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Tides of Plastic: Using International Environmental Law to Reduce Marine Plastic Pollution

McKayla McMahon*

ABSTRACT

The oceans are drowning in plastic pollution. Although it is widely accepted that this pollution exists, international law falls short in protecting one of our most valued ecosystems. Countries differ in commitment and accountability, yet the ocean is a shared and valued resource. This paper seeks to differentiate the approaches made by Germany, Australia, and the Philippines to combat marine plastic and microplastic pollution. In the absence of robust international environmental law, individual country's efforts can expand the customary principles and lead the international community to adopt effective, all-encompassing international policy. By mirroring successes and modifying individual country's ineffective approaches, the international community can unify the efforts of nation states and other actors to design and implement a comprehensive framework to tackle marine plastic pollution. The United Nations Environment Assembly must now create a robust, legal framework to prevent, protect, and enforce against plastic pollution in marine habitats.

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INTRODUCTION

World leaders agree that there is an enormous plastic crisis in our oceans; however, there is no definite international agreement to prevent and remedy plastic pollution.¹ Article 194 of the United Nations Convention on the Law of the Sea requires states to “prevent, reduce and control pollution of the marine environment from any source.”² The ocean is burdened with enormous quantities of plastic that will nearly never decompose. Half of all plastic produced is designed to be used once and then disposed.³ The production of plastic and the resulting plastic waste has tripled in the last three decades. The Earth’s population produces 300 million tons of plastic waste each year; seventy-nine percent of plastic has accumulated in landfills, dumps, or the natural environment.⁴ In 2015, forty-seven percent of plastic waste globally was plastic packaging waste, half of which appeared to have been generated in Asia.⁵ Although oceans are among the world’s most valuable resources, the world has adapted to a single-use culture that has devastated ocean ecosystems at a steep environmental cost. Plastic pollution reaches the entire ecosystem, from zooplankton that alter the entire food chain to the most remote areas of the ocean. Consequently, plastic pollution is now a massive international environmental law issue.

At the United Nations Environment Assembly (“UNEA”) in Nairobi, U.N. member states “considered several resolutions designed to increase international action to halt plastic pollution.”⁶ In February of 2021, the UNEA met virtually at the fifth session (“UNEA-5”) and set in motion negotiations on a global agreement on plastics; in addition, Germany, in partnership with Ghana and Ecuador, announced intent to host an international ministerial conference towards the end of the third quarter of 2021.⁷ Even though potential, ambitious future cooperation is on the horizon, plastic pollution continues to grow with the most prominent producers failing to

1. U.N. Env’t Assembly Res. 3/7, Marine Plastic Litter and Microplastics, U.N. Doc. UNEP/EA.3/Res.7, at 3 (Jan. 3, 2018), <https://perma.cc/H8QV-5SJ5>.

2. United Nations Convention on the Law of the Sea art. 194, Dec. 10, 1982, 1833 U.N.T.S. 397.

3. *Beat Plastic Pollution*, U.N. ENV’T PROGRAMME, <https://perma.cc/H4FD-YGH9>.

4. U.N. ENV’T PROGRAMME, *supra* note 3.

5. U.N. ENV’T PROGRAMME, LEGAL LIMITS ON SINGLE-USE PLASTICS AND MICROPLASTICS: A GLOBAL REVIEW OF NATIONAL LAWS AND REGULATIONS (2018), <https://perma.cc/X4BU-GVHB>.

6. *FAQ: Why Do We Need a Global Agreement on Plastic Pollution?*, ENV’T INVESTIGATION AGENCY, <https://perma.cc/4TG5-GAG4>.

7. U.N. Env’t Assembly, Proceedings of the United Nations Environment Assembly at Its Fifth Session, U.N. Doc. UNEP/EA.5/25 (Feb. 24, 2021), <https://perma.cc/8Q2A-RWY7>.

manage waste.⁸ The foremost plastic producers have created a plastic pollution crisis, leaning heavily on the broken recycling system and false recycling campaigns.⁹

Plastic and microplastic pollution pose a threat to plants, animals, and the human environment.¹⁰ Plastics release harmful chemicals and break down into tiny particles called microplastics. Microplastics are small fragments of plastic less than five millimeters in size.¹¹ Microplastics absorb and emit chemicals and toxic pollutants, and since microplastics exist in our food and water, they degrade public health.¹² Recent data suggests there may be more microplastic particles than zooplankton in some waters after global estimates of surface microplastics increased the range from between 5tn and 50tn particles to 12tn-125tn particles.¹³ The UNEA has targeted efforts on marine litter and microplastics.¹⁴ In addition, current advocacy efforts have advanced microplastic policy and legislation.

Can existing international law reduce plastic and microplastic pollution in our oceans in the absence of an international treaty or agreement? Germany, Australia, and the Philippines have all approached this problem differently due to their different landscapes, gross domestic product per capita, and approaches to the issue of plastic pollution. This paper will examine the existing international law and analyze the domestic laws in place in these countries, or lack thereof, in contrast to the international community overall. Environmental law scholars have argued for expanding the International Convention for the Prevention of Pollution from Ships (“MARPOL”), adopted by the International Maritime Organization, which banned ships from dumping plastic waste into the oceans beginning in 1988.¹⁵ Others state that an international legally binding agreement on plastic pollution, proposed by the UNEA, is at least a step in the right direction. However, this paper will argue in favor of a global agreement at the UNEA. Nations like Germany, Australia, and the Philippines are challenged by barriers such as inconsistency, lack of resources, and improper reporting. These are barriers that the UNEA must work to resolve. In combination with standing

8. Matt Franklin, *Coca-Cola, Nestlé and PepsiCo Named Top Plastic Polluters for the Second Year in a Row*, BREAK FREE FROM PLASTIC (Oct. 23, 2019), <https://perma.cc/Z3XQ-K8KQ>.

9. *Id.*

10. ENV’T INVESTIGATION AGENCY, *supra* note 6.

11. *What are Microplastics?*, National Oceanic and Atmospheric Administration, <https://perma.cc/2RR2-BYNE>.

12. ENV’T INVESTIGATION AGENCY, *supra* note 6.

13. Damian Carrington, *Microplastic Pollution in Oceans Vastly Underestimated—Study*, GUARDIAN (May 22, 2020), <https://perma.cc/BY83-HQKL>.

14. U.N. ENV’T PROGRAMME, *supra* note 5.

15. Laura Parker, *The World Agrees There’s a Plastic Waste Crisis—Can It Agree on a Solution?*, NAT’L GEOGRAPHIC (Mar. 25, 2019), <https://perma.cc/A359-BBUQ>.

international law principles, the international community can echo the success of individual nation states in creating an effective policy framework for the future.

I. THE STANDING LEGAL RESPONSE TO THE PROBLEM OF MARINE PLASTIC POLLUTION

Plastics, especially microplastics, can be incredibly small in size, but the consequences of these foreign objects in the ocean environment are detrimental. Although study of microplastics is an emerging field, and researchers are still piecing together the long term effects for the environment, research shows that plastic can impact reproduction, alter feeding behavior, and create digestive tract blockages, among other effects.¹⁶ Microplastics are a threat to the health and potentially the survival of valued species. Plastic is increasingly used to develop low-cost, durable products that protect from contaminants and the elements. It is so durable that researchers have predicted that “if the plastic had been invented when the Pilgrims sailed from Plymouth, England, to North America—and the Mayflower had been stocked with bottled water and plastic-wrapped snacks—their plastic trash would likely still be around, four centuries later.”¹⁷ However, it is incorrect to assume that the large plastic masses have been accumulating since that time. World War II expanded the plastic industry by 300%, and the surge in plastic production continued after the war ended.¹⁸ After the Great Depression and World War II, the United States populous welcomed this new adaptable material that provided alternatives to otherwise costly materials.¹⁹ Plastic popularity surged because it is an inexpensive and sanitary.

Although the creation of plastic was met with excitement, it quickly turned into an environmental concern. Marine life is adversely affected by the increasing volume of plastic found in the ocean, leading to entanglement and ingestion. There are an estimated 14 million tons on the ocean floor, with plastic even located in remote parts of polar seas.²⁰ This estimate is conservative as the location studied was secluded and away from urban population centers, where typically more waste is found.²¹ Plastic is found

16. *What Are Microplastics?*, NAT’L OCEAN SERV., NOAA, <https://perma.cc/SW89-6JKN>.

17. Laura Parker, *We Depend on Plastic. Now We’re Drowning in It.*, NAT’L GEOGRAPHIC (June 2018), <https://perma.cc/SJA7-TX7A>.

18. *History and Future of Plastic*, SCI. HIST. INST., <https://perma.cc/B5QD-WQLL>.

19. *Id.*

20. Helen Regan, *There’s 14 Million Metric Tons of Microplastics Sitting on the Seafloor, Study Finds*, CNN (Oct. 6, 2020), <https://perma.cc/2KVB-H7GG>.

21. *Id.*

virtually everywhere on the earth, from the North Pole to the South Pole, and can be found in everyday products such as food, baby bottles, and cosmetics going down the drain.

The global community has a long history of grappling with the complex issue of marine pollution. Malta's Ambassador to the United Nations, Arvid Pardo, previously called for united actions to address potential uncontrolled exploitation of the world's oceans.²² Pardo cited the customary principle, "common heritage of humankind," an idea that some resources should be equitably divided, protected from exploitation, and maintained for future generations.²³ This call eventually led to the United Nations Law of the Sea Convention ("UNCLOS"). UNCLOS is primarily used to regulate shipping, but this convention also provides a comprehensive legal framework to protect the marine environment under Part XII.²⁴

Although not specific to marine plastic pollution, various articles address the concerns present in this crisis. UNCLOS compelled signatory States to implement a legal framework "to prevent, reduce and control pollution of the marine environment by dumping."²⁵ A signatory state "has the right to permit, regulate, and control such dumping after due consideration of the matter with other States which by reason of their geographical situation may be adversely affected thereby."²⁶ However, plastic pollution is difficult to regulate and trace to the source. The plastic crisis is transboundary, which increases the complexity of the problem and adds a challenge to assigning responsibility. Waste from the world's largest producers reaches other nations, which are burdened with increased waste to manage.

UNCLOS utilizes another well-accepted customary law principle, the obligation not to cause environmental harm, as it seeks to reduce transboundary harm. The International Court of Justice recognizes this principle as the Court recalled the obligation not to cause environmental harm to neighboring states in the Uruguay-Argentina Pulp Mills case.²⁷ The implementation of this customary principle is influential and strengthens this idea for the entire international community. The United States recognizes the UNCLOS as a codification of customary international law, but the U.S. is

22. Marcus Haward, *Plastic Pollution of the World's Seas and Oceans as a Contemporary Challenge in Ocean Governance*, 9 NATURE COMM'NS 667 (2018), <https://perma.cc/7YBK-DX6M>.

23. DAVID HUNTER ET AL., INTERNATIONAL ENVIRONMENTAL LAW AND POLICY 472 (4th ed. 2010).

24. Luisa C.S. Goncalves et al., *International Law Instruments To Address the Plastic Soup*, 43 WM. & MARY ENV'T L. POL'Y REV. 871, 893 (2019).

25. Daria Vasilevskaia, *Marine Plastic Pollution: Can Law Help?*, LEGAL DIALOGUE (Oct. 22, 2018), <https://perma.cc/R8XX-TXU8>.

26. *Id.*

27. HUNTER, *supra* note 23.

one of three countries that has not signed on to the Convention.²⁸ Similar to other agreements, UNCLOS is only as effective as a signatory states' willingness to meet the goals. Due to these challenges, the measures implemented by UNCLOS are not adequate to prevent growing plastic pollution.²⁹ This legal instrument, although influential, has not contributed to a significant reduction of plastic.

Other international instruments, such as the International Maritime Organization, also is concerned with marine plastic pollution. Many current ocean treaties, resolutions, and agreements prohibit damaging the ocean ecosystem and littering in the sea. Initially, customary international law did not contain any provisions concerning plastic pollution, particularly microplastic pollution.³⁰ As modified in 1978, the International Convention for the Prevention of Pollution from Ships ("MARPOL") bans ships from dumping plastic at sea.³¹ MARPOL Annex V seeks to eliminate and reduce waste being discharged into the sea from ships.³² MARPOL is often regarded as an effective instrument to combat marine plastic pollution. However, it is not as effective as it could be. This protocol set a standard for enhancing waste management, but it lacks worldwide enforcement and efficient monitoring.³³ Additionally, important oil-exporting states have yet to ratify the protocol.³⁴ Many contracting parties fail to submit the required annual reports, and over thirty parties have never submitted a report, as required by Article 11(1)(e).³⁵ MARPOL is aimed at monitoring and surveilling vessels in the ocean to prevent pollution and has reduced the amount of sea-based pollution. However, land-based activities are a much larger driver of plastic pollution, and similar regulation is absent by states for land-based sources.

These agreements have laid a foundational first step in tackling marine pollution. Marcus Haward at the Institute for Marine and Antarctic Studies at the University of Tasmania in Australia suggested: "an international agreement to address marine plastics could be pursued in a similar manner, but necessarily in a more integrated and broad-based approach than that attempted in the late 1960s."³⁶ The author suggests that an

28. *What is the law of the sea?*, NAT'L OCEAN SERV., NOAA, <https://perma.cc/QZ3G-Q3BB>.

29. Vasilevskaia, *supra* note 25.

30. *Id.*

31. *Prevention of Pollution by Garbage from Ships*, INT'L MAR. ORG., <https://perma.cc/PKH8-XZ6T>.

32. *Id.*

33. Gerard Peet, *The MARPOL Convention: Implementation and Effectiveness*, 7 INT'L J. ESTUARINE & COASTAL L. 277, 278 (1992).

34. *Id.*

35. *Id.* at 283.

36. *Id.*

international agreement can be built on standing successes, such as those listed above, the Montreal Protocol, and the Rio Declaration on Environment and Development commitments in 1992.³⁷ However, it is apparent that an agreement will not be easily reached as it must be rooted in scientific evidence, with strong engagement by stakeholders and support for the communities who carry the burden. The plastic crisis is not a new issue for the international community. Regardless of the Protocol's shortcomings, the oceans have yet to benefit from a plastic pollution reduction due to the large amount of waste entering from land.

Fast forward, the U.N. continues to work on a resolution for marine litter and microplastics. In July 2017, the U.N. met to discuss the implementation of Sustainable Development Goal 14: conserve and sustainably use the oceans.³⁸ The leaders adopted the resolution, "Our Ocean, Our Future: Call for Action," at the seventy-first session.³⁹ Leaders agreed to "implement long-term and robust strategies to reduce the use of plastics and microplastics, in particular plastic bags and single-use plastics, including by partnering with stakeholders at relevant levels to address their production, marketing, and use."⁴⁰ It is a massive crisis, but the Sustainable Development Agenda of 2015 did not recognize plastic pollution as an individual sustainable development goal. Sustainable Development Goal 14, Life Below Water, aims to "conserve and sustainably use the oceans, seas and marine resources for sustainable development"; an action item within this goal states, "By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution."⁴¹ This is a goal that is almost impossible to achieve as pollution rises and 2025 approaches. No single solution will stop marine plastic pollution, but collaboration is necessary to reduce single-use plastics, improve waste management, and promote zero waste.

Additionally, the COVID-19 pandemic at first seemed to have a silver lining of lower pollution rates and emissions as people stayed indoors. However, the pandemic escalated the demand for face shields, gloves, take-away containers, plastic bags, and shipping packaging. COVID-19 has created an estimated global use of 129 billion face masks and 65 billion gloves every month, which would cover the entire landmass of Switzerland in a year.⁴² In March, China used 116 million masks, twelve times the amount

37. Haward, *supra* note 22.

38. G.A. Res. 71/312, *Our Ocean, Our Future: Call for Action* (July 6, 2017).

39. *Id.*

40. *Id.*

41. *Goal 14: Conserve And Sustainably Use The Oceans, Seas And Marine Resources Beat Plastic Pollution*, U.N. ENV'T PROGRAMME, <https://perma.cc/3CYL-W6XJ>.

42. Dave Ford, *COVID-19 Has Worsened the Ocean Plastic Pollution Problem*, SCI. AM. (Aug. 17, 2020), <https://perma.cc/W3QU-MMM4>.

used in February.⁴³ These face masks are made partly from plastic. Most personal protective equipment (“PPE”), like face masks, is not recyclable, and it is finding its way into the environment.

Furthermore, COVID-19 led to a decline in recycling programs, as the burden on municipalities for health services, unemployment costs, and other services has grown, and as the cost of new plastic plummeted.⁴⁴ During the pandemic, recycled plastic is used less than new plastic because of its expensive cost to reuse and low cost to start anew. Nearly every piece of plastic begins life as a fossil fuel, and oil demand has decreased.⁴⁵ According to market analysts at the Independent Commodity Intelligence Services (“ICIS”), on average recycled plastic costs eighty-three to ninety-three percent more than new bottle-grade plastic to make.⁴⁶ The oil industry plans to spend \$400 billion on plants to generate the material for new plastic and less than \$2 billion on reducing plastic waste.⁴⁷ Large consumer goods firms say that they are working hard to make packaging recyclable or reusable; however, reports show an increased investment in new plastic.⁴⁸ This year, Exxon, Royal Dutch Shell Plc, and BASF have announced petrochemical plant investments of a combined twenty-five billion dollars in China as the demand for consumer goods grows.⁴⁹ The producers are applauded for meeting demands for PPE and credited for saving lives throughout the pandemic. Plastics Industry Association (“PLASTICS”) capitalized on the reliance on safe, sanitary plastic throughout the pandemic and called on the U.S. Health and Human Service to rethink the plastic bag ban due to health concerns.⁵⁰

Demand for recycled material has fallen, plastic consumption has risen, and large producers have failed to meet targets, making it a challenge to be optimistic about large producers’ prior voluntary commitments. As the plastic crisis grows exponentially, there is a growing need for a comprehensive solution. The international community must develop and implement specific, measurable, and plausible targets within a concrete time frame to reduce plastic pollution that enters our oceans.

Next, this paper will look at three countries to analyze the current framework implemented within each nation to tackle plastic pollution.

43. Joe Brock, *The Plastic Pandemic*, REUTERS (Oct. 5, 2020), <https://perma.cc/22UH-PHA4>.

44. Ford, *supra* note 42.

45. Brock, *supra* note 43.

46. *Id.*

47. *Id.*

48. *Id.*

49. *Id.*

50. *Id.*

II. GERMANY

Germany has implemented progressive policies, actions, and commitments to address marine plastic pollution. The Federal Environment Minister Svenja Schulze stated:

We urgently need concrete measures to tackle marine litter. Marine pollution, especially plastic waste, clearly shows us that our behavior in an interconnected world of global supply and consumption chains has negative impacts worldwide. With its grant program, Germany is living up to its global responsibility as a technological and process leader in the environmental sector and as an industrialized country hosting international companies in the plastic sector. By doing this, we are implementing several of our pledges regarding the G7 and G20 action plans on marine litter.⁵¹

Germany has enacted various national and European Union commitments to curb single-use plastics, eliminate a single-use society, and reduce marine plastic pollution.⁵² In turn, Germany has seen a sixty-four percent decline in plastic bag use since 2015, following agreements with German businesses and as part of a larger goal by the European Union.⁵³ This policy led to the reduction of stray bags floating into waterways.

Additionally, Germany has a strong return system for bottles and cans, which has positively affected littering and inspired a new British deposit return scheme.⁵⁴ The return scheme has created an incentive for people to return plastics harmful to the environment.⁵⁵ It has also made non-reusable beverage containers less desirable long term.⁵⁶ A national 2019 law required stores to distinguish between reusable and non-reusable bottles on shelves, increasing consumer awareness.⁵⁷ The goal of the program is to reduce the overall plastic waste that Germany produces.

51. *Federal Environment Ministry launches call for funding under grant programme against marine litter*, FED. MINISTRY OF THE ENV'T, NATURE CONSERVATION, AND NUCLEAR SAFETY (May 20, 2019), <https://perma.cc/W48K-B3QK>.

52. *Id.*

53. Sarah Young, *Germany To Issue Ban on Plastic Shopping Bags, Says Environmental Minister*, INDEPENDENT (Aug. 12, 2019), <https://perma.cc/SK94-RQVF>.

54. Philip Oltermann, *Has Germany Hit the Jackpot of Recycling? The Jury's Still Out*, GUARDIAN (Mar. 30, 2018), <https://perma.cc/29X7-43HG>.

55. *Id.*

56. *Id.*

57. *Id.*

Lastly, Germany banned single-use plastic straws, cutlery, cotton buds, and food containers, starting July 2021.⁵⁸ However, environmental non-governmental organizations (“NGOs”) find these new policies are not ambitious enough.⁵⁹ The NGOs ask for an expansion of the ban to include disposable plastic cups and food containers.⁶⁰ Bund, Friends of the Earth Germany, argues that there is a lack of binding specification regarding reusable products and a need for a clear distinction between disposable and reusable products for consumers.⁶¹ Nevertheless, the Federal Environment Minister, Svenja Schulze, continues to express concern over plastic production, stating, “Many disposable plastic products are superfluous with no sustainable use of resources. Also, plastics end up too often in the environment of the oceans. We are taking an important national step in the fight against the plastic flood.”⁶² Germany has committed to the directives of the European Union. The Council of the European Union has adopted the Single-Use Plastics Directive, which includes a ban on selected single-use plastic products that pollute oceans.⁶³ This directive aims to get the European Union to reduce significantly the amount of marine waste entering the oceans.⁶⁴ Plastic waste accounts for the largest share of marine litter, and in Germany, the Minister has stated intent to remove these products from the shelves before 2021.⁶⁵ Germany has already begun implementation nationally. The Single-Use Plastics Directive states that E.U. members will have two years to turn the directive into national law.⁶⁶ However, after one year of the directive, the law has not been enacted domestically in most European countries.⁶⁷ In addition, the COVID-19 pandemic has halted the swift implementation of these new policies, as the need for single-use

58. *Germany To Ban Single-Use Plastic from 2021*, EARTH.ORG (July 6, 2020), <https://perma.cc/PY3S-2EKN>.

59. Rolf Buschmann, *Kommentar: Verbot von Einweg-Plastik reicht im Kampf gegen Müllberge nicht aus* [Comment: Ban on Single-Use Plastic Is Not Enough in the Fight Against Mountains of Rubbish], BUND: FRIENDS OF THE EARTH GERMANY (June 24, 2020), <https://perma.cc/5MYT-A6AA> (Ger.).

60. *Id.*

61. *Id.*

62. EARTH.ORG, *supra* note 58.

63. *Minister Schulze Calls for Swift Implementation of EU Rules on Single-Use Plastics*, FED. MINISTRY OF THE ENV’T, NATURE CONSERVATION, AND NUCLEAR SAFETY (May 21, 2019), <https://perma.cc/56YP-HSKU>.

64. *Id.*

65. FED. MINISTRY OF THE ENV’T, NATURE CONSERVATION, AND NUCLEAR SAFETY, *supra* note 63.

66. *Id.*

67. *Member States Stalling on Implementation of European Plastic Law While Plastic Littering Surges*, SEAS AT RISK (July 1, 2020), <https://perma.cc/L2G6-P4Q8>.

products has heightened and led to the ultimate increase of littering these products.⁶⁸

The U.N. announced in September of 2020 that the world had failed to meet a single target of the Aichi biodiversity targets agreed to in Japan in 2010.⁶⁹ In particular, this report analyzed the plastic debris density, finding that no target was met.⁷⁰ In response to failing efforts, sixty-four leaders from five continents have made a ten-point pledge to reduce pollution, embrace sustainable economic systems and eliminate the dumping of plastic waste in oceans by 2050, ahead of the UN summit.⁷¹ The presidents of the US, Brazil, and China did not sign the pledge.⁷²

The European Union has also begun implementing extended producer responsibility to reach the E.U. goal of all recyclable plastic products by 2030.⁷³ As plastic pollution becomes more aggressive, Germany has increased pledges and involvement on the international stage; however, many argue that this action is still not enough. The efforts of the European Union enhance the national efforts of Germany, as this group of nations has unified their goals and targets.

Microplastics pose a complex problem for Germany, as pollution has already entered the waterways and degraded water quality and marine life. The report on microplastics in Germany released in 2015 by Umwelt Bundesamt, Germany's Federal Environment Agency ("UBA"), commends Germany's robust waste management system, but highlights the need for further advancement.⁷⁴ The study divides primary microplastics directly manufactured as microscopic particles commonly used in cosmetics and secondary microplastics, fragments of macroscopic plastic materials.⁷⁵ It is estimated that each year six to ten percent of global plastics production results in marine pollution.⁷⁶ The environmental association, Bund, published an overview of cosmetic products containing microplastics, including brands like Body Shop, Colgate, L'Oréal, Procter & Gamble, Rossmann, Schwarzkopf & Henkel und Yves Rocher, and products such as body

68. SEAS AT RISK, *supra* note 67.

69. Patrick Greenfield, *World Fails To Meet a Single Target To Stop Destruction of Nature—UN Report*, GUARDIAN (Sept. 15, 2020), <https://perma.cc/A594-AHC7>.

70. *Id.*

71. Patrick Greenfield, *World Leaders Pledge To Halt Earth's Destruction Ahead of UN Summit*, GUARDIAN (Sept. 27, 2020), <https://perma.cc/8QE9-L3RX>.

72. *Id.*

73. F. Alpizar et al., *A Framework for Selecting and Designing Policies To Reduce Marine Plastic Pollution in Developing Countries*, 109 ENV'T SCI. & POL'Y 25, 25-35 (Apr. 20, 2020).

74. ROLAND ESSEL ET AL., SOURCES IN MICROPLASTICS RELEVANT TO MARINE PROTECTION IN GERMANY, Federal Environment Agency (Stefanie Werner ed., 2015).

75. *Id.*

76. *Id.*

scrubs, contact lens cleaner, eye shadow, and toothpaste.⁷⁷ In addition, Bund found polyethylene (“PE”), polypropylene (“PP”), and polyamide (“PA”) to be the most common plastics.⁷⁸ Unfortunately, there is a lack of information on overall microplastic production and waste management.⁷⁹ In a PEW research study, scientists concluded that about eleven percent of plastic waste reaches the oceans, averaging 8.8 million tons, of which 1.4 million tons include four leading sources of microplastics: tires, production pellets, textiles, and microbeads.⁸⁰ Microplastics can also form micronized synthetic waxes used as an additive to protect foods as a food coating.⁸¹ Microplastics also result from the engineered fibers rinsed out of clothing.⁸²

Germany is the largest producer of plastic in Europe.⁸³ The plastic product lifecycle moves from manufacturing to ultimate waste management, with multiple opportunities to enter the environment, particularly the world’s oceans. Using the six to ten percent estimation, the study further finds that Europe, based on a production volume of 57 million tons per year, would create between 3.4 million and 5.7 million tons of plastics.⁸⁴ This large amount of plastic is dominating the world’s oceans. What is Germany doing to combat this issue? Germany has a robust waste management system, which prevents much of what would lead to pollution, but Germany is also a large European producer. Fortunately, the quantity of microplastics used in German-produced goods is declining, but this trend cannot be confirmed. Large manufacturers have not voluntarily committed to reducing the volume of microplastics found in their products.⁸⁵ The international environmental law customary principle, the obligation not to cause environmental harm, is a widely accepted international law custom. Germany recognizes that the largest plastic producers are causing significant injury to the environment, particularly the oceans. Microplastics highlight the economy’s dilemma regarding the health of the environment, as countries have different priorities and different interpretations of their responsibility. The world’s largest producers of microplastics are advancing the high volume of waste currently entering the ocean.

There are international and regional instruments to manage plastic pollution, including the Convention for the Protection of the Marine

77. ESSEL ET AL., *supra* note 74.

78. *Id.*

79. *Id.*

80. Simon Reddy & Winnie Lau, *Breaking the Plastic Wave: Top Findings for Preventing Plastic Pollution*, PEW CHARITABLE TRUSTS (July 23, 2020), <https://perma.cc/2GZ7-UTUH>.

81. *Id.*

82. *Id.*

83. ESSEL ET AL., *supra* note 74.

84. *Id.*

85. *Id.*

Environment of the North-East Atlantic (“OSPAR Convention”) and the Marine Strategy Framework Directive (“MSFD”) of the European Union, but plastic pollution still rises.⁸⁶ Despite efforts, United Nations Environment Programme stated, “despite actions taken nationally and internationally, the situation concerning marine litter is continuously getting worse.”⁸⁷ The legal framework must consist of global, regional, national, and local regulations covering ocean-based and land-based sources. Legal action based on the existing body of international law, including but not limited to UNCLOS, London Convention, MARPOL Convention, the Basel Convention, and customary law, can build on Germany’s progress but assist in greater cooperation between nation-states and producers. In addition, the international community, with Germany as a leader, can bolster cooperation, voluntary commitments, and practical action planning.

III. AUSTRALIA

Australia poses unique challenges when tackling plastic pollution. With an expansive coastline, large cities, and remote wilderness, plastic reaches each area of the environment. Scientists reported plastic found in ocean-floor sediments two kilometers below the surface in an isolated marine environment.⁸⁸ The destruction of formerly considered “pristine” habitat with diverse fauna led activists to argue to “legislate and incentivize” when combating plastic pollution.⁸⁹ James Cordwell, Australian Marine Conservation Society’s marine campaigner, stated, “The longer we wait, the worse it gets. Australia must lead by example and change our domestic plastic consumption and help our neighbors do the same.”⁹⁰ Activism for pollution reduction in Australia increased due to the mapping of pollution hotspots around Australia, as citizens can see the problem, which has enabled communities and government to implement behavior change, regulate the industry, and develop better waste management systems.⁹¹ As citizen involvement increases, many Australian activists have increased the pressure on corporations like Nestle, Unilever, and Procter and Gamble, who primarily create the waste that is destroying biodiversity and the ecosystem. Non-profits have also called on governments to slow the consumption of

86. Arie Trouwborst, *Managing Marine Litter: Exploring the Evolving Role of International and European Law in Confronting a Persistent Environmental Problem*, 27 MERKOURIOS 4, 4-18 (2011).

87. *Id.*

88. Graham Readfearn, ‘Wake-Up Call’: Microplastics Found in Great Australian Bight Sediment, GUARDIAN (Apr. 23, 2018), <https://perma.cc/U4BN-ADWB>.

89. *Id.*

90. *Id.*

91. *What Is Ausmap?*, AUSMAP: AUSTL. MICROPLASTIC ASSESSMENT PROJECT, <https://perma.cc/UH79-YEGP>.

single-use plastics and address the impact already adversely affecting the environment.⁹² The Pacific Ocean's delicate ecosystem is under threat.

Australian territories implemented policies and regulations to try to reduce the burden of waste. Australia deposit schemes reduce drink containers in the ocean by forty percent; however, this success did not come without adversity.⁹³ In 2013, Coca-Cola, Schweppes, and Lion challenged a Northern Territory's container deposit scheme, Cash For Containers.⁹⁴ The program compelled producers to pay a ten cent refund to customers who returned containers to approved depots.⁹⁵ The producers argued that it required different production processes for the same product in different states and territories and created an unwelcome green tax.⁹⁶ Additionally, Coca-Cola argued that the scheme was a failure as only thirty-three percent of the containers were returned, and the scheme was expensive and inefficient.⁹⁷ In contrast, the Territory argued that the legislation was exempt, since the legislation aimed at reducing environmental harm.⁹⁸ Cash For Containers was successful, with more than 35 million containers returned in the first twelve months.⁹⁹ The federal court ruled the northern territory scheme invalid due to the Commonwealth Mutual Recognition Act, particularly the entitlement to sell goods.¹⁰⁰ Although the Northern Territory faced this legal setback, the Federal Executive Council ("ExCo") ratified the exemption for the Territory under the Commonwealth's Mutual Recognition Act.¹⁰¹ The Environment Protection (Beverage Containers and Plastic Bags) Act in 2011 was enacted to minimize environmental pollution by establishing a container deposit scheme.¹⁰² The Northern Territory now joins South Australia with a permanent exemption.¹⁰³

South Australia boasts the first successful container deposit and recycling scheme since 1977, a plastic bag ban in 2009, and now a ban on single-use plastic cutlery and straws set to go into force in early 2021.¹⁰⁴ Further, the Senate has recommended the establishment of a national container

92. Readfearn, *supra* note 88.

93. Qamar Schuyler et al., *Deposit Schemes Reduce Drink Containers in the Ocean by 40%*, CONVERSATION (Feb. 18, 2018), <https://perma.cc/D536-SRQG>.

94. *Federal Court Cans NT's Deposit Scheme*, ABC NEWS (Mar. 4, 2013), <https://perma.cc/F7DK-JH7C> (Austl.).

95. *Id.*

96. *Id.*

97. *Id.*

98. *Id.*

99. *Id.*

100. *Id.*

101. *Id.*

102. *Id.*

103. *Id.*

104. *Id.*

deposit scheme.¹⁰⁵ The report also included a proposal to ban single-use plastics by 2023 and introduce a blueprint to create a “circular economy.” Greens senator and chair of the inquiry, Peter Whish-Wilson, stated that the inquiry was “a rare display of political consensus.”¹⁰⁶ A circular economy is a system aimed at reducing waste by encouraging the continual use of resources. In Australia, a circular economy would replace the end-of-life concept and redesign waste, compelling superior design of materials, products, and business models.¹⁰⁷ A study conducted by the University of Technology Sydney and commissioned by the Australian Packaging Covenant Organization (APCO) tracked packaging waste in the 2017-2018 financial year and found that only thirty-two percent of plastic packaging waste was recycled.¹⁰⁸ This waste builds and creates both a financial burden and environmental challenge for the country. In response, the Australian government has invested A\$190 million in a Recycling Modernization Fund to increase waste capacity.¹⁰⁹ This investment would transform the country’s waste and recycling industry, as Australia sent most waste overseas before China announced the import of a vast range of foreign waste. “As we cease shipping our waste overseas, the waste and recycling transformation will reshape our domestic waste industry, driving job creation and putting valuable materials back into the economy,” federal environment minister Sussan Ley stated.¹¹⁰ The purpose of this fund is to create around 10,000 more green jobs and ultimately divert more than 10 million tons of plastic, paper, and glass waste away from landfills.¹¹¹ The Recycling Modernization Fund bans will be in effect by July 2024.¹¹² This plan is an excellent example of an ex-ante approach on the horizon.

Concerning microplastics, the Australian government works with industries and local and state governments to further the voluntary phase-out of microbeads. The government urged industries to phase out microbeads from personal care and cosmetic items, mainly wash-off products that

105. Naaman Zhou, *All Single-Use Plastics Should Be Banned by 2023 Senate Inquiry Recommends*, GUARDIAN (June 26, 2018), <https://perma.cc/3PM3-DRZ3>.

106. *Id.*

107. WORLD ECON. F., *From Linear to Circular—Accelerating a Proven Concept*, in TOWARDS THE CIRCULAR ECONOMY: ACCELERATING THE SCALE-UP ACROSS GLOBAL SUPPLY CHAINS (2014), <https://perma.cc/THD8-E9JN>.

108. Naaman Zhou, *Only a Third of Australia’s Plastic Packaging Waste Gets Recycled*, GUARDIAN (Mar. 2, 2019), <https://perma.cc/2NKZ-K3RE>.

109. Alex Thorton, *Turning Trash into Treasure: How Australia Plans To Recycle Its Way to Recovery After COVID-19*, WORLD ECON. F. (Aug. 4, 2020), <https://perma.cc/Q7FV-YNVJ>.

110. *Australia To Set Up \$132 Million Fund To Boost Recycling Following Export Curbs*, REUTERS (July 5, 2020), <https://perma.cc/9TYH-WTPJ>.

111. *Id.*

112. *Id.*

commonly enter the marine environment, by July 2018.¹¹³ On December 7, 2018, the government stated the voluntary phase-out had substantial achievements.¹¹⁴ The statement said “almost all” microbeads have been phased out of all cosmetic and personal care products, following the industry’s voluntary deadline that occurred in July of that year.¹¹⁵ An Envisage Works report inspected 4,440 supermarkets, pharmacies, and cosmetic store products and concluded that ninety-four percent were free of microbeads or other non-soluble plastic polymers.¹¹⁶ The remaining six percent were non-rinse-off products that did not pose as significant a threat to the marine environment.¹¹⁷ Before the phase-out, the Australian government stated that, if unsuccessful, the country would issue a ban. Non-profits continue the call to the Environment Minister & Assistant Environment Minister to ban microbeads.¹¹⁸ However, reports have shown that the Australian government’s method has been successful and can serve as a model for other countries.

Australia continues to progress, as the country finds ways to reduce plastic pollution. Many efforts have had positive results; for example, all states and territories across Australia, except New South Wales, ban single-use lightweight plastic bags.¹¹⁹ Bans such as this one has successfully reduced the amount of waste that ultimately leads to the ocean. However, other single-use items like plastic straws, stirrers, cutlery, and coffee cups remain heavily used. The future of these single-use plastics is still in discussion.¹²⁰ The Greens proposed the Product Stewardship Amendment, which would prohibit certain non-compostable, non-recyclable single-use plastics within specified time frames and impose packaging and labeling requirements, with potential penalties for non-compliance.¹²¹ Australian officials continue to debate the merits of alternatives and the regime for medical and food safety exemptions. On September 12, 2019, the Senate

113. VOLUNTARY INDUSTRY PHASE-OUT OF SOLID PLASTIC MICROBEADS FROM ‘RINSE-OFF’ PERSONAL CARE, COSMETIC AND CLEANING PRODUCTS, AUSTL. GOV’T DEP’T OF AGRIC., WATER & THE ENV’T, <https://perma.cc/UU6F-6DP4>.

114. *Id.*

115. ‘Almost All’ Microbeads Phased-Out in Australian Cosmetics, CHEM. WATCH (Dec. 12, 2018), <https://perma.cc/R226-PLX3>.

116. Kyle O’Farrell, *An assessment of the sale of microbeads and other nonsoluble plastic polymers in personal care and cosmetic products currently available within the Australian retail (in store) market*, ENVISAGE WORKS (Mar. 20, 2018), <https://perma.cc/YD3E-LGJ4>.

117. O’Farrell, *supra* note 116.

118. *It’s Time To Deliver a Microbead Ban*, AUSTL. MARINE CONSERV. SOC’Y, <https://perma.cc/5UWP-S9R8>.

119. Meredith Gibbs & Jonathan D. Cocker, *Moves Towards Banning Single-Use Plastics in Australia*, ENV’T LAW INSIGHTS (Apr. 30, 2020), <https://perma.cc/4Z78-2BR7>.

120. *Id.*

121. *Id.*

referred the Bill to the Environment and Communications Legislation Committee, but the original reporting deadline was extended to 2021 due to COVID-19.¹²²

Australia continues to face the barriers of inconsistency with other nations' regulations, the burden of waste, and existing ocean pollution. The international community has yet to tackle plastic pollution; however, Australia's successes can serve as a guide to further implement solutions. As countries and advocates work toward a binding treaty to globally address the crisis, a voluntary phase-out and recycling scheme may promote more sustainable practices. Australia's nation is much smaller than the entire global community; however, diverse stakeholders' coordinated action could promote sustainable practices that support all countries and industries. However, the world grapples with the challenges of economic interest, reasonable alternatives to plastic, and remediation of current plastic pollution and its damage.

IV. PHILIPPINES

The Philippines, China, Indonesia, Thailand, and Vietnam contribute up to sixty percent of the marine pollution in our oceans.¹²³ The Philippines boasts vast biodiversity, but its markets are inundated with single-use consumer plastic products. The Philippines plays a pivotal role in the global plastic pollution crisis, with diverse species of fish and coral. Still, the country is an epicenter for marine plastic pollution.¹²⁴ Corporations have flooded developing countries, like the Philippines, with single-use plastics, which are attractively inexpensive. Consequently, without an adequate waste management system, the Philippines is overburdened with plastics.

According to a World Wildlife Fund for Nature report, 386,000 tons of waste leaks into the ocean every year because of hauler dumping.¹²⁵ Private hauler companies often unload their trucks into waterways to cut costs instead of utilizing proper disposal sites.¹²⁶ The Philippines enacted a solid waste management law nearly twenty years ago to convert all open dumpsites into sanitary landfills; however, there are only 403 open

122. Gibbs & Cocker, *supra* note 119.

123. Amy McDermott, *This Philippine City Is Fighting Ocean Plastic with a Clever Solution to Trash*, OCEANA: BLOG (Sept. 14, 2017), <https://perma.cc/TEH2-WC2Q>.

124. Beth Polidoro, *Plastic in Seafood*, ARIZ. PBS (Oct. 29, 2019), <https://perma.cc/LTG2-AWGY>.

125. *The Scourge of Single-Use Plastic in the Philippines*, WORLD WILDLIFE FUND FOR NATURE (June 22, 2018), <https://perma.cc/2LS8-5TJL>.

126. Hannah Alcosoba Fernandez, *Why Plastic-Clogged Philippines Must Face up to Dearth of Waste Disposal and Recycling*, ECO-BUSINESS (June 10, 2020), <https://perma.cc/HW6B-PFDH>.

dumpsites and 108 controlled dumpsites.¹²⁷ Since the Philippines lacks funding for recycling infrastructure, the government pushed for sanitary landfills, funded by local governments. However, local governments cannot meet the demand. There is an increased need for additional sanitary landfills, because solid waste generation increased from 37,427 tons per day in 2012 to 40,087 tons in 2016.¹²⁸ The marine litter crisis is exacerbated by a low plastic-material recycling rate and an increased demand for solid waste management.

A survey published by the Global Alliance for Incinerator Alternatives (“GAIA-Philippines”) showed that Filipinos are open to buying recyclable or refillable containers.¹²⁹ Sixty-eight percent of respondents said they would consider more sustainable packaging for food condiments, and the report showed similar responses to plastic bags and Styrofoam.¹³⁰ It is a positive indication that the community is ready to implement substantial policy. In addition to citizen commitment, advocates have turned to the government and corporations to accept responsibility and reduce single-use plastic products.

The government banned single-use plastic products that are unnecessary in offices nationwide.¹³¹ Although this ban only reaches products with available alternatives, it is a significant first step in recognizing and addressing the crisis. Section 29 of Republic Act 9003, states that “non-environmentally acceptable products shall not be prohibited unless the National Solid Waste Management Commission first finds that there are alternatives which are available to consumers at no more than 10 percent greater cost than the disposable product.”¹³² Although progressive, the Republic Act 9003 has been diluted by contradicting policies from government agencies.¹³³

Leadership in policy progression and movement to zero waste has been led mostly by various cities and municipalities. For example, Hulong Duhat, a neighborhood in Malabon, Philippines, requires residents to sort

127. Fernandez, *supra* note 126.

128. SENATE ECO. PLANNING OFF., SENATE OF THE PHIL., PHILIPPINE SOLID WASTES AT A GLANCE (2017), <https://perma.cc/R3E9-PH7K>.

129. *Regulating Single-Use Plastics in the Philippines: Opportunities To Move Forward*, GLOB. ALL. FOR INCINERATOR ALTS. (PHIL.) (2020), <https://perma.cc/3AV9-DACM>.

130. *Id.*

131. CNN Philippines Staff, ‘Unnecessary’ Single-Use Plastic Products Now Banned in Gov’t Offices Nationwide, CNN PHIL. (Feb. 24, 2020), <https://perma.cc/2T6V-M2BW>.

132. *Id.*

133. Jed Alegado, *Philippines: Banning Single-Use Plastics at the National Level and Strengthening Existing Laws Needed To Curb Plastic Pollution Crisis*, HEINRICH BOLL STIFTUNG: SE. ASIA (Jan. 20, 2020), <https://perma.cc/U4DZ-788V>.

the trash and separate the plastic for it to be collected.¹³⁴ Many independent waste workers collect plastic to sell, but plastic bags and pouches have no value and are often disposed of improperly.¹³⁵ In addition, the City of San Fernando, Pampanga, achieved a seventy-eight percent waste diversion record in 2017, a large increase from twelve percent in 2012.¹³⁶ However, the leaders in San Fernando worry that local ordinances may be ineffective at achieving zero waste unless a national-level law is enacted to stop the production of single-use disposable plastic packaging.¹³⁷ For example, the city is attempting to reduce nonrecyclable plastic waste but actions have been ineffective due to lacking uniformity.¹³⁸ Neighboring cities have not proposed similar limitations.¹³⁹ Sixteen neighborhoods signed onto the zero-waste goal, with varying levels of success, but each community struggles with the amount of plastic and the waste that cannot be recycled.¹⁴⁰ A national, compressive policy with an *ex ante* approach would reduce the amount of packing produced, removing the burden and reducing the occurrence of false solutions.

Policymakers have filed bills seeking to ban single-use products like straws and bags in stores. Muntinlupa City Representative Rufino Biazon proposed a prohibition on the sale, use, manufacture, and importation of single-use plastics, and Quezon City opened a condiment refilling station for reusable bottles.¹⁴¹ However, differing policies and inefficient waste management systems still pose a large barrier.

There is little information regarding the Philippines' attempts to remediate microplastic pollution. However, research shows that the concentrates of microplastics are high.¹⁴² In a published study, researchers found microplastics' concentrates inside the digestive systems of rabbitfish, a popular catch in the Philippines.¹⁴³ Most of the plastics found in the fish were polypropylene, a heat-resistant plastic commonly used in food and beverage packaging.¹⁴⁴ At least 194 tons of rabbitfish were recorded in the consumption market, and the impact of digesting microplastic has yet to be

134. Christopher Joyce, *A New Weapon in the War Against Plastic Waste*, NPR (Jan. 15, 2019), <https://perma.cc/Q986-AFJ5>.

135. *Id.*

136. Alegado, *supra* note 133.

137. *Id.*

138. *Id.*

139. *Id.*

140. Joyce, *supra* note 134.

141. Iya Gozum, *A Plan To Fix the Philippines Plastic Problem*, RAPPLER (Oct. 9, 2020), <https://perma.cc/5ADG-EN94>.

142. Leilani Chavez, *Philippine Study Finds Microplastics Inside a Commonly Consumed Fish*, MONGABAY (Jan. 23, 2020), <https://perma.cc/53U4-PSBD>.

143. *Id.*

144. *Id.*

determined.¹⁴⁵ Additionally, a 2018 study titled “Microplastic characterization in Tanasan River in Metro Manila” concluded that thirty-three percent of all solid waste in the river was plastic; eighty-one percent of the microplastics found were polyethylene.¹⁴⁶ It is apparent that microplastics are present in the environment, but the country has yet to address this growing problem.

The Philippines struggles to manage its growing waste crisis. A 2016 report found that only fifteen percent of waste is correctly disposed of at the municipal level, and only five percent of waste is recycled.¹⁴⁷ As waste increases, the burden of new plastic pollution is simultaneously increasing. Developing countries are critical in the global plastic pollution crisis as corporations take advantage of these markets. The Philippines grapples with waste management, pollution, and health concerns. Still, it is difficult for the country to progress without a national policy. Citizens call for the country to hold producers accountable. However, as small cities fill with more waste, the government has yet to answer with an effective solution.

V. UTILIZING THE UNITED NATIONS ENVIRONMENT ASSEMBLY TO ENACT POLICY TO MINIMIZE MARINE PLASTIC POLLUTION

The international community must create a comprehensive legal instrument to act upon marine plastic pollution. Marine plastic pollution appears at record levels, and there are no unified mechanisms to control and regulate its spread. Scholars agree that waste management is a cause of plastic pollution in our oceans, but there is debate over solutions to this problem. Multiple local, regional, and transnational initiatives developed in response to this global crisis, in addition to the policies analyzed in Germany, Australia, and the Philippines. These initiatives have laid the groundwork at the national level, but countries struggle with inconsistencies and a spectrum of commitment. There are no binding targets for plastic pollution reduction and a lack of compulsory timelines.¹⁴⁸ The UNEA concluded, “[n]o global agreement exists to specifically prevent marine plastic litter and microplastics or provide a comprehensive approach to managing the

145. Chavez, *supra* note 142.

146. *Microplastics in Wastewater: Towards Solutions*, U.N. ENV'T PROGRAMME (Mar. 20, 2020), <https://www.unep.org/news-and-stories/story/microplastics-wastewater-towards-solutions>.

147. Gozum, *supra* note 141.

148. Giulia Carlini & Konstantin Kleine, *Advancing the International Regulation of Plastic Pollution Beyond the United Nations Environment Assembly Resolution on Marine Litter and Microplastics*, 27 REV. OF EUR., COMP. & INT'L ENV'T LAW 234, 235-36 (2018).

lifecycle of plastics.”¹⁴⁹ Germany, Australia, and the Philippines highlight the need for widespread policy and the necessity for more significant international law. The current system is fragmented and inefficient in trying to address this transboundary crisis.

An international agreement can unify the effort and create a global movement toward reducing pollution found in the ocean. The UNEA is an influential body within the United Nations that publishes resolutions, which are formal opinion expressions. The opinion of the United Nations’ deliberative body is foundational in establishing international environmental law. The UNEA inherited the Governing Council’s membership, transforming it into the policymaking body of the international community in environmental issues.¹⁵⁰ Although the assembly’s resolutions are generally not legally binding, this body has a global membership, encourages participation, maintains the power to influence, and sets the global environmental agenda.

The UNEA can advance international law regarding plastic pollution. At UNEA-3, the U.N. drafted a resolution on marine litter and microplastics, while continuing to study their economic, social, and environmental costs.¹⁵¹ This resolution called for states to prevent and significantly reduce any marine pollution by 2025, focusing on pollution related to land activities, including marine and nutrient pollution.¹⁵² In addition, the resolution recognized the importance of stakeholders and prioritized clean-up in areas where pollution poses a significant threat to human health, biodiversity, wildlife, and coastal ecosystems.¹⁵³ The UNEA’s resolution on marine litter and microplastics creates a platform for the global community to improve the current international framework and address the plastic crisis. After UNEA-3 and UNEA-4, the U.N. Environment Programme (“UNEP”) formed an Ad-Hoc Open-Ended Expert Group.¹⁵⁴ This group comprises member states, industry representatives, and civil society experts to analyze information and present options to combat marine plastic litter and microplastics. The Ad-Hoc Open-Ended Expert Group allows each stakeholder

149. U.N. Env’t Assembly, U.N. Env’t Programme, *Combating Marine Plastic Litter and Microplastics: An Assessment of the Effectiveness of Relevant International, Regional and Subregional Governance Strategies and Approaches*, at 105, U.N. Doc. UNEP/AHEG/2018/1/INF/3 (May 8, 2018).

150. Carlini & Kleine, *supra* note 133.

151. Daria Vasilevkaia, *Marine Plastic Pollution: Can Law Help?*, LEGAL DIALOGUE (Oct. 22, 2018), <https://perma.cc/2NFD-MJSG>.

152. U.N. Env’t Assembly Res. 3/7, *Marine Plastic Litter and Microplastics*, U.N. Doc. UNEP/EA.3/Res.7 (Jan. 3, 2018), <https://perma.cc/H8QV-5SJ5>.

153. U.N. Env’t Assembly Res. 3/7, *Marine Plastic Litter and Microplastics*, U.N. Doc. UNEP/EA.3/Res.7 (Jan. 3, 2018), <https://perma.cc/H8QV-5SJ5>.

154. *Plastics at UNEA: Expert Group Makes Gains on Substance*, PLASTIC POLLUTION COAL (Dec. 2, 2019), <https://perma.cc/9XEN-DYC9>.

to share their concerns and suggestions on the international stage, as directed in the resolution. This group is tasked with identifying the range of national, regional, and global response options, while examining the feasibility, possible barriers, and cost and benefits of different response options.¹⁵⁵ The Ad-Hoc Open-Ended Expert Group meets outside the UNEA to discuss and enable participation from developing countries. The expert group's mandate was expanded at UNEA-4 to continue to take stock of activities, identify technical and financial resources, encourage partnerships, and analyze the effectiveness of existing and potential response options.¹⁵⁶ This group had its fourth meeting virtually in November 2020.¹⁵⁷ The group's chair released a report, in which the group analyzed the present situation and potential national, regional, and international response options.¹⁵⁸ The group found that tackling marine plastic litter and microplastics requires implementing various policies, activities, and technologies.¹⁵⁹ The group considered the various barriers to combating marine plastic litter and microplastic by highlighting four main areas: legal barriers, financial barriers, technological barriers, and information barriers.¹⁶⁰ These discussions will enhance the outcome of UNEA-5.

UNEA-5 met in February 2021 virtually to launch negotiations toward a global agreement.¹⁶¹ This meeting is the critical next step towards agreeing on a new global framework. It will build on the options presented to the expert group and decide if there is a need for negotiations toward a new Convention, or if the Ad-Hoc Open-Ended Expert Group needs more time to consider governance options. The Ad-Hoc Open-Ended Expert Group proposed potential opportunities for continued work for consideration by UNEA-5 that included strengthening existing international law and a new global instrument.¹⁶²

The Ad-Hoc Open-Ended Expert Group can develop a new global agreement, framework, or another form of instrument to provide a legal framework of the worldwide response. An international agreement would also facilitate national responses, especially for those with limited resources

155. U.N. Env't Assembly, *supra* note 149.

156. U.N. Env't Assembly Res. 4/6 Marine Litter And Microplastics, U.N. Doc. UNEP/EA.4/Res.6 (Mar. 28, 2019), <https://perma.cc/VJ99-FF9X>.

157. U.N. Env't Assembly, U.N. Env't Programme, Chair's Summary for the Ad Hoc Open-Ended Expert Group on Marine Litter and Microplastics (Nov. 13, 2020), <https://perma.cc/D6ZS-XW9K>.

158. *Id.*

159. *Id.*

160. *Id.*

161. U.N. Env't Assembly, Proceedings of the United Nations Environment Assembly at Its Fifth Session, U.N. Doc. UNEP/EA.5/25 (Feb. 24, 2021), <https://perma.cc/8Q2A-RWY7>.

162. U.N. Env't Assembly, *supra* note 157.

and capacities. Political momentum for a new global agreement is increasing as multiple declarations call for a legally binding treaty, including the Nordic Ministerial Declaration, Caribbean and Community and Common Market (“CARICOM”) St. Johns Declaration, The Durban Declaration, and the new European Union Circular Economy Action Plan.¹⁶³ An international treaty would mend the existing fragmented policies and create a comprehensive, legally binding document that would unify efforts and serve as an essential tool for national policymaking. A treaty is a formal, binding agreement that establishes obligations between actors in international law. The case studies of Germany, Australia, and the Philippines underline the need for an international document, as it would eliminate some of the challenges that these countries face. Voluntary initiatives alone are unsuccessful at maintaining the required momentum for system change.

An international treaty would also reinforce the customary principle that countries are obligated not to cause environmental harm. This principle bolsters the idea that individual nations ensure activities are conducted not to cause significant injury to the environment of another state or area beyond jurisdiction. Once accepted, international customs promote consistent state practice. States follow this principle because they believe they are legally obliged to do so. A treaty would reinforce necessary customs, such as the obligation not to cause environmental harm, encouraging nations to consistently alter their actions in accordance.

Reporting poses a tremendous challenge for international environmental law. A global agreement to address plastic pollution would promote an agreed-upon set of reporting metrics, which could be applied consistently. If reporting were consistent, it would reduce the costs of aggregate data and increase transparency.¹⁶⁴ Reporting is essential to determine the amount of plastic waste, and currently, 39% of countries publicly report waste data.¹⁶⁵ An international agreement is a coordinated set of actions and policies that harmonize standards, create clear action plans, and unify common reporting metrics. Standard reporting metrics would reduce the barriers that halt progression in Germany, Australia, and the Philippines.

Most importantly, a treaty or a similar international agreement is not an immediate fix. There are downsides to this international instrument. Opponents to a treaty argue that a treaty may be too restrictive and block economic growth, which is vital for many nations’ futures. Developing countries are burdened by plastic pollution, as many lack adequate waste management. An international agreement can prevent economic advancement, as nations may be forced to adapt to costly systems. However, the financial climate has not been forgiving on the environment. Environmental

163. ENV’T INVESTIGATION AGENCY, *supra* note 6.

164. Jesper Nielsen et al., *We Need a Global Agreement To Address Plastic Pollution*, BOS. CONSULTING GRP. (Oct. 9, 2020), <https://perma.cc/R5YZ-L743>.

165. *Id.*

damage could lead to a new economic crisis, as risks of climate change and other environmental challenges loom. A new global agreement can encourage sustainable development in recognition of the common but differentiated responsibilities principle. The agreement would reduce the responsibility on developing nations, unify efforts, and create an economically sustainable model.

Another downside to an international agreement is that resources spent on negotiations and debate might be wasted if ultimately there is no advancement. Plastic pollution, particularly microplastic pollution, is a complex and multifaceted challenge. It is difficult to predict how long it would take to negotiate a practical and comprehensive treaty. For example, the United Nations Framework Convention on Climate Change was negotiated in eighteen months.¹⁶⁶ In contrast, UNCLOS took about nine years.¹⁶⁷ Additionally, research is still needed to determine the effects of microplastics, as well as feasible alternatives. The pollution is present and continues to happen. A global agreement is now necessary, as pollution affects an individual's health and wellbeing. The success of past UNEA meetings increases optimism of coming to future agreements. The need for a global understanding is evident, as plastic pollution devastates the ocean environment.

Germany, Australia, and the Philippines' policies and actions show that this is a multifaceted issue with no clear solution. However, the international community can begin to unify countries attempting to reduce marine plastic pollution and lift the burden from developing nations. The call for an international agreement is apparent as nations struggle with the growing plastic crisis. The need for the international community to act is now unavoidable.

VII. CONCLUSION

Plastic production continues as the oceans fill with marine plastic pollution. Most ocean plastics eventually break up into microplastics, affecting virtually every part of the ocean ecosystem. Although some countries have taken comprehensive pledges and implemented well-received waste management systems, the ocean still suffers from the world's plastic. The international community lacks an international treaty or agreement that would hold plastic polluters accountable for the plastic products they create, urging countries to implement progressive policies that would slow the amount of plastic pollution that reaches the ocean each year. Germany, Australia, and the Philippines approach plastic pollution differently; however, each country recognizes the problem of plastic pollution and the health impacts

166. TORBJØRN GRAFF HUGO, THE CASE FOR A TREATY ON MARINE PLASTIC POLLUTION 18 (2018), <https://perma.cc/SH6Q-6LQ3>.

167. *Id.*

that it creates. The MARPOL treaty and other influential long-standing treaties do not directly tackle marine microplastic pollution. Scholars agree that ocean pollution is a clear violation of international law; however, there is no standing global legal framework. This framework is needed to achieve a comprehensive and consistent plan. The UNEA is working toward an international legally binding agreement on plastic pollution.¹⁶⁸ The international community would benefit from a comprehensive global agreement, and the UNEA has the resources to start this effort.¹⁶⁹ Still, the UN is currently facing an uphill battle as nation-states boast different interests, and other interested parties influence actors. As the volume of microplastics found on the ocean floor increases, the international community's need to create a legal pathway to combat such a problem using standing international conventions and customary principles escalates.

168. U.N. Env't Assembly, *supra* note 157.

169. *Id.*
