

Marine Plastic Pollution, SDG 14, and the Circular Economy: The Need for Stronger International Enforcement

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Oceans are crucial for global biodiversity, resources, and carbon sequestration. Sustainable Development Goal 14 (SDG 14) aims to conserve and sustainably use the oceans, seas and marine resources for sustainable development (The Global Goals, 2024), however marine plastic pollution still remains an insufficiently addressed issue and has emerged as one of the most urgent environmental issues of the 21st century (Chang and Saqib, 2025). Globally, millions of tons of plastic enter the oceans every year, this spotlights the need for international action to prevent this from resulting in long term damage. This essay analyses marine plastic pollution through the lens of the SDGs and circular economy principles, arguing that prioritising the strengthening of international enforcement frameworks is necessary to efficiently accomplish the targets of SDG 14.

Marine plastic pollution poses a severe threat to marine ecosystems as it results in microplastics in the digestive systems of aquatic organisms. This leads to internal damage and chemical toxicity in the bodies of fish which, when eaten by humans, transfers the microplastics and can cause internal injuries, reduced food intake, energy imbalance, and ultimately decreased fitness or death (Sadia et al., 2025). This highlights how humans can be impacted by marine plastic pollution due to our reliance on marine resources. Microplastics also greatly affect algal growth which can have ramifications up the food chain; for example disruptions in algae populations, whether environmental contaminants or contamination by microplastics cause them, can have a domino impact on shrimp and the ecosystem as a whole (Das et al., 2026). Plastic pollution contributes to the planetary boundary of chemical pollution and biodiversity loss. Sustained pollution undermines objectives of Sustainable Development Goal 14, as there are still parts of the ocean overrun with pollution, which is a result of unsustainable use of the oceans and not enough efforts to conserve the oceans fully. Therefore, addressing plastic pollution in oceans demands enforceable mechanisms to conserve the oceans.

The circular economy is a system where products and materials are kept in circulation through processes like maintenance, reuse, refurbishment, remanufacturing, recycling, and composting. The circular economy tackles climate change and other global challenges by decoupling economic activity from the consumption of finite resources (Fry, 2026). This economic model supports the achievements of SDGs such as SDG 6 (Clean Water and Sanitation) and SDG 12 (Responsible Consumption and Production) by implementing strategies such as recyclable plastics and less packaging. This leads to less plastic waste overall which results in less marine plastic pollution and therefore supports SDG 14 in protecting marine resources and habitats. This approach is important for long term sustainability as the ocean is a finite resource and keeping it protected from plastic pollution is important to be able to use this resource effectively and sustainably. However, without enforcement, even well thought out circular economy strategies such as correct disposal of waste may not prevent plastic from entering marine ecosystems within the oceans.

International legal frameworks, such as the United Nations Convention on the Law of the Sea (UNCLOS) and the Marine Pollution (MARPOL) Convention, provide mechanisms to regulate and reduce marine pollution. In the 1950s, negotiations began at the United Nations to try and standardise claims of maritime jurisdiction by states. The lack of standardised maritime entitlements led to disputes and in 1982 UNCLOS was agreed (Lewis, 2018). UNCLOS is supposed to standardise the ownership and responsibilities that states have over the seabeds bordering their land, to ensure maritime states responsibly govern their respective areas of ocean. However, this large and complex Convention is not without its limitations. There are many examples of apparent noncompliance with its norms and principles, and the United States, as a key player in regional maritime security, is still not a party to it (Bateman, 2006). The built-in ambiguities, such as maritime territory borders in East Asia, allow plastic pollution to continue without accountability or effective response. Therefore, while UNCLOS and MARPOL supply important legal mechanisms, there is still a global issue of non-compliance due to the limited enforcement ability. This means that these frameworks alone will not fully accomplish the targets of SDG 14 as they rely on proactive action by the maritime nations, with a lack of sanctions for treaty violations.

Enforcement of international marine law is systemically limited by lack of an authoritative body; states are meant to self-police and regulate what goes on in their respective ocean areas. Exclusive Economic Zones (EEZs) decided by UNCLOS are often contested and ignored on the basis of historical claims to land, especially in South East Asia. This leads to signatories, like China, ignoring the rules set out by UNCLOS and operating on their own terms, which leads to unresolved issues such as the massive plastic pollution in the South China Sea and no clear state to be held accountable. Bateman (2006) communicates that Countries in East Asia exhibit many varying perspectives of key areas of the law of the sea, and no clear regional view is evident on many issues. There is a clear lack of lasting penalties for violation of the UNCLOS treaty, the US and Thailand are still not signatories and countries like China are signatories but do not consistently consider the UNCLOS when making decisions regarding their ocean space. These failures in governance increase plastic pollution closer to the planetary boundary. SDG 14 requires measurable management of its targets and this is difficult to attain when agreements are not being enforced to make meaningful change in the way of reducing plastic pollution and overfishing. Dallison (2025) reports that SDG 14: Life Below Water is among those furthest adrift with 40% of targets in regression, 30% show marginal progress. This shows that the enforcement gaps of international marine protection treaties are having a measurable effect on the rate of completion of SDG 14.

Strengthening enforceable legislation to address marine plastic pollution would give rise to significant environmental, economic, and governmental benefits, transforming the development of SDG 14 from theoretical goals to tangible progress. With plastic production increasing from 1.7 million tons in the 1950s to 299 million tons in 2013 (Tiller and Nyman, 2018), enforceable legislation is paramount to reduce the amount of this plastic in the oceans. Positive effects of this legislation being put into effect would be a decrease in microplastics in the oceans and therefore less negative health effects in animals that ingest microplastics. There would be less habitat destruction and therefore more protection of marine biodiversity. Despite global and regional initiatives, there is currently no comprehensive global legislation limiting their use or addressing the real challenge of actually stopping the flow of plastics into the ocean (Tiller and Nyman, 2018). Stronger

enforcement of legislation would eradicate loopholes and ambiguity, and create lasting consequences for violations. Enforcement reform will improve international coordination as with more actionable legislation, signatories will no longer be able to ignore agreements and with accountability in place, countries will have to take action to reduce marine pollution and protect marine ecosystems such as reducing the amount of plastic manufactured, having harsher rules regarding plastic waste disposal, and cleaning up existing plastic waste in the ocean. This reduction in marine plastic pollution and overfishing would benefit coastal communities which depend on fisheries and coastal tourism, leading to social benefits such as greater access to resources.

This essay has argued that the strengthening of enforcement mechanisms regarding international marine law should be prioritised in order to address marine plastic pollution and aid in the completion of the goals of SDG 14. Although frameworks such as UNCLOS and MARPOL lay out important foundations for governance of the oceans, limitations in enforcement and accountability continue to weaken their effectiveness. As plastic manufacturing increases globally, it is imperative that internationally agreed rules and legally binding enforcement mechanisms are put in place to improve cooperation, reduce pollution, and preserve biodiversity. Integrating circular economy approaches such as reducing waste and ensuring materials are reused whilst keeping waste to a minimum, along with enforcing legislation, would lead to a more sustainable system for managing plastic pollution and ocean biodiversity. Furthermore, circular economy strategies provide a path to achieve SDG 14 targets, decrease plastic waste, and establish a sustainability-orientated ocean governing body.

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