

Written submission from The Ocean Cleanup
**Response to the call for written submissions, issued by the INC secretariat on
9 December 2022**

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About the organization

The Ocean Cleanup is a not-for-profit global project undertaking what may be considered as the largest cleanup in history. At time of writing, The Ocean Cleanup has already removed more than 194,000 kilograms of plastic from the Great Pacific Garbage Patch, as part of its mission to remove 90% of floating plastic in the Ocean by 2040; this, while the project is still at the development stage of its technology. Towards that scope, the organization collects data and develops technological solutions as part of a twofold approach: intercepting riverine plastic emissions, and removing legacy plastic pollution.

Objectives

In order to effectively tackle plastic pollution, **the instrument to be developed must address “legacy plastic pollution”**, in furtherance of the provisions identified in United Nations Environmental Assembly Resolution 5/14 of March 2, 2022.

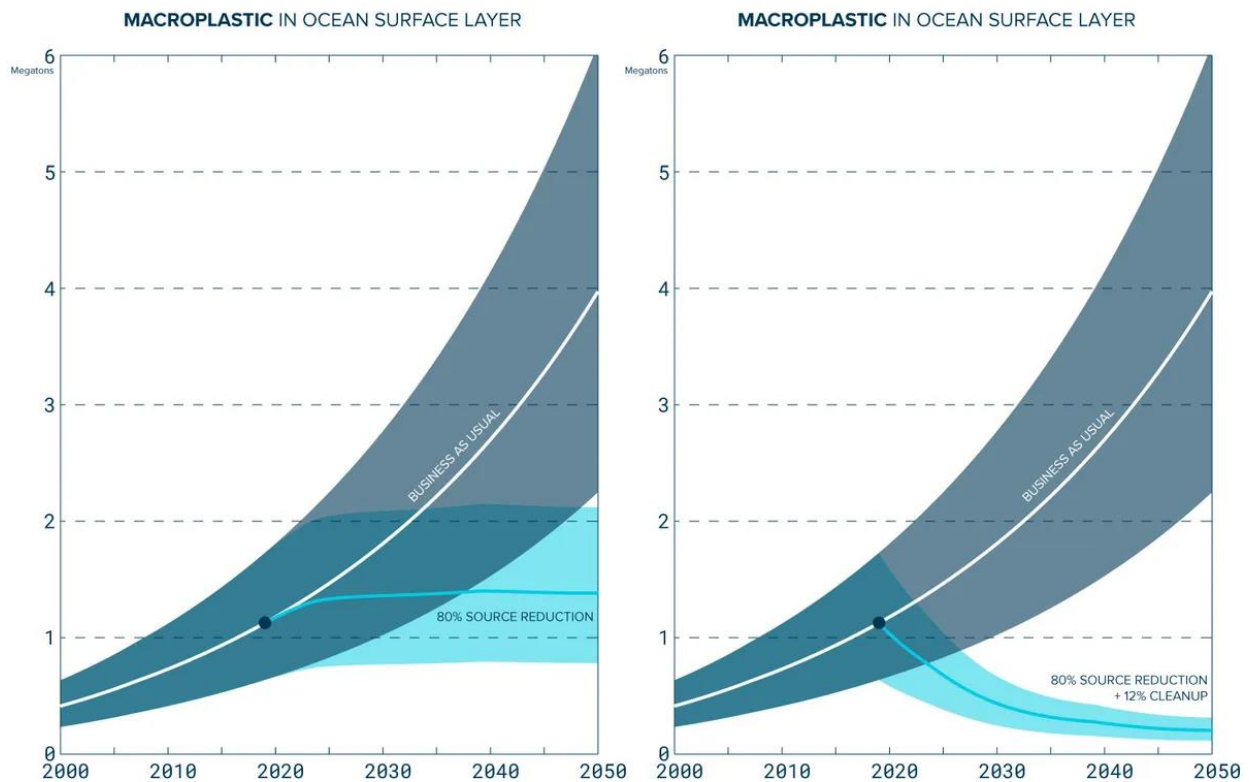
Trillions of pieces of legacy plastic litter our Ocean, accumulating in huge patches on the high seas and washing ashore far from its leakage point, such as the beaches of small Pacific island states. Nearly **700 marine species have been affected by plastic pollution**, more than 100 of which are registered on the IUCN Red List of Threatened Species as critically endangered, endangered, vulnerable, or near threatened.

Additionally, as plastic waste may attract toxic chemicals that could later be consumed by fish, this raises concerns for **the health of 3 billion people relying on seafood as their primary source of protein**. Research indicates that exposure to microplastics and associated chemicals can be toxic for humans even in low doses, particularly affecting the endocrine system.

The cost of plastic pollution can be indirect – impact on public health and the marine environment, and devaluation of real estate – but also direct, through loss of revenue from tourism, cleanup costs undertaken by governments, and the impact on fisheries and aquaculture. Plastic pollution diminishes the aesthetic value of the environment and increases health and safety risks, being particularly harmful to marine tourism. Indicatively, the joint study undertaken by Deloitte and The Ocean Cleanup (“Price Tag of Plastic Pollution”), estimated the impact of plastic pollution on 87 coastline countries to be around 19 billion USD in 2018. Plastic pollution also impacts the

transport and shipping industries, as plastic debris may become entangled in propellers of cargo ships and of tourist or passenger vessels, causing safety risks, costly maritime traffic disruption and aggravation of risks in insurance. It is also responsible for additional costs associated with fouled propellers, damaged engines, litter removal, and waste management in harbours. Additionally, in the fishing industry, plastic debris, particularly floating nets and ropes, may foul active fishing gear. **Legacy plastic pollution harms national economies and obstructs the shipping and fishing industries**, representing not only a significant navigational and safety hazard, but also an increasingly economic problem.

Unless immediate and direct action is taken, legacy plastic debris in the high seas will persist for decades – or even more – while slowly fragmenting into even more harmful micro- and nanoplastic particles for generations to come. For instance, the Great Pacific Garbage Patch only covers about 0.5% of the world’s Ocean surface, yet is estimated to contain more than 50% of all the plastic mass floating in the high seas, highlighting the potential for a targeted and effective impact.



Future scenarios for macroplastics in the Great Pacific Garbage Patch. The dark band shows what would happen with no intervention. Addressing solely the sources of plastic (left) causes the amount of Ocean pollution to remain constant. Combining source reduction with legacy cleanup (right) causes the amount of ocean pollution to decline. Source: <https://www.nature.com/articles/s41598-019-49413-5>

Core obligations, control measures and voluntary approaches

To address plastic pollution in a circular way in furtherance of the instrument's objectives, *core obligations* should include:

- (a) the removal of legacy plastic from the Ocean, including plastic accumulating in areas beyond national jurisdictions; and
- (b) reduction of riverine plastic emissions, aiming at elimination.

Particularly regarding the (a) **obligation to cleanup legacy plastic pollution in the high seas**, The Ocean Cleanup understands that such obligation, as part of the more general obligation to eliminate or prevent pollution in marine environments and of the precautionary principle, is already existent in international law, either as a positive obligation (e.g., Articles 3-5 of the Convention for the Protection of the Marine Environment of the North-East Atlantic) or as a remedial obligation to a negative obligation (e.g., Article 194 of UNCLOS). Nonetheless, such obligation, which is rarely stated explicitly in relevant conventions and often fails to address legacy plastic pollution, has not yet produced the necessary motivation or incentives encouraging states to clean up legacy plastic pollution afloat at sea, particularly in areas beyond national jurisdictions. Therefore, The Ocean Cleanup supports the **inclusion of a mandatory prescriptive provision with such explicit legal core obligation**. The cleaning of existing and future patches of legacy plastic in the Ocean is the most effective avenue towards addressing legacy plastic pollution in the high seas, and to prevent its devastating impact on humans, biodiversity, and economic activity.

An additional *core obligation* under the instrument should be the (b) **elimination of riverine plastic emissions, with clear quantitative targets of progressive reduction and aiming at elimination by 2040, against a scientifically determined baseline, derived by combining high-quality measurements in the field with global numerical models**.

Control measures should include transparent, standardized, and collaborative **monitoring and reporting of riverine plastic emissions at local or national levels**, namely by deploying interception technologies, which would provide useful data regarding the implementation and effectiveness of relevant policies adopted by the parties, while halting riverine plastic emissions. In parallel, Ocean cleanup operations may provide useful data on marine plastic pollution in cases when interception technologies have not been deployed yet, or where such pollution is a result of dumping. In particular, monitoring should be based on standardized protocols and reported in homogenized units for international comparability and evaluation against pre-determined baselines.

Implementation measures

Robust monitoring and reporting at national and local levels are vital for implementation and effectiveness of the instrument. The data gathered from interception actions, over the period of implementation of the legal instrument, will provide hard data on the effectiveness of mid- and upstream policies, contributing to measure compliance with the obligations under the legal instrument. Furthermore, knowing exactly how much plastic is entering waterways, and how much subsequently enters the Ocean, can provide guidance and motivation for policymakers to pursue the objectives of the instrument.

The Ocean Cleanup's Interceptor portfolio and ocean cleanup systems incorporate new plastic monitoring techniques. This includes a citizen science app for visual surveys, as well as trawling, drone and bridge cameras, on-board sensors, and GPS tracking, all supplemented by AI modelling. Such technologies provide real-time information on plastic pollution, helping further understand the problem and optimize solutions. States should be encouraged to support such options for plastic emissions monitoring, to learn more about how they can reduce and eliminate their plastic emissions with maximum impact.

The deployment of innovative interception technologies in the most emitting rivers can be an implementation measure, since it serves three objectives, which are key for the successful outcome of the future legal instrument: (1) emergency action, preventing damaging leakage of additional plastic pollution into the Ocean and shorelines; (2) increase community awareness of the problem, making it visible, and thus prompting policy actions and behavioural change; and (3) provision of actionable data based on the debris intercepted.

The data resulting from interception, accurately recorded to agreed standards, will not only assist authorities and other policymakers in formulating and assessing anti-pollution strategies, but will also complement data acquired through Ocean cleanup operations. This will develop the full-cycle understanding of how plastic enters the Ocean and how it behaves once it is there.

Alongside data stemming from other oceanic research (such as the 2022 publication from The Ocean Cleanup finding that 75-86% of plastics in the Great Pacific Garbage Patch originate from the fishing industry), sound monitoring reporting can ensure both accountability and insight for public and private authorities and will help to secure the instrument's objectives. Such standardized data should be shared widely and transparently, recognizing the global nature of the plastic pollution problem, through decentralized, public or private accountability platforms, including UNEP's Global Partnership on Plastic Pollution and Marine Litter Digital Platform.

Means of implementation

The international legally binding instrument should be designed to significantly enhance the provision and the effectiveness of the means of implementation, such as sharing of technology and data pertinent to tackling riverine plastic emissions.

As noted by a recent APEC policy brief, marine debris cleanup initiatives face significant barriers to trade and investment. Among others, it has observed obstacles to movement of specialized experts across countries, impediments to the gathering and flow of essential data needed to address the problem, duty and tax barriers to temporary imports of equipment and of instruments for cleanup and research on marine debris, and import restrictions for plastic waste collected in international waters. It has further noted the lack of common standards that could help create and accelerate cleanup and remediation actions based on technology and innovation.

Therefore, the legal instrument must provide **incentives for the reduction and elimination of trade barriers to the transferring of technologies of interception, cleanup, and monitoring of riverine plastic emissions**. This may include but shall not be limited to loans, grants, tax incentives, and government subsidies, facilitating engagement with private investors and setting up public-private partnerships to scale up innovation and technology.

Meanwhile, investment in a global common good, like a clean Ocean, may not always clearly generate obvious financial returns or revenues, hindering access to existing financing mechanisms. **Multilateral funding of cleanup, interception and monitoring operations**, including dedicated public funding and support for innovative financial schemes guaranteed by multilateral development banks and states, would provide the necessary means for effectively addressing legacy plastic pollution. Importantly, it would ensure the efficiency of such operations as well as transparency and accountability in solving this global challenge.

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