it to remain in the ocean for decades or even centuries.

The IMO has regulated marine litter for decades, with ***MARPOL Annex V***. More recently, the IMO has strengthened its efforts through its ***Action Plan and Strategy to address marine plastic litter from ships***. In 2026, the IMO reaffirmed its goal of achieving zero plastic waste discharges to sea from ships by 2030. [2]

B. Historical Background of the Agenda Item

A major development was the adoption of MARPOL Annex V, which prohibits the discharge of plastics into the sea from ships and establishes regulations concerning ship-generated garbage. The Annex also addresses the importance of adequate port reception facilities, which allow ships to dispose of their garbage without discharging it into the marine environment. [2]

In 2018, the IMO adopted its first Action Plan to Address Marine Plastic Litter from Ships. The Action Plan introduced a number of measures aimed at reducing marine plastic litter from ships and fishing vessels, while also addressing the management and delivery of waste from ships to appropriate reception facilities.

The Action Plan was subsequently updated in 2025, building on the measures and progress made since its initial adoption in 2018. The updated Action Plan continued to focus on reducing marine plastic litter from ships and fishing vessels and improving the management of waste generated at sea. [3]

In 2021, the IMO adopted its Strategy to Address Marine Plastic Litter from Ships. The Strategy established a longer-term framework for addressing marine plastic litter from ships and supported further international efforts to prevent and reduce the contribution of maritime activities to marine plastic pollution. [4]

The 2021 Strategy was later updated alongside the 2025 Action Plan. In 2026, the IMO adopted a new Strategy and Action Plan, bringing together and updating the previous frameworks. This provided a more *comprehensive approach* to addressing marine plastic litter from ships and fishing vessels. [5]

The updated framework continues to emphasize reducing marine plastic litter, improving port reception facilities and waste processing, and strengthening international cooperation. The IMO has also reaffirmed its goal of achieving "zero plastic waste discharges to sea from ships by 2030."

C. Sustainable Development Goals (UN SDG's)

In 2015, 193 countries adopted the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs).

This Agenda calls for *action by all* countries to eradicate poverty and achieve sustainable development by 2030 world-wide – and the SDGs are seen as an opportunity to transform the world for the better and *leave no one behind.*

As part of the United Nations family, IMO is actively working towards the 2030 Agenda for Sustainable Development and the associated SDGs. Indeed, most of the elements of the 2030 Agenda will only be achieved with a sustainable transport sector supporting world trade and facilitating the global economy. [6]



While each SDG addresses a different aspect of sustainability, the SDGs are interconnected. While SDG 14 - Life Below Water - is central to IMO, aspects of the Organization's work can be linked to all individual SDGs. Therefore, some IMO activities may contribute to more than one goal.

a. Goal 14 : Conserve and Sustainably Use the Oceans, Seas and Marine Resources



Because international shipping takes place on the world's oceans, the work of IMO, which is responsible for measures to improve the safety and security of international shipping and to prevent pollution from ships, is integral to most, if not all, of the SDG 14 targets. To be sustainable, human activities have to be balanced with the oceans' capacity to remain healthy and diverse in the long term. A major part of IMO's role is to ensure that shipping continues to make its contribution to the global economy without upsetting that delicate balance.



Implementing and enforcing the main conventions and regulations adopted by IMO, Member States actively address marine pollution, mainly from sea-based sources but also, at least indirectly, from land-based sources.

IMO also supports the targets for managing and protecting marine and coastal ecosystems, not least through the establishment of Special Areas and Particularly Sensitive Sea Areas. Protecting marine biodiversity has been a key theme for IMO for many years, most notably in its work to mitigate the threat of harmful invasive species being carried around the world by ships.

To help protect maritime wildlife, IMO's work includes reduction of underwater noise from ships and adopting measures to avoid collisions between ships and marine mammals. IMO has also banned the discharge of harmful litter from ships and is part of the ***Global***

Partnership on Marine Litter, while the dumping of wastes at sea is regulated by the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, commonly called the ***London Convention and its 1996 Protocol.*** [6]

b. Goal 12 : Ensure Sustainable Consumption and Production Patterns



IMO contributes to SDG 12 through the reduction of waste generation, both operational waste from ships (through the MARPOL Convention) and dumping of wastes under the London Convention and Protocol (LC/LP). For garbage and several other types of waste generated on board ships, MARPOL requires port States to provide adequate reception facilities for the safe and sound management of wastes.



IMO also works to enhance technical capacities in wastewater management on board ships and in ports, and to promote recycling, cleaner production technologies and more sustainable consumption patterns. [6]

IMO's Hong Kong International Convention, which provides a framework for safe and environmentally sound recycling of ships themselves, entered into force on 26 June 2025.

c. Goal 17 : Revitalize the global partnership for sustainable development



SDG 17 calls upon global partnerships to support the achievement of the SDGs in all countries, in particular developing countries.



IMO currently has partnership arrangements with more than 60 IGOs and more than 80 NGOs, including major global environmental organizations and bodies.

IMO actively pursues specific partnerships with its Member States and others to execute individual projects or initiatives at both regional and global level. Most of these are aimed at developing regions, which typically benefit from training events, fellowships and technical advisory missions.

IMO's Department of Partnerships and Projects has been established to promotes a culture of collaboration and innovation, creating broader engagement and partnerships with maritime and ocean-related stakeholders. This department works closely with the Technical Cooperation Division and other Divisions within IMO.

Together, these and many other partnerships involving IMO make a significant contribution to the sustainable development of the maritime community. [6]

D. Understanding Plastic Pollution and Maritime Waste

Marine plastic pollution is one of the most serious environmental problems to the oceans globally. Marine litter is closely related to human activities at sea and on land. Plastic is of particular concern because of its durability and persistence in the marine environment. Plastic waste can enter the ocean from a range of activities including shipping and fishing, but also from land-based sources.

Marine plastic litter includes macroplastics, such as plastic bags, bottles and fishing gear, and microplastics that are generally five millimeters or less in size. These materials can stay in the marine environment for a long time and cause harm to marine life and biodiversity. [3]



Maritime waste means various types of waste produced, transported or lost during maritime activities. Ships can produce waste such as domestic and operational waste, cargo residues, fishing gear and other materials. Of these, plastics are especially problematic, because they can persist in the environment for many years. Lost or discarded fishing gear in the ocean may also present additional hazards such as entanglement of marine life and interference with vessels. The IMO thus considers the prevention of pollution from ships to be an important part of protecting the marine environment. [7]

The scale of the problem extends beyond the maritime sector itself. UNEP's global assessment states that plastics are the **largest, most harmful and most persistent fraction of marine litter**, accounting for *at least* **85 per cent** of total marine waste. Marine plastic pollution can affect ecosystems, wildlife and human health, while also creating social and economic consequences for activities such as fisheries and tourism. This shows that marine plastic pollution is not only an environmental issue, but also an economic and social one. [8]



Prevention of marine plastic pollution is closely tied to international regulation for the shipping industry.

E. Sources and Pathways of Marine Pollution

1. Land-Based Sources

One of the main sources of marine pollution are land based activities. The United Nations Environment Program (UNEP) estimates around 80% of marine pollution comes from land. Major sources are agricultural run-off, plastic waste, industrial discharges, untreated wastewater, urban storm water, and poor waste management. Such pollutants may travel to

rivers, lakes and coastal waters before finally reaching the ocean. This means that marine pollution can start far from the coast. [11]



Poor waste management is particularly important in the case of plastic pollution. UNEP estimates that **more than 11 million metric tonnes of plastic enter the seas every year**, with inadequate collection and disposal systems increasing the likelihood that plastic waste will escape into the environment. At least **2 billion people may lack access to solid waste collection systems**, while collection rates are considerably lower in low-income countries than in high-income countries. [11]

Agriculture is another major pathway of land-based pollution into marine environments. Agricultural runoff can also contain excess nutrients such as nitrogen and phosphorus that can be transported to rivers and coastal waters and can cause eutrophication and damage to aquatic ecosystems. Likewise, industrial activities and wastewater can add chemicals, sediment and other pollutants to waterways. UNEP therefore emphasizes a “source-to-sea” approach, which considers the entire pathway from land and freshwater systems through rivers and coastal areas to the open ocean. [12]



The significance of land-based sources is especially relevant to the IMO because reducing marine pollution cannot depend only on regulating ships. While maritime activities remain an important source of marine litter, a substantial proportion of pollution enters the marine environment before it ever reaches a vessel or port. Understanding these land-based pathways is therefore essential for developing effective international cooperation between governments, municipalities, industries and maritime authorities. [13]

2. Maritime and Shipping Activities

Maritime and shipping activities are an important source of marine pollution at sea, in particular, through the generation of waste during vessel operations, cargo handling and accidental losses at sea. Marine litter from ships could include domestic and operational waste, cargo residues, packaging materials, debris from wear and tear of vessels and other materials lost at sea. The IMO also points out that marine litter is largely derived from sea-based sources, in particular from the shipping and fishing industries, and that it can have impacts on marine ecosystems as well as human health, safety and livelihoods. [14]



Plastic is especially important because plastic can remain in the environment and plastic can enter the ocean when plastic is lost by accident or when plastic is not disposed of properly. The IMO reports that 75–199 million tonnes of plastic were estimated to be present in the oceans as of 2021. Lost cargo and materials such as pellets can also create environmental risks; IMO is currently working on measures concerning the maritime transport of plastic pellets, in freight containers. [2]

International regulation therefore occupies a central role in reducing pollution caused by ships.

3. Fishing and Aquaculture Waste

Fishing and aquaculture activities are important **sea-based sources of marine plastic litter**. One of the main concerns is **abandoned, lost or otherwise discarded fishing gear (ALDFG)**, which can include nets, ropes, traps, hooks, lines, floats and buoys. When this equipment is lost or discarded, it can remain in the marine environment, causing entanglement of marine wildlife, damage to habitats and economic losses for fisheries. The IMO identifies ALDFG as a key source of marine litter and notes that lost fishing gear can

also become entangled in vessel propellers and rudders, creating risks for maritime safety. [15]



For this reason, the IMO's current approach includes measures such as **fishing-gear marking, reporting lost fishing gear and improving the delivery of retrieved gear to port reception facilities**. These measures are intended to improve traceability and reduce the amount of fishing-related waste entering or remaining in the marine environment. [2]

4. Plastic Waste and Microplastics

The durability of plastics makes plastic waste issue particularly hard to solve. Plastic debris in the marine environment can last a long time and may break down into smaller particles rather than just disappear. These particles can be transported by rivers and ocean currents and have been found in many parts of the marine environment . They may harm marine environments, fisheries and other marine-related activities. (17)



Microplastics are small pieces of plastic, often 5 millimetres or less in size, that have become a major part of marine plastic pollution. Microplastics may originate from both land-based and sea-based activities, and may persist in the marine environment where they may contribute to harmful effects on marine life and biodiversity. They can also enter the marine food web by being consumed by marine

organisms. [2]

For the maritime sector, microplastics can come from a variety of activities such as shipping, fishing and aquaculture. The IMO has called for further research into sources such as hull scrapings and marine coatings, but plastic pellets carried by ships can also enter the marine environment through accidental spill. Understanding these different pathways is important in assessing the role of maritime activities in the wider marine plastic pollution problem. [28]

F. Global Impacts of Plastic Pollution

UNEP emphasizes that marine litter and plastic pollution have significant impacts on ecosystem health, wildlife, human health, and social and economic costs.

1. Environmental Consequences

Plastic pollution causes serious and lasting damage to marine environments. Marine animals can ingest plastic waste or become entangled in it. Larger pieces can destroy habitats and disrupt ecosystems' ability to function. As plastics degrade they generate microplastics which enter marine food webs and impact a wider diversity of organisms. [19]



The effects can also cascade down to marine biodiversity. Plastic pollution adds further stress to species already under other environmental pressures, possibly reducing ecosystem resilience. [8]

Plastic pollution can also harm marine habitats like coral reefs, mangroves and seagrass beds. It stops organisms from getting oxygen and light.

These problems can break the ecosystem services that help fisheries, tourism and coastal communities. [19]

2. Economic Consequences

Plastic pollution has major economic consequences for industries and communities reliant on healthy marine environments. When beaches, coastal areas and fishing grounds are affected by marine litter, tourism, fisheries and aquaculture can experience financial losses. Plastic waste can also damage fishing gear and ships, and contaminated beaches may decrease tourism and the income of companies that rely on coastal visitors. [20]

The costs are not only direct losses to businesses. Governments and local authorities may have to spend more resources on beach and coastal clean-ups, waste collection and removal of marine litter. According to UNEP estimates, the global economic costs of marine plastic pollution to tourism, fisheries, aquaculture and clean-up activities were at least US$6–19 billion in 2018. [20]



Plastic pollution also affects maritime transport and shipping. Marine litter can also cause damage through collisions of vessels or interference with equipment, resulting in damage, delays and additional operational costs. These impacts demonstrate that the cost of avoiding plastic pollution can be less than the cost of pollution once it has entered the marine environment. [21]

3. Human Health Concerns

Plastic pollution is increasingly recognized as a potential issue for human health especially as people can be exposed to microplastics through food, water and air. Microplastics have been detected in drinking water and food, prompting questions about what they may do once they enter the human body. WHO has reviewed the evidence and emphasizes that there are still significant gaps in knowledge on the health risks of exposure to microplastics. [22]

One important path is through the marine food chain. Microplastics are consumed by marine organisms and humans can be affected by microplastics through the consumption of seafood. UNEP also highlights concern for human health from plastics-associated chemicals and other substances associated with microplastics. [23]



However, it is important not to overstate the current scientific evidence. Based on the limited evidence available, WHO judged that microplastics in drinking water did not seem to present a significant health risk at current levels, but stressed the need for more research. Continued monitoring, scientific research and a better understanding of exposure pathways are important parts of addressing plastic pollution. [24]

4. Threats to Coastal Communities

Plastic pollution can directly affect coastal communities whose livelihoods depend on healthy marine environments. Accumulation of plastic waste along coastlines or in marine environments can affect fisheries, aquaculture and tourism. Marine plastic pollution is a threat to livelihoods, fisheries, tourism and local economies, particularly in communities that rely heavily on coastal resources, according to UNEP. [25]



The effects can be particularly damaging for vulnerable coastal communities. Plastic waste can reduce the quality and attractiveness of beaches, damage fishing equipment and reduce access to productive marine resources.UNEP also states that communities that are already socially or economically disadvantaged are likely to be impacted by plastic pollution to a disproportionate level. [26]

Clean-up and waste management costs for coastal communities may also rise. Marine plastic pollution costs valuable marine ecosystem services between US$500 billion and US$2.5 trillion each year, according to UNEP. Further economic losses result from impacts on tourism, fisheries and aquaculture. These effects show that plastic pollution is not only an

environmental problem but also a threat to the livelihoods and resilience of coastal communities. [19]

G. Key Challenges in Addressing Marine Plastic Pollution

Addressing marine plastic pollution remains challenging because the problem involves multiple sources, sectors and countries and cannot be solved through a single measure. Key challenges include differences in national waste-management capacities, limited access to adequate port reception facilities, difficulties in monitoring and enforcing existing regulations, and gaps in data and reporting. International cooperation is also essential, as marine plastic pollution crosses national borders and requires coordinated action between governments, maritime industries and international organizations.

1. Inadequate Waste Management Infrastructure

One of the main challenges to preventing plastic waste from entering the marine environment is the lack of adequate waste management infrastructure. Plastic waste can escape into rivers, coastal areas and eventually the ocean when waste collection, sorting, recycling and disposal systems are inadequate. Adequate port reception facilities are of particular importance in the maritime sector as ships need reliable facilities for the delivery of their waste instead of discharging it at sea. The availability of adequate port reception facilities is a major factor in compliance with MARPOL discharge requirements. [7]

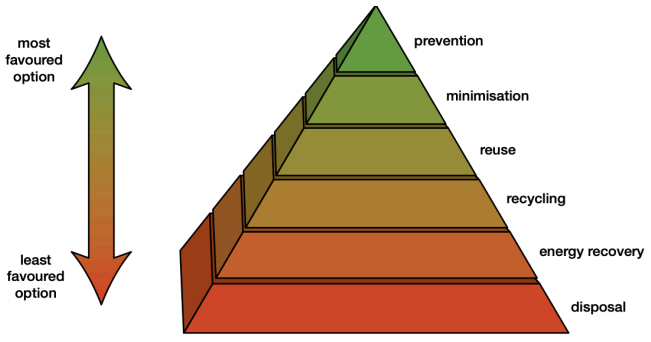


Figure 1: *Waste management hierarchy according to Lansink's ladder (Source: Ionel, 2010)*

The waste management hierarchy prioritizes prevention and minimisation over recycling, energy recovery and disposal.

The issue is not simply whether there is a facility but whether it has the capacity, accessibility and capability to deal with different types and quantities of waste. Smaller or remote ports may encounter more difficulties, since high-quality reception and treatment facilities are expensive and technically challenging to maintain. The IMO therefore highlights the need to strengthen port waste management systems, reporting of shortcomings and enhancing technical capacity, especially in developing countries. [42]

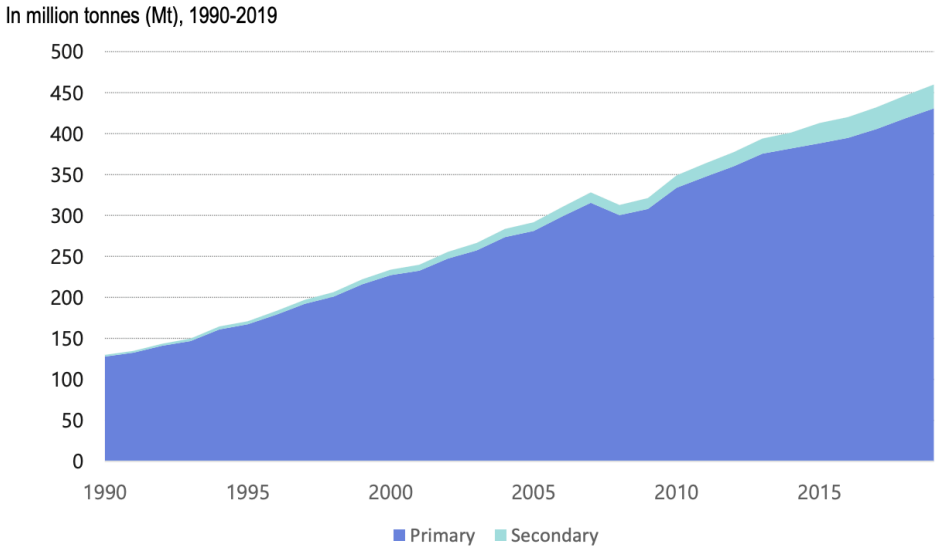
A recent example is the development of port waste-management plans in Indonesia, Viet Nam and the Philippines with IMO support where authorities have been working to improve waste-handling systems and reception facilities. These efforts have shown that infrastructure and cooperation among maritime authorities, ports, and waste-management services are key players in keeping ship-born plastic waste out of the ocean. [43]



2. Increasing Plastic Production and Consumption

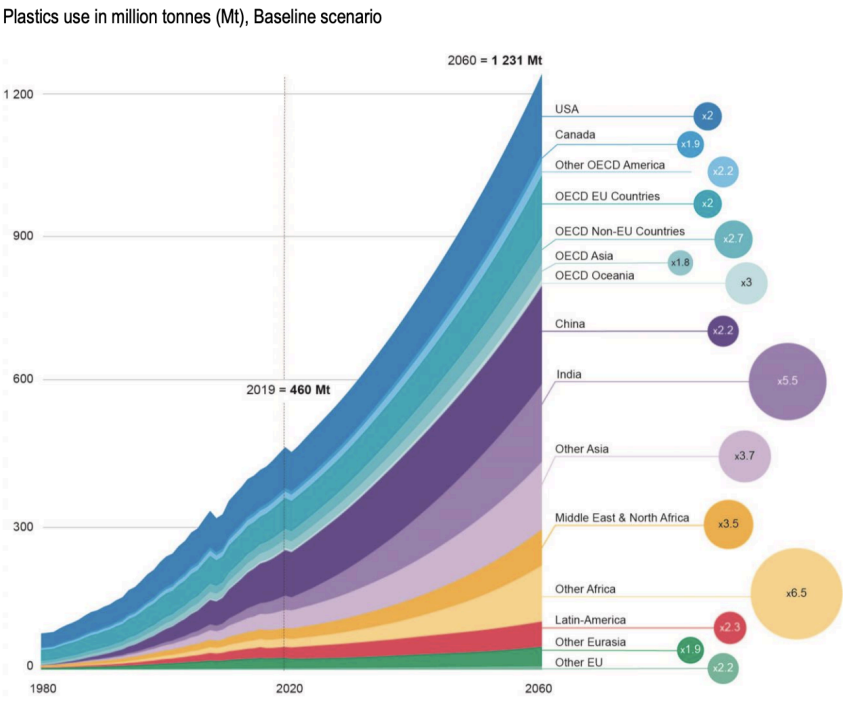
Over the last few decades there has been rapid growth in the amount of plastic produced and used, placing extra strain on waste-management systems and the marine environment. The

OECD states that global plastic production doubled between 234 million tonnes in the year 2000 and 460 million tonnes in 2019, and so did the amount of plastic waste over the same period. [29]



The figure shows the significant increase in global plastic production between 1990 and 2019. During this period, total production rose from approximately 130 million tonnes to 460 million tonnes, demonstrating the rapid expansion of plastic production worldwide

The increase is due to factors including population growth, higher incomes and greater demand for plastic products, especially in the areas of packaging, construction and transportation. According to the OECD, global plastics usage could almost triple by 2060 if stronger policies are not introduced, amounting to approximately 1.23 billion tonnes per year. [30]



Note: The numbers in the circle on the right–hand side of the graph indicate the growth of plastics use from 2019 (dashed line) to 2060 for each region (e.g. x2 means a doubling of plastics use).
Source: OECD ENV-Linkages model.

The figure illustrates the projected growth of global plastics use from 2019 to 2060 under the baseline scenario. Global plastics use is expected to increase from 460 million tonnes in 2019 to approximately 1,231 million tonnes by 2060, with particularly rapid growth projected in developing and emerging economies.

As production and consumption increase, more plastic enters the waste stream, making prevention and effective waste management increasingly important for reducing plastic leakage into the environment.

3. Weak Enforcement of Existing Regulations

International regulations have been put in place in order to reduce marine plastic pollution, but their success is dependent on their consistent implementation and enforcement. Ships are forbidden to discharge plastics into the sea (Annex V, MARPOL) and Governments shall provide adequate port reception facilities for garbage generated on ships (Annex V,

MARPOL). However, the IMO has acknowledged that despite the regulatory framework in place, discharges of marine plastic litter from ships continue to occur. [3]

One of the main problems is that national authorities need to be sufficiently equipped to monitor, inspect and enforce. “Port State Control may be used to inspect foreign flagged ships where there are clear grounds to believe that essential procedures for the prevention of pollution by garbage are not being followed. MARPOL Annex V also requires ships to maintain a Garbage Record Book, allowing authorities to check how garbage has been handled and disposed of. [7]

The IMO has also acknowledged the importance of strengthening enforcement of the MARPOL Annex V through Port State Control, including actions targeted at fishing vessels and the use of risk-based approaches. In 2022, the IMO Sub-Committee on Implementation of IMO Instruments discussed ways to enhance enforcement and harmonize Port State Control procedures globally. [31]



Another drawback is that enforcement will not work if ships do not have proper facilities to discharge their waste. IMO points out that the ability of ships to fulfill MARPOL discharge

requirements is heavily dependent on the availability of adequate port reception facilities. Therefore, better enforcement must be backed by proper facilities, trained staff, effective monitoring systems and international cooperation. [32]

4. Monitoring and Data Collection Challenges

Monitoring and data collection are essential for successfully determining the scale and sources of marine plastic pollution. But the IMO has found gaps in data and challenges in collecting consistent information, particularly on marine plastic litter from ships and lost or abandoned fishing gear. Differences in reporting practices and monitoring requirements may prevent comparisons of data between countries and the emergence of a complete picture of the problem. [33]

The IMO has therefore been working to improve the collection, reporting and management of the relevant data. Discussions have considered what information should be reported, and how it should be collected, transmitted and managed, if fishing gear is lost or abandoned. Improved systems can support governments and international bodies to identify major sources of marine plastic pollution and assess whether current efforts are delivering measurable results. [33]

5. Financial and Technological Limitations

Addressing marine plastic pollution requires a significant amount of financial backing, technical expertise, and the right infrastructure. However, many countries don't have access to these resources. UNEP notes that limited government funding, inadequate investment and the lack of funds for collection, treatment and disposal of plastic waste are major barriers. These challenges are most severe in developing countries. [34]

The same problems are found in the maritime industry. Investment in equipment, waste collection, treatment and transportation systems are necessary to establish and operate port reception facilities. The IMO states that smaller ports may be particularly affected because they handle fewer ships, and developing countries may not have the technical ability to establish effective systems for managing the waste. [27]

Technological limitations may also impact the ability to monitor, collect, process and recycle marine plastic waste. Therefore the IMO's OceanLitter Program highlights technical cooperation and capacity-building, especially in developing countries, including Small Island Developing States **(SIDSs)** and Least Developed Countries **(LDCs)**. [2]



H. The Role of Governments, NGO's and the Private Sector

Marine plastic pollution is a global problem that calls for collective action by governments, NGOs and the private sector. Rivers, ocean currents and maritime activities can transport plastic waste across borders, thus necessitating cooperation among different stakeholders. This approach can be seen in the IMO's ***OceanLitter Program*** which brings together government, industry and non-governmental organizations at global, regional and national levels. [35]

Governments are mainly responsible for the *creation and implementation* of established frameworks such as MARPOL Annex V. Governments have duties to inspect ships, to enforce environmental regulations and to *ensure* the availability of adequate port reception facilities. [32]

Governments have responsibilities beyond the maritime sector, too. They should enhance national waste management systems, recycling infrastructure, monitoring and public awareness to minimize the quantity of plastic entering the marine environment from land-based sources. International programs can offer extra support to countries with a limited financial and technical capacity. For example, the IMO's OceanLitter Program assists developing countries, including SIDSs and LDCs, to reform their laws, policies and institutions and develop national action plans. [36]

NGOs support government actions by carrying out research, education, public awareness, monitoring and community-based projects. They can do clean-up activities, gather data on marine litter and help communities understand how plastic waste gets into the ocean. NGOs can also offer independent expertise and serve as a voice for the concerns of coastal communities, environmental groups and other stakeholders. Through this, their participation can assist governments and international organizations to have a better understanding of local issues and come up with more effective policies. Non-governmental organizations are incorporated into the IMO's OceanLitter Program within its global, regional and national partnerships. [35]

The private sector also has an important role to play as businesses are involved in all stages of production, transport, use and disposal of plastics. Companies can cut down on excess plastic, re-design products and packaging, boost reuse and recycling, and put money into

better waste-management technologies. Shipowners, ports, fishing companies, recycling companies and waste-management companies in the maritime sector have the opportunity to improve waste-handling practices and contribute to preventing plastic from entering the marine environment. [37]

A good example of public-private partnership is the IMO's ***Global Industry Alliance (GIA)***. The alliance unites leaders from the maritime and fisheries industry and waste management companies to share expertise and develop innovative solutions. Shipowners, ports, fishing-gear manufacturers, technology and data providers, recycling companies and classification societies are all potential participants. Its activities may include developing guidance and tools for the reduction, reuse and recycling of plastics and raising awareness of practical solutions. [38]



Ultimately, the responsibilities of the three groups are different but complementary. Governments set and enforce regulations, NGOs provide research, awareness and community

engagement, and the private sector brings investment, technology and practical solutions. Together they can be effective in shifting the international response from just removing plastic once it's in the ocean, to preventing plastic from entering the marine environment in the first place. The IMO's OceanLitter Program, working with governments, industry and NGOs and projects targeting shipping and fisheries are great examples of this approach. [35]

I. UN Actions and International Agreements

Marine plastic pollution is a transboundary issue, where plastic waste released in one country affects marine environments and communities in another. Therefore international agreements and actions of the United Nations provide a common framework for countries to prevent pollution, to improve cooperation and to coordinate their responses. These international frameworks are particularly important for the maritime sector, as ships operate across national boundaries and need common rules for waste disposal, monitoring and enforcement. The IMO collaborates with other UN agencies, such as UNEP and FAO, to combat marine and land-based sources of marine litter. [39]

MARPOL Annex V



One of the most important international conventions for the prevention of pollution from ships is the International Convention for the Prevention of Pollution from Ships (MARPOL). Annex V deals specifically with garbage from ships, and prohibits the discharge of plastics into the sea. It also establishes standards for the management and disposal of garbage generated on board ships and requires the establishment of adequate port

reception facilities. MARPOL Annex V is directly related to shipping which makes it one of the most important instruments for this agenda item. [2]

London Convention and London Protocol

The London Convention 1972 is one of the first international agreements protecting the marine environment against human activities. It applies specifically to the dumping of wastes and other matter at sea. It prohibits the dumping of some hazardous materials and requires permits for the dumping of other materials. The Convention has been in force since 1975 and administered by the IMO since 1977. [40]

The 1996 London Protocol was adopted to modernize the Convention and entered into force in 2006. The Protocol generally prohibits dumping, while the original Convention prohibited specific materials, except for materials on a limited "reverse list" which may be considered for dumping under controlled conditions. The London Convention and Protocol together represent a significant international framework for controlling the disposal of waste at sea, including plastics. [40]

UNEA Resolution 5/14 and the Global Plastics Treaty Process

Resolution 5/14 of 2022 by the United Nations Environment Assembly (UNEA), titled “End plastic pollution: towards an international legally binding instrument,” called for negotiations for a new international instrument that is legally binding on plastic pollution, including plastic pollution in the marine environment. Significantly, this new instrument will not only deal with plastic pollution after it is generated but will apply to the entire life cycle of plastics. [39]

The negotiations have been conducted by means of the Intergovernmental Negotiating Committee (INC), which is an organ of UNEP. It includes negotiations starting in 2022, taking place in Uruguay, France, Kenya, Canada, the Republic of Korea and Switzerland. Such process proves the fact that marine plastic pollution is seen more and more as a global problem, calling for collaboration beyond just the maritime realm. [2]

IMO Strategy and Action Plan on Marine Plastic Litter

The IMO has taken several measures to tackle plastic pollution by ships. The original Action Plan of 2018 was updated in 2025, and the new Strategy and Action Plan to address Marine Plastic Litter from Ships was adopted in 2026. This strategy not only updates the earlier version of 2021 but also supersedes the 2025 action plan. [41]

The key components of the 2026 Strategy include reducing shipping contribution to marine plastic litter, enhancing port reception facilities, ensuring compliance with regulations, raising awareness, training of seafarers, and increasing international cooperation. Most importantly, for this agenda, the IMO has reiterated that it wants to achieve zero plastic waste discharge into the sea by ships by 2030. [41]

Basel Convention

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal is also pertinent to the general problem of plastic pollution since it governs the transfer and disposal of specified categories of wastes across state borders. In particular, the significance of the Basel Convention consists in the management of plastic wastes after their generation in order to ensure environmentally sound waste movements. [42]

For our committee, the Basel Convention can be helpful in dealing with the land-based and international waste management aspect of marine plastic pollution, while MARPOL and the London Convention/ Protocol are related to ship pollution and dumping at sea directly.

Overall Importance

All these instruments combined form the multi-level international framework. The scope of MARPOL Annex V is garbage on ships; the scope of the London Convention and the London Protocol concerns sea dumping; UNEA Resolution 5/14 addresses plastic pollution throughout its lifecycle, while the IMO 2026 Strategy sets out the international framework to reduce plastic waste on ships. The implementation of all these instruments will, nevertheless, depend on the existence of relevant national measures and capacities.

V. Case Studies

This section will provide you with further information about the agenda. Each of the studies below is important for the study guide and the process of writing an effective resolution; the information here may be useful during the conference.

1. IMO OceanLitter Programme — Three-Level Partnership Model

https://oceanlitter.imo.org - IMO describes three different projects here in three different areas: global, regional and national components; GloLitter → RegLitter → PRO-SEAS

2. Port Reception Facilities — Why Infrastructure Matters

https://www.imo.org/en/ourwork/environment/pages/port-reception-facilities.aspx

This case study specifically supports G.1 Inadequate Waste Management Infrastructure section. The IMO's port reception facilities study explains why port infrastructure is critical

for the proper unloading of plastic waste from ships. The IMO also states that effective implementation of MARPOL rules is difficult without port reception facilities.

3. **GloLitter — Abandoned, Lost or Discarded Fishing Gear**

https://www.imo.org/en/mediacentre/pressbriefings/pages/20-marinelitteractionmecp73.aspx

This also directly links to the Fishing and Aquaculture Waste section. Under GloLitter, IMO and FAO are working on fishing gear marking to reduce plastic pollution from the fishing industry. The aim is to make it easier to trace lost or abandoned equipment back to its owner. The return of fishing gear to ports and its proper management are also addressed.

4. **Port State Control Training — Pacific Countries**

https://oceanlitter.imo.org/news/pacific-countries-take-a-significant-step-towards-reducing-sea-based-marine-plastic-litter

In 2025, Port State Control Officers from Fiji, Tonga, Papua New Guinea, the Solomon Islands, and Vanuatu received training on ship inspections under MARPOL Annex V. The training covered topics such as plastic waste management on ships, Garbage Record Books, and Garbage Management Plans.

5. **PRO-SEAS — Four Countries, Three Marine Ecosystems**

https://oceanlitter.imo.org/about/pro-seas

PRO-SEAS operates in Costa Rica, Jamaica, Kenya, and Vanuatu. These countries encompass three distinct Large Marine Ecosystems: the Caribbean Sea, the Pacific-Central

American Coastal, and the Somali Coastal Current. The project aims to prevent and reduce marine plastic litter originating from shipping and fisheries.

6. **GloLitter — Economic Side of Port Reception Facilities**

https://www.imo.org/en/mediacentre/pages/whatsnew-1858.aspx

The IMO's GloLitter team has prepared a guide examining the costs, revenues, and economic feasibility of establishing port reception facilities for plastic waste. The guide includes case studies from ports of varying sizes and discusses how to conduct an economic evaluation of reception facilities.

VI. Questions to Ponder

1. How can IMO Member States strengthen the implementation and enforcement of MARPOL Annex V to prevent the discharge of plastic waste from ships?
2. How can governments improve port reception facilities and waste-management infrastructure, particularly in developing countries, to ensure that ships can safely dispose of their waste?
3. What measures can be taken to improve the monitoring, reporting and collection of data on marine plastic litter, including lost and abandoned fishing gear?
4. How can international cooperation and capacity-building be strengthened to help developing countries, SIDS and LDCs address marine plastic pollution?
5. What measures can governments, NGOs and the private sector take together to reduce the production, consumption and leakage of plastics into the marine environment?
6. How can the fishing and aquaculture sectors reduce the loss and abandonment of plastic fishing gear and improve the recovery and recycling of such equipment?
7. How can existing international frameworks, including MARPOL Annex V, the London Convention and Protocol, and relevant UN actions, be better coordinated to address marine plastic pollution?
8. What practical measures can the IMO and its Member States implement to achieve the goal of zero plastic waste discharges to the sea from ships by 2030?

VII. Further Reading

This section contains various news articles and writings to provide information on the subject.

1. **IMO — "IMO sharpens plans to achieve zero plastic pollution from ships by 2030"**

https://www.imo.org/en/mediacentre/pressbriefings/pages/imo-sharpens-plans-achieve-zero-plastic-pollution-from-ships-by-2030.aspx

2. **IMO — "IMO agrees to draft Revised Action Plan on marine plastics"**

https://www.imo.org/en/mediacentre/pages/whatsnew-2221.aspx

3. **IMO/FAO — "Global project launched to tackle plastic litter from ships and fisheries"**

https://www.rempec.org/en/news-media/rempec-news/global-project-launched-to-tackle-plastic-litter-from-ships-and-fisheries

4. **Australian Maritime Safety Authority — "Work to reduce marine plastic pollution from ships"**

https://www.amsa.gov.au/marine-environment/marine-pollution/work-reduce-marine-plastic-pollution-ships

VIII. Bibliography

[1]. IMO — About IMO

Introduction to IMO. (n.d.)

https://www.imo.org/en/about/pages/default.aspx

[2]. IMO — Marine Litter

Marine litter. (n.d.)

https://www.imo.org/en/mediacentre/hottopics/pages/marinelitter-default.aspx

[3]. IMO — Marine Litter Action Plan

Addressing marine plastic litter from ships – action plan adopted. (n.d.)

https://www.imo.org/en/mediacentre/pressbriefings/pages/20-marinelitteractionmecp73.aspx

[4]. IMO — 2021 Guidelines for the Implementation of MARPOL Annex V

https://wwwcdn.imo.org/localresources/en/KnowledgeCentre/IndexofIMOResolutions/MEPCDocuments/MEPC.341(77).pdf

[5]. IMO — PPR 12th Session

Sub-Committee on Pollution Prevention and Response (PPR 12), 27-31 January 2025. (n.d.)

https://www.imo.org/en/mediacentre/meetingsummaries/pages/ppr-12th-session.aspx

[6]. IMO — Sustainable Development Goals

IMO and the Sustainable Development Goals. (n.d.)

https://www.imo.org/en/mediacentre/hottopics/pages/sustainabledevelopmentgoals.aspx

[7]. IMO — Garbage and MARPOL Annex V

Prevention of Pollution by Garbage from Ships. (n.d.)

https://www.imo.org/en/ourwork/environment/pages/garbage-default.aspx

[8]. IMO — MARPOL Convention

International Convention for the Prevention of Pollution from Ships (MARPOL). (n.d.).

https://www.imo.org/en/about/conventions/pages/international-convention-for-the-prevention-of-pollution-from-ships-(marpol).aspx

[9]. IMO — What's New

New report examines sea-based sources of marine litter. (n.d.)

https://www.imo.org/en/mediacentre/pages/whatsnew-1659.aspx

[10]. IMO — Plastic Pellets

FAQ - Plastic pellets. (n.d.).

https://www.imo.org/en/mediacentre/hottopics/pages/faq-plastic-pellets.aspx

[11]. IMO — GloLitter Partnerships Project: Port Waste Management

https://oceanlitter.imo.org/site/assets/files/1652/online_-_glolitter_pwmp_eng_-_guidance_document_on_developing_a_port_waste_management.pdf

[12]. IMO — Marine Environment Protection Committee, 84th Session

MEPC 84th session. (n.d.).

https://www.imo.org/en/mediacentre/meetingsummaries/pages/temporary-mepc-84th-session.aspx

[13]. IMO — Port Reception Facilities

Reception facilities. (n.d.).

https://www.imo.org/en/ourwork/environment/pages/port-reception-facilities.aspx

[14]. IMO — PPR 11th Session

Sub-Committee on Pollution Prevention and Response (PPR 11), 19-23 February 2024.

(n.d.).

https://www.imo.org/en/mediacentre/meetingsummaries/pages/ppr-11th-session.aspx

[15]. IMO — OceanLitter Programme

OceanLitter programme. (n.d.).

https://www.imo.org/en/ourwork/partnershipsprojects/pages/oceanlitter-programme.aspx

[16]. IMO OceanLitter — National Action Plans

OceanLitter Programme. (n.d.).

https://oceanlitter.imo.org/resources/national-action-plans

[17]. IMO OceanLitter — GIA Resources

OceanLitter Programme. (n.d.-b).

https://oceanlitter.imo.org/search?q=GIA

[18]. IMO — What's New

Open call for shipping and fisheries companies to join new global alliance on ocean litter.

(n.d.).

https://www.imo.org/en/mediacentre/pages/whatsnew-2111.aspx

[19]. IMO — Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter

Convention on the Prevention of Marine Pollution by dumping of wastes and other Matter.

(n.d.).

https://www.imo.org/en/about/conventions/pages/convention-on-the-prevention-of-marine-pollution-by-dumping-of-wastes-and-other-matter.aspx

[20]. IMO — Additional What's New Resources

Viet Nam and the Philippines advance efforts to tackle marine plastic litter. (n.d.). https://www.imo.org/en/mediacentre/pages/whatsnew-2468.aspx

Indonesia advances plan to curb marine plastic pollution. (n.d.). https://www.imo.org/en/mediacentre/pages/whatsnew-2451.aspx

[21]. UNEP — From Pollution to Solution: Global Assessment of Marine Litter and Plastic Pollution

https://www.unep.org/resources/pollution-solution-global-assessment-marine-litter-and-plastic-pollution

[22]. UNEP — Marine and Land-Based Pollution

https://www.unep.org/topics/ocean-seas-and-coasts/regional-seas-programme/marine-and-land-based-pollution

[23]. UNEP — Ecosystem Degradation and Pollution

Environment, U. (n.d.). *Ecosystem degradation & pollution*. UNEP - UN Environment Programme.https://www.unep.org/topics/ocean-seas-and-coasts/ecosystem-degradation-pollution

[24]. UNEP — Marine Pollution Prevention, Reduction and Control

Marine Pollution Prevention, Reduction and Control | Coordinating Body on the Seas of East Asia (COBSEA). (n.d.). https://www.unep.org/cobsea/what-we-do/marine-pollution-prevention-reduction-and-control

[25]. UNEP — Plastic and Microplastics: A Serious Environmental Threat to Our Oceans

United Nations Environment Programme. (n.d.).

https://www.unep.org/news-and-stories/story/plastic-and-microplastics-our-oceans-serious-environmental-threat

[26]. UNEP — UNEA Resolution: Marine Plastic Litter and Microplastics

Marine plastic litter and microplastics | UNEP Law and Environment Assistance Platform. (n.d.).

https://leap.unep.org/en/content/unea-resolution/marine-plastic-litter-and-microplastics

[27]. UNEP — Pollution to Solution Interactive

https://www.unep.org/interactives/pollution-to-solution

[28]. UNEP — Comprehensive Assessment of Marine Litter and Plastic Pollution

Comprehensive assessment on marine litter and plastic pollution confirms need for urgent global action. (n.d.).

https://www.unep.org/news-and-stories/press-release/comprehensive-assessment-marine-litter-and-plastic-pollution

[29]. UNEP — Marine Litter and Plastic Pollution Resource

https://wedocs.unep.org/items/8a6184c1-1e2f-4846-a01c-8b97c7e8fc97

[30]. UNEP — Marine Litter, Plastic Pollution and Human Rights

Marine litter, plastic pollution and human rights. (n.d.).

https://www.unep.org/resources/factsheet/marine-litter-plastic-pollution-and-human-rights

[31]. UNEP — Nexus of Ocean and Pollution

Nexus of the ocean and pollution. (n.d.).

https://www.unep.org/topics/ocean-seas-and-coasts/nexus-ocean-and-pollution

[32]. UNEP — Plastic Pollution and Environmental Injustice

Plastic pollution is an environmental injustice to vulnerable communities – new report. (n.d.).

https://www.unep.org/news-and-stories/press-release/plastic-pollution-environmental-injustice-vulnerable-communities-new

[33]. UNEP — Intergovernmental Negotiating Committee on Plastic Pollution

https://www.unep.org/inc-plastic-pollution?goal=0_069298921c-ea02e4c00f-288596205&

[34]. UNEP — Technical and Financial Resources for Addressing Marine Plastic Litter and Microplastics

https://apps1.unep.org/resolutions/uploads/unep.aheg_.4.inf_.7_report_on_the_inventory_of_technical_and_financial_resources_or_mechanisms_for_supporting_countries_in_addressing_marine_plastic_litter_and_micr.pdf

[35]. WHO — Microplastics and Plastic Pollution

https://iris.who.int/server/api/core/bitstreams/a6365240-4b02-4620-9f51-d700eb4e00de/content

[36]. WHO — WHO Calls for More Research into Microplastics and a Crackdown on Plastic Pollution

https://www.who.int/news/item/22-08-2019-who-calls-for-more-research-into-microplastics-and-a-crackdown-on-plastic-pollution

[37]. OECD — Global Plastics Outlook

https://www.oecd.org/en/publications/global-plastics-outlook_de747aef-en.html

[38]. OECD — Global Plastics Outlook: Full Report

https://www.oecd.org/en/publications/global-plastics-outlook_aa1edf33-en/full-report/component-6.html

[39]. Basel Convention — Overview of the Convention

Basel Convention. (n.d.). *Basel Convention > The Convention > Overview*. Copyright 2011 by Basel Convention.

https://www.basel.int/TheConvention/Overview/tabid/1271/Default.aspx