

The case for a treaty on marine plastic pollution

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SUMMARY POINTS

- Plastic pollution in the world's oceans is at record levels and rising by the day. Unless urgent action is taken, the problem will get progressively more severe over the coming decades. Plastic litter is already harming many marine species and is likely to have an impact on human health in ways we do not yet fully understand. For a large number of States it is also having a direct economic impact.
- Pollution from land-based activities is by far the biggest source of the problem. The trend is linked to a steep growth in the total global production and consumption of plastic in recent decades combined with insufficient waste management infrastructure. But most critically, there has been a lack of political urgency about the problem, which has caused a severe deficiency in the capacity to collect and safely manage all plastic waste. The absence of a dedicated global governance structure has left an accountability gap in the global management of plastic pollution. This is a fundamentally transboundary question that epitomises the very reason why international law exists.
- A new international legal instrument is required to overcome the “commons dilemma” of marine plastic pollution. Such a treaty should outline a clear vision, stipulate global reduction targets and include a convincing plan for how to achieve those targets. These measures should include specific restrictions on production of certain plastic products. Such measures should be reinforced by a robust system for monitoring progress and a cooperative implementation support architecture.
- Calls for a new legally binding treaty to tackle marine plastic pollution have been growing in strength. The urgency of the problem, combined with a recognition of the ineffectiveness of existing fragmented responses, underline the need for negotiations on a new treaty to start as soon as possible. The mandate for such negotiations should be adopted at the next UN Environment Assembly to be held in Nairobi in March 2019.

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1

The context: Growing calls for a new treaty

The call for a new international treaty on marine plastic pollution is growing in strength. Scholars and civil society actors are now calling for a global regulatory framework to be put in place.¹ At the first session of the open-ended ad hoc expert group on marine plastic litter and microplastics, held on 29–31 May 2018 in Nairobi, Kenya, an increasing number of States clearly articulated the need for such a treaty.²

Proponents of a new legally binding instrument argue that a treaty would establish an important global meeting place for dedicated discussions about marine plastic pollution, and that it could help stem the tide of harmful plastic production and pollution, improve coordination, facilitate

resource mobilization, and build synergies between existing initiatives and regimes. It has also been pointed out that a new treaty could help ensure continuity, harmonize monitoring and reporting, and that it could serve as an important tool for national policymaking.³

These arguments have not yet convinced everyone. Some States have questioned whether a new treaty has merit at this point in time, and whether it might instead be more effective to channel the energy and resources of the international community into strengthening existing initiatives, instruments and structures. It has been pointed out that a new treaty could take a long time to put in place and even longer before it is implemented. Given the urgency of the problem, this has led some to conclude that more immediate and tangible measures should be prioritized.

The purpose of this policy paper is to contribute to the ongoing debate about the merits of a new treaty by exploring and expanding, in a structured manner, some of the arguments that have been made in favour of the new treaty. The paper starts with a description of the problem, followed by an assessment of its root causes and why it has not already been solved. Section 4 outlines a set of possible elements for a new treaty, while the final section provides a brief discussion about feasibility and the way forward.

1 See for instance Peter Dauvergne, "Why is the global governance of plastic failing the oceans?", *Global Environmental Change*, Volume 51, 2018, pp. 22–31; Niels Simon, 2016, "We Need a Global Treaty on Plastics: Here's What it Should Look Like", 9 August 2016; Stephanie B. Borrelle, Chelsea M. Rochman, Max Liboiron, Alexander L. Bond, Amy Lusher, Hillary Bradshaw, and Jennifer F. Provencher, 2017, "Why we need an international agreement on marine plastic pollution", *PNAS* September 19, 2017 114 (38) 9994–9997; Boris Worm, Heike K. Lotze, Isabelle Jubinville, Chris Wilcox, and Jenna Jambeck, 2017, "Plastic as a Persistent Marine Pollutant", *Annual Review of Environment and Resources*, 2017, 42, pp. 1–26; Karen Raubenheimer and Alistair McIlgorm, 2017, "Is the Montreal Protocol a model that can help solve the global marine plastic debris problem?", *Marine Policy* 81, 2017, pp. 322–329; and Karen Raubenheimer and Alistair McIlgorm, 2018, "Can the Basel and Stockholm Conventions provide a global framework to reduce the impact of marine plastic litter?", *Marine Policy* 96, 2018, pp. 285–290. For an overview of the position papers submitted to the first session of the open-ended ad hoc expert group, see <https://papersmart.unon.org/resolution/access-position-papers>.

2 See for instance the report from the first meeting of the open-ended ad hoc expert group on marine litter and microplastics, held in Nairobi on 29–31 May 2018. UNEP/AHEG/2018/1/6, para. 65.

3 Ibid.

2

The problem: An ocean full of plastic

Marine plastic pollution has “reached crisis levels”.⁴ Unless urgent measures are taken, the amount of plastic litter in the world’s oceans will continue to increase by several million tonnes every year. It has been predicted that by 2025 the annual discharge of plastic waste into the ocean will have more than doubled since 2010.⁵ By 2050, plastic waste could be entering the ocean at a rate of four garbage trucks per minute,⁶ the vast majority of which would be from land-based sources.

The plastic in the ocean is already causing considerable problems for marine life, from “zooplankton to cetaceans, seabirds and marine reptiles”.⁷ When microplastics is ingested by fish and other marine animals, it has the “potential to transfer toxic substances to the food chain”.⁸ This could have consequences for human health in ways we do not yet fully understand. Marine plastic pollution is also having an economic impact, felt most urgently in many coastal societies.

One estimate suggests that “for the 21 economies in the Asia-Pacific rim”, the total cost of “marine debris-related damage to marine industries” reached 1.26 billion USD in 2008.⁹

Marine plastic pollution is a global and fundamentally transboundary problem. It affects all States in the world in one way or another and it threatens our common natural heritage far beyond the jurisdiction of individual States. Plastic litter and microplastics are found in marine environments all over the planet, including in the Arctic ice and at the bottom of the Mariana Trench, where the ocean is at its deepest.¹⁰ In total, it is estimated that “at least 5.25 trillion plastic particles weighing 268,940 [metric] tons are currently floating at sea”.¹¹ This plastic is not contained by national borders. It moves around the world on ocean currents until it either sinks, washes up on a beach somewhere, disintegrates into ever smaller pieces, or is ingested by marine organisms. Once in the ocean, therefore, plastic pollution becomes an externality that no State (or group of States) is responsible for preventing, controlling or recovering. As such, it is a classic example of an international cooperation problem, a “tragedy of the commons”, for which only a global response can provide a meaningful solution.¹²

4 McKinsey & Company and Ocean Conservancy, “Stemming the Tide: Land-based strategies for a plastic-free ocean”, September 2015, p. 6.

5 Between 4.8 and 12.7 million metric tons (Mt) for 2010, according to estimates by Jenna R. Jambeck, Roland Geyer, Chris Wilcox, Theodore R. Siegler, Miriam Perryman, Anthony Andrady, Ramani Narayan and Kara Lavender Law, “Plastic waste inputs from land into the ocean”, *Science* 347, 2015, pp. 768–771.

6 World Economic Forum, “The New Plastics Economy: Rethinking the future of plastics”, Ellen McArthur Foundation / McKinsey, 2017, p. 7.

7 Marcus Eriksen, Laurent C. M. Lebreton, Henry S. Carson, Martin Thiel, Charles J. Moore, Jose C. Borerro, Francois Galgani, Peter G. Ryan and Julia Reisser, 2014, “Plastic Pollution in the World’s Oceans: More than 5 Trillion Plastic Pieces Weighing over 250,000 Tons Afloat at Sea”, *PLoS ONE* 9(12), e111913, p. 2.

8 Chung-Ling Chen, 2015, “Regulation and Management of Marine Litter”, Chapter 15 in Bergmann M., Gutow L., Klages M. (eds) *Marine Anthropogenic Litter*, Springer, Cham, p. 397.

9 Alistair McIlgorm, Harry F. Campbell, Michael J. Rule, 2011, “The economic cost and control of marine debris damage in the Asia-Pacific region”, *Ocean & Coastal Management*, Volume 54, Issue 9, 2011, pp. 643-651.

10 See for instance Sanae Chiba, Hideaki Saito, Ruth Fletcher, Takayuki Yogi, Makino Kayo, Shin Miyagi, Moritaka Ogido, Katsunori Fujikura, 2018, “Human footprint in the abyss: 30 year records of deep-sea plastic debris”, *Marine Policy*, Volume 96, 2018, pp. 204–212.

11 Eriksen et al., 2014, p. 7.

12 The concept of the tragedy of the commons was first presented by Garrett Hardin in 1968. See Garrett Hardin, “The Tragedy of the Commons”, *Science*, 13 Dec 1968: Volume 162, Issue 3859, pp. 1243-1248.

3

The causes: Missing pieces in the puzzle

Over the past decades, a plethora of initiatives have attempted to tackle marine plastic pollution. These efforts have targeted various levels of governance (local, national, regional, international), focused on the full range of response options (prevention, mitigation, control, recovery) and involved an array of different actors (individuals, communities, businesses, Governments). They include countless beach clean-ups around the world, via numerous Government declarations and global partnerships, to regional conventions with legally binding protocols aimed at tackling land-based sources of marine litter. Yet despite all these endeavours the problem has kept growing. The question is: why?

TRENDS: GROWTH IN GLOBAL PLASTIC PRODUCTION

One obvious reason for our inability to effectively tackle the problem of marine plastic pollution is that the total global production and consumption of plastic has increased sharply over the past decades. Between 1989 and 2015, the annual global production of plastics rose more than three-fold, from 114 million tonnes (Mt) to 381 Mt. The growth is projected to continue to surge in coming years.¹³

Such an increase in plastic production inevitably leads to the generation of more plastic waste. The increase in global plastic production might not have been such a problem for the marine environment if all the plastic produced and

sold around the world had been flawlessly collected and safely managed. That, however, has not been the case in the past and is not the case today. On average, more than 30 per cent of all plastic waste is believed to be littered, uncollected or inadequately managed. It is estimated that between 2 and 5 per cent of the total plastic waste generated ends up in the ocean every year.¹⁴ For 2010, this amounted to between 4.8 Mt and 12.7 Mt globally.¹⁵ The ability of States to prevent plastic waste from leaking into the natural environment has not kept pace with the increase in total global production.

Why has the global production of plastic been growing at such pace? One reason is that plastic as a material combines extreme versatility and durability with surprisingly low cost. Plastic can be used for nearly anything, and at very little expense (to producers, retailers and consumers). The combination of these factors has arguably been the main driver of the increase in global production, but it is worth noting that part of the reason why the material has been so cheap is that the cost of preventing, controlling and recovering it after use has not been accurately reflected in the price. Producers are rarely required to ensure that the product they bring to market is safely collected and disposed of (or recycled) after use, and they are hardly ever required to contribute financially (or otherwise) to recovering plastic waste that has leaked into nature.

13 Roland Geyer, Jenna R. Jambeck, Kara Lavender Law, "Supplementary Materials for Production, use, and fate of all plastics ever made", published 19 July 2017, *Science Advances* 3, e1700782 (2017). Available from: <http://advances.sciencemag.org/cgi/content/full/3/7/e1700782/DC1>.

14 Jambeck et al., 2015. Rounded percentage numbers, applicable to the coastal States studied. Note that most land-locked countries are excluded from this dataset, and the data only covers populations living closer than 50 km from the sea.

15 Ibid.

Certain socio-economic factors have also likely contributed to the increase in production and consumption. For instance, in many developing countries, families and communities have limited purchasing power, and can only buy daily goods in small portions (e.g. cooking oil, coffee, milk, shampoo). Producers have adapted to this pattern, and have started selling products in small plastic sachets. This not only increases the total amount of plastic sold, but it is also likely to make the waste collection process more difficult.

**CAPACITY:
FAILURE TO COLLECT
AND MANAGE PLASTIC WASTE**

The second key reason why the problem has kept growing is that most States lack systems, structures and capacity to effectively collect and manage plastic waste. A comparison between the top and bottom of the plastic waste mismanagement list illustrates this. Based on modelled estimates by Jenna Jambeck and her colleagues, the top ten plastic-polluting States (per capita) mismanaged nearly 200 grams of plastic waste per person per day in 2010.¹⁶ For the ten least polluting States, the comparable number was 2 grams.¹⁷ That is an enormous difference and while it would take an immense effort for the whole world to reach the level of 2 grams per person per day, it shows that it is possible. And it shows that some States have been lagging very far behind. If all States managed to get the leakage per capita down to 2 grams per day, it

would reduce the total amount of annual plastic leakage into the ocean by more than 95%.

What explains the discrepancy between the highest and the lowest polluters? One answer is money. Building the infrastructure required for effective waste collection requires funding. For many States, this has not been on top of the priority list.

Another reason is the limited use of effective market-based solutions for minimizing waste or for incentivizing collection. Businesses and industry actors have not been properly encouraged or required to put in place (or abide by) return schemes or recycling systems, which in turn could have spurred innovation into new product designs and alternative materials. A number of tried and tested extended producer responsibility (EPR) or product stewardship schemes would go a long way towards rectifying this. But so far, such schemes have not been widely implemented around the world.

A third reason is cultural. Social codes and norms concerning littering and waste treatment vary between states (witness the litter-free stands after the Japanese spectators had left the arena at the football world cup in Brazil in 2014.¹⁸ At the 2018 World Cup, the practice appeared to have spread to spectators from other States as well, including Senegal).¹⁹

16 Sri Lanka, Vanuatu, Guyana, Maldives, Trinidad and Tobago, Tonga, Comoros, Fiji, Marshall Islands and the Seychelles.

17 Japan, Qatar, Italy, Australia, Canada, Belgium, Sweden, Korea, South (Republic of Korea), Denmark and Brunei.

18 See for instance <https://www.independent.co.uk/sport/football/international/world-cup-2014-japanese-fans-clean-stadium-after-losing-2-1-against-ivory-coast-9539793.html>.

19 See <https://www.theguardian.com/football/2018/jun/20/japan-and-senegal-fans-tidy-up-after-themselves-at-world-cup>.

All of these challenges could be overcome. Most of them could even be solved on a national level—especially if reinforced by a dedicated international funding mechanism for waste management infrastructure.²⁰ In 2010, the top 17 polluters of plastic waste (in absolute terms) made up 80 per cent of total plastic pollution.²¹ A targeted effort aimed at improving the waste management in these 17 States would go a long way towards cutting the total global pollution numbers. If that was the case, however, and all these challenges could be overcome simply by channelling infrastructure funds to a select group of countries, why is further global attention to this issue is required at all? Is there really a need for a new treaty?

In short, yes. Because the scale of the problem is of such a magnitude that it is very unlikely that donor States would be willing to foot the bill for the entire endeavour. In fact, it would be difficult to get political support for even a limited financial contribution from donor States unless the receiving States were to make some serious commitments in return. It is worth noting, in that regard, that number 18 in that same list of top polluters is the European Union.²² And number 20 is the United States, which illustrates that the challenge of plugging the leaks of plastic pollution is not unique to developing countries.

20 For instance the Global Environment Facility (GEF, <https://www.thegef.org>) or the newly established PROBLUE (<https://www.worldbank.org/en/news/press-release/2018/09/26/world-bank-announces-new-global-fund-for-healthy-oceans>).

21 Numbers based on modelled estimates by Jambeck et al., 2015.

22 Coastal States of the European Union combined.

Equally important, infrastructure upgrades are only part of the solution. Getting the pollution numbers down towards zero will require a more sophisticated and global approach to the problem, with attention increasingly directed up-stream.

URGENCY: A LACK OF POLITICAL WILL

The primary reason why the rates of mismanaged plastic waste have reached such extreme levels in so many countries is a general lack of political urgency about the problem. It has just not been considered important enough. But why is this the case? Why haven't States given this issue the attention it deserves?

The fact that 18 out of the top 20 polluters per capita are middle income countries might be part of the explanation. Those States have presumably become affluent enough to boost consumption levels, but not prosperous enough to prioritize environmental protection over economic growth, job creation and poverty reduction.

Another part of the explanation for the lack of political will could be attributed to a general sense of complacency, or a process of “normalization”, whereby plastic waste gradually accumulates in people's surroundings. After a period of time, when the plastic waste on streets, rivers and beaches has been there long enough, it becomes normal. And as long as it is perceived as normal, removing or preventing it has limited potential as a vehicle for political mobilization. Other issues take precedence.

Related to this is also the fact that much of the plastic that leaks in to nature is barely visible to the naked eye. In the form of microplastics or nanoplastics, it floats around in nature without anyone noticing. The same can be said for the plastic products that sink. They go out of sight, and therefore out of mind.

This lack of political will to effectively tackle the problem of plastic pollution is not unique to the top polluters. Even if all States eventually reach the 2 grams per person per day target, and a 95% reduction is achieved, the leakage of plastic into the ocean would still amount several hundred thousand tonnes per year (in 2010 numbers, set to double by 2025). But getting rid of those last few hundred thousand tonnes will require more than improvements in waste management infrastructure.²³

A third possible explanation for the lack of political urgency is that the issue of marine plastic pollution is surprisingly complex. Perhaps especially so when the largest and most obvious cuts in waste leakage have already been undertaken (i.e. basic waste management infrastructure). Preventing the leakage of plastic waste into the marine environment requires attention to the entire value chain, from production to recycling, and it means plugging an extraordinary range of potential leakage points, from small scale fishing nets to large scale wear-and-tear of rubber tyres. Moreover, as Peter Dauvergne notes, the “difficulty of governing plastic has been rising as production accelerates, consumption globalizes, pol-

lution sources diversify, and international trade obscures responsibility.”²⁴ It is quite possible that this complexity in itself has made certain Governments and decision-makers reluctant to engage with full force: it has just not been entirely clear how the issue should be approached. What are the most effective measures available for tackling the problem?

Finally, a fourth and in this context critical reason for the lack of political urgency, is that a sizeable share of the problem quite literally drifts away, either because it is discharged directly into the ocean (which is often the cheapest option) or because it gradually makes its way there (inadequately managed waste). Jambeck and her colleagues estimate that between 15 and 40 per cent of the mismanaged plastic waste made its way to the ocean in 2010.²⁵ And once the plastic waste enters the oceans, and especially when it reaches the High Seas, Governments are no longer held accountable for it, and this is when the issue of marine plastic pollution becomes an international cooperation problem.

23 This is something the European Union, for instance, has been grappling with recently, with its new plastic strategy. See http://europa.eu/rapid/press-release_IP-18-5_en.htm.

24 Dauvergne, 2018.

25 Jambeck et al., 2015, estimate that about 99.5 Mt plastic waste was generated globally in 2010, and that 31.9 Mt of this (just over 30%) was mismanaged.

**GOVERNANCE:
A GAP IN THE GLOBAL
REGULATORY FRAMEWORK**

International cooperation problems, including those relating to resource allocation and trans-boundary pollution, tend to harbour an inherent contradiction in terms incentives. In zero sum terms, what is rational for a single State might be irrational for the collective of States. If no clear governance structure is in place, it makes sense for each individual State to shift the cost or burden (in this case marine plastic pollution) onto the collective. There is limited incentive for each individual State to prevent plastic from reaching the ocean, especially if other States are not doing the same. But if all States follow down that path, the whole group of States will eventually lose.

This “commons dilemma” is also the reason why most international environmental problems have been dealt with in the form of legally binding treaties. From the Fur Seal Convention (1911) to the Montreal Protocol (1987) and from the Minamata Convention (2013) to the Paris Agreement (2015), the international community have tended to respond to international environmental cooperation problems by means of international law. It is the recognition of the need for assurances of reciprocity that makes States agree to codify their political commitments in a legally binding instrument. And it is the same recognition that makes States accept some form of compliance and review mechanism under that legal instrument.

For the issue of marine plastic pollution, however, no such legally binding international agreement has been developed. And there is currently

no other international framework in place that properly resolves the cooperation problem concerning marine plastic pollution. This does not mean that the international scene is devoid of initiatives aimed at tackling the issue. As mentioned above, the list of response measures that relate to marine plastic pollution, directly or indirectly, is long.

A series of international political initiatives have been launched to try to deal with the problem of marine litter. One recent example, which is also specifically aimed at marine plastic pollution, is the G7 Ocean Plastics Charter, adopted at the Charlevoix summit in Canada in 2018.²⁶ Another example is the G20 Action Plan on Marine Litter, adopted in Hamburg, Germany, in 2017.²⁷ The obvious drawback with these initiatives is that they do not include all States. In fact, the Ocean Plastics Charter didn't even include all the G7 States.²⁸

Some of the more established political initiatives do aim to include all States. Notable examples include the Honolulu Strategy,²⁹ and the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA)³⁰ and its follow-up initiatives (e.g. the Manila Declaration, which in turn

26 See <https://g7.gc.ca/wp-content/uploads/2018/06/OceanPlasticsCharter.pdf>

27 See <https://www.mofa.go.jp/mofaj/files/000272290.pdf>.

28 Japan and the United States chose not to sign onto the document.

29 Adopted at the Fifth International Marine Debris Conference in 2011. See <https://marinedebris.noaa.gov/solutions/honolulu-strategy>.

30 See <https://www.unenvironment.org/explore-topics/oceans-seas/what-we-do/addressing-land-based-pollution/governing-global-programme>.

spurred UNEP's Global Partnership on Marine Litter).³¹ Under the GPA, States are encouraged to develop or review "national action programmes ... on the basis of national priorities and strategies".³² There is no proper system in place for monitoring progress on the action programmes, however, or to ensure that States actually develop and implement them. In the lead-up to the fourth Intergovernmental Review Meeting of the GPA, held in 2018 in Bali, Indonesia,³³ the UNEP secretariat asked States to fill a questionnaire on the status of their national action plans. A total of 32 Governments responded, which is less than a third of the 108 Governments that supported the original Washington Declaration in 1995.

There is also a range of regional measures in place aimed at tackling the issue of marine litter. These include more than a dozen regional seas conventions, some of which also have legally binding protocols "related to land-based sources and activities".³⁴ Examples include the so-called LBS (or LBS/A) protocols to the Kuwait Agreement (Persian Gulf and Gulf of Oman, commonly referred to as the ROPME Sea),³⁵ the Lima Convention (South-East Pacific), the Barcelona Convention (Mediterranean Sea), the Cartagena Convention (Wider Caribbean), and

the Bucharest Convention (Black Sea).³⁶ These protocols are indeed legally binding, but the geographic scope is relatively limited, since they only cover States surrounding each regional sea. As of 2018, only 47 States are parties to such protocols, which means that about three quarters of the UN membership remain without detailed legal obligations to protect the marine environment from land-based sources of marine pollution.

Several other legally binding treaties also have relevance for the issue of marine plastic pollution. Some of these, for instance the Stockholm Convention and the Basel Convention, are global in scope, but were not specifically designed to tackle marine plastic pollution. Accordingly, they do not contain an issue-specific recipe for resolving that particular cooperation problem. Each of those conventions aim to resolve its own particular cooperation problem (eliminate or restrict the production and use of persistent organic pollutants and control the movement of hazardous waste between States, respectively). This does not mean they could not be used as basis for negotiating a supplementary agreement designed to tackle marine plastic pollution, but short of that, it is doubtful whether these existing treaties would be able to serve as platforms for an effective global response to the issue.³⁷

31 See for instance UNEP/GPA/IGR.4/INF/25, p. 3.

32 See <http://wedocs.unep.org/bitstream/handle/20.500.11822/13421/WashingtonDeclaration.pdf>

33 See <https://www.unenvironment.org/events/conference/fourth-intergovernmental-meeting-global-programme-action>

34 UNEP/EA.3/INF/5, p. 11.

35 ROPME is not a geographic reference, but refers to the Regional Organization for the Protection of the Marine Environment, which was established under the Kuwait Agreement.

36 The original LBS Protocol to the Bucharest Convention is from 1992. An updated version was adopted in 2009, but has yet to enter into force. See <https://www.ecolex.org/details/treaty/protocol-on-the-protection-of-the-marine-environment-of-the-black-sea-from-land-based-sources-and-activities-tre-154598/>.

37 The recent proposal to categorize plastic as a hazardous substance under the Basel Convention could be useful in terms of regulating international trade in plastic waste, but it does not in itself resolve the international cooperation problem that marine plastic pollution represents. See

One should also be careful not to expand the scope of existing agreements to the point where it risks undermining efforts to fulfil the original mandates of the agreements. This could be an issue for the Stockholm Convention, for instance.

The MARPOL Convention (Annex V) and London Convention (and Protocol) are also legally binding, and while they are not specifically designed to deal with the issue of marine plastic pollution either, it is largely covered within the broader frame of marine pollution. And they do serve an important role in limiting marine plastic pollution from sea-based sources (by preventing pollution from large ships and preventing deliberate dumping of waste at sea, respectively). As long as the vast majority of plastic in the ocean (some have put the number at 80 per cent) is from land-based sources, these treaties only resolve a small part of the cooperation problem.

In sum, there is a kaleidoscope of different political initiatives and legal instruments out there that somehow relate to the issue of marine plastic pollution, but as of today there is no dedicated international treaty in place that is specifically designed to tackle the issue.³⁸ There is nothing that properly responds to the obligation under Article 207(4) of the UN Convention on the Law of the Sea to “endeavour to establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control pollution of the marine environment from land-based sources”.³⁹

further details, see <http://www.basel.int/Implementation/MarinePlasticLitterandMicroplastics/Overview/tabid/6068/Default.aspx>.

38 The UNEP report prepared for the third United Nations Environment Assembly in 2017 concluded that “the existing global and regional legal landscape for addressing marine plastic litter and microplastics is fragmented and uneven”, UNEP/EA.3/INF/5, p. 74. For a comprehensive overview of existing instruments, see pp. 54-57 of the same report.

39 United Nations Convention on the Law of the Sea, Article 207(4).

4

The solution: A new treaty on marine plastic pollution

The key to unlocking the “commons dilemma” for marine plastic pollution would be to establish a specific legally binding framework under which States accept to limit their leakage of plastic waste into the ocean, on the condition that others promise to do the same. If designed right, such a treaty would provide an indispensable tool for States in their efforts to turn the tide on marine plastic pollution.

A new treaty on marine plastic pollution would make the issue of marine plastic pollution a joint responsibility, where today no single State or entity is accountable for the millions of tonnes of plastic that ends up in the ocean every year. The treaty could translate this shared responsibility into a sense of political urgency. Through compliance measures and reporting requirements, States would be put on the spot if they did not contribute their fair share, which in turn would strengthen the global norm against pollution of the ocean. Finally, the treaty would serve as a platform for catalysing joint action and pooling of resources, which in turn could make national efforts aimed at closing the gap between plastic production levels and waste collection rates more effective.

To achieve this, the treaty should include at least five key components: 1) It should set a clear direction (vision of a plastic free ocean); 2) it should determine the level of ambition (measurable target for reductions); 3) it should draw up a strategy for how to achieve that target (national obligations, milestones and action plans); 4) it should establish a system reviewing progress towards the target (reporting, monitoring, evaluation); and 5) it should set up an implementation support architecture that pools the resources of States in a way that catalyses national ef-

forts (global fund, technical cooperation, policy toolkit).

VISION: TOWARDS A PLASTIC FREE OCEAN

Agreeing on a vision should be relatively straight-forward. It could be formulated on the basis of the language adopted in United Nations Environment Assembly (UNEA) resolution 3/7, which “Stresses the importance of long-term elimination of discharge of litter and microplastics to the oceans and of avoiding detriment to marine ecosystems and the human activities dependent on them from marine litter and microplastics”.⁴⁰ At the same time, a vision focused exclusively on leakage rates does not capture the need to deal with the millions of tonnes of plastic already floating around the ocean, not to mention the plastic that will continue to flow into the ocean until the vision of zero discharge is achieved. This suggests that it might be better to formulate a vision focused on the actual amount of plastic in the ocean, or aim for a combination of the two.

AMBITION: A GLOBAL REDUCTION TARGET

Setting the right reduction target (or targets) will probably require more work during the treaty negotiations. The global reduction target should be measurable, it should be time-bound, and it should be achievable. But most importantly, it should be ambitious enough to actually solve the problem. Beyond that, there is no magic recipe. As with the vision, however, it is important to bear in mind that if the reduction target is

40 UNEP/EA.3/Res.7, para. 1.

aimed at leakage rates (“long-term elimination of discharge”), it might be necessary to add a separate target for clean-up. Alternatively, the reduction target could be focused exclusively on the amount of plastic in the ocean, or a hybrid option could be explored, for instance based on the notion of “net zero”—which could imply that States would be allowed to reach their respective targets through a mix of prevention and recovery measures (clean-ups).

**STRATEGY:
A RECIPE FOR ACHIEVING
THE GLOBAL REDUCTION TARGET**

Perhaps the most important element of the new treaty is the part that contains the strategy for how to achieve the global reduction target. The most critical challenge in such a strategy is to identify exactly what is needed from each State in order to reach the global target: the global target must be translated into specific national obligations. This is the part of the treaty where the solution to the international cooperation problem is sketched out. States agree on a pattern of accepted action that is sufficient to resolve the common problem.

This is not to say that the national obligations must be the same for all States, or that the principle of common but differentiated responsibilities should not be taken into consideration.⁴¹ But for the perceived credibility of the treaty, and thus for its effectiveness, it is critical that the

sum of the national contributions are sufficient to achieve the common objective. If the global target is a long-term goal, it would also make sense to include milestone targets in the strategy.

The next step in the development of the strategy is to draw up national action plans where the concrete activities for each State or region is outlined. The national action plans should be tailored to the specific circumstances and priorities of each State, and should be structured as policy tools for achieving the reduction targets. They should be designed in a way that allows for a transparent review of the progress made by each State towards its national target. Inspiration for this could be drawn from some of the national and regional action plans that have already been developed, for instance as required under the LBS/A protocol to the Tehran Convention (Caspian Sea).⁴²

A final element in the strategy would be to identify areas where national action should be reinforced by common global standards, or where there is a need to close regulatory gaps in the international governance structure. These standards could then be fed back into national action plans. For instance, if there is general agreement among States parties that microplastics in cosmetics should be phased out entirely, or that all types of plastic sold should be recyclable or compostable, this could be adopted as a requirement for all States, and something that all States would have to include as one of their national measures. It would also make sense to consider a global ban on deliberate dumping of plastic

41 Principle 7 of the Rio Declaration on Environment and Development, Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992 (United Nations publication, Sales No. E.93.I.8 and corrigenda), Volume I: Resolutions adopted by the Conference, resolution 1, annex I.

42 For details on the Tehran Convention and the LBS/A protocol, see <http://www.tehranconvention.org/spip.php?article41>.

waste in internal waters, especially where the hydrologic basin flows towards the ocean.⁴³ The treaty framework could serve as a platform for discussing and agreeing to such common global standards, which in turn could be adopted in the form of protocols, amendments to annexes, or similar.

**REVIEW:
A SYSTEM FOR MONITORING PROGRESS**

The fourth key component of a new treaty is a system for reviewing progress towards the global target, and for assessing the effectiveness of the strategy and the national action plans. This is the part of the treaty that is most directly aimed at increasing the sense of political urgency of the issue for States parties. The basic purpose of a review system is to make sure States are on track to reach the agreed reduction target, and, if that is not the case, allow for necessary adjustments to be made.

For this purpose, certain common global standards for measurement and data gathering must be developed, and baselines must be calculated. And in order to keep track of progress towards the global target, the review system should also include regular scientific reports on the status of marine plastic pollution, as well as independent evaluations of measures taken. This could be aided by the establishment of subsidiary or supplementary bodies, one of which could be a scientific panel similar to those established for international environmental issues (e.g. the

43 Such a ban could either be included directly in the treaty or in a protocol to the treaty, or it could take the form of a recommendation to the parties of the London Convention to amend that agreement (or the 1996 Protocol) to cover internal waters more comprehensively.

International Panel on Climate Change or the Scientific Assessment Panel under the Montreal Protocol).⁴⁴

In practice, the review system would require States to produce and present national progress reports, in a transparent and open manner. The review system should also provide an arena for States to raise issues that have proven difficult to resolve on a national or regional level, and that might require some form of global streamlining or standard setting.⁴⁵

**COOPERATION:
AN IMPLEMENTATION SUPPORT
ARCHITECTURE**

While the purpose of the review system is to scrutinize, the purpose of the last key component is to encourage and support. An implementation support structure should be established to make it easy for States to channel their political will into effective, reliable and cost-efficient solutions. One of the key features of such a support system would be a global fund, through which States parties could apply for a financial contribution to the implementation of the national action plans. In addition to a funding mechanism, the implementation support architecture should also provide a platform for cooperation among States parties. It should encourage transfer of technical know-how and exchange of information, and it should promote

44 As of today, there is a serious lack of data on leakage rates of plastic waste into the ocean from States. For the treaty to work properly, such data will likely be required, not least in order to set measurable targets, and to check progress against milestones.

45 This could include, for instance, certain product design standards or a global ban on certain activities or categories of plastic products.

best-practices that could serve to help other States achieve their targets. If deemed useful, these best-practices could also be wrapped into a policy toolkit, which Governments could then use when revising and upgrading their national action plans.

Taken together, these five key elements would provide a global governance framework that could allow States to 1) effectively resolve the “commons dilemma”, 2) generate the political urgency and sense of peer pressure necessary for more drastic action to be taken, and 3) provide a global platform for cooperation and resource mobilization.

In certain areas, such a treaty would likely overlap with treaties already in place, and some concern has been expressed about the need for coordination between a new treaty and these existing frameworks in order to avoid duplication or contradictions. In terms of *negative* legal obligations (acts prohibited), the issue of possible overlaps does not appear to be particularly problematic. Dumping of waste at sea (prohibited under the London Convention) would not suddenly be permitted under the new treaty, and the same would apply for persistent organic pollutants (Stockholm Convention) or transboundary movement of hazardous wastes (Basel Convention). This could all be sorted out during the negotiation of the treaty.

In terms of *positive* obligations, however, there would be a need to ensure that efforts under the new treaty do not make existing arrangements more cumbersome or resource demanding. For instance, one should avoid having two separate scientific panels produce reports on the same topic at the same time (e.g. one under the new

treaty and one under the Basel Convention). And efforts should be made to make sure that States would not have to prepare multiple (and largely overlapping) national action plans, in different formats and with potentially conflicting objectives. The goal should be to create synergies between all the legal regimes that pertain to the issue, and to generally avoid duplication of work for States. This challenge is not unique to the issue of marine plastic pollution, nor to the environmental domain, but it still something that States should take into due consideration when the new treaty is developed.

Moreover, it is important to recognize that a new treaty will not by itself solve the problem of marine plastic pollution: it is no panacea. Even if all the elements outlined above are built into a new multi-layered governance structure—with legally binding targets, a convincing plan for how to reach those targets, with an effective review system and a well-funded implementation support structure—there will still be much work to be done in order to reach the agreed goal of “long-term elimination of discharge of litter and microplastics”.⁴⁶

At the same time: given the fragmentation of the existing legal framework and the need for a dedicated response to overcome the “commons dilemma” of marine plastic pollution, it is hard to see how the problem can be effectively solved *without* a dedicated international legally binding framework. It is not a *sufficient* measure, but it is a *necessary* one. It seems abundantly clear that the problem cannot be adequately solved on a national or regional level, or with voluntary measures alone.

46 UNEP/EA.3/Res.7, para. 1.

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The roadmap: Achieving a new treaty

Is a new treaty at all achievable? Is it possible to design and implement a treaty that provides a clear, convincing roadmap towards solving the problem? Will the treaty structure be able to provide a sufficiently robust combination of carrots and sticks in order to make sure States abide by their obligations? Will it be able to generate the political urgency necessary to make States prioritize this issue? Will it serve as a useful tool for narrowing the gap between the increasing production of plastic and the ability to collect and safely manage it? And will the treaty be able to generate a gravitational pull needed to eventually gain universal membership?

These are all good questions, but they are also impossible to answer with any degree of certainty at this point in time. The effectiveness of a future global governance structure on marine plastic pollution will depend on a series of factors that will only become visible along the way, and maybe not fully comprehended until much later. To some extent, a decision to start negotiations on a new legally binding treaty is therefore a leap of faith. But it is a leap that makes more sense than any other option available.

It is also worth bearing in mind that the making of an international governance structure is a gradual and even continual process. The more detailed the discussion on the new treaty become, the easier it will be to assess whether the treaty is likely to achieve its intended purpose. And it is also the case that most existing international environmental treaties have been adjusted and expanded over time, through amendments, protocols, annexes or other supplementary agreements.

With this in mind, the question States are currently faced with is not whether all the above questions can be answered in the affirmative, but whether the case for a new treaty is sufficiently strong to begin a more detailed discussion on what the new treaty could look like. Specifically, it is a question of whether the next UNEA, in March 2019, should adopt a mandate for negotiations on a new legally binding treaty on marine plastic pollution. Based on the arguments presented in this policy paper, the answer to that is a resounding yes.

If that happens, what will the process towards a new treaty look like? There is no fixed formula under international law for how a legally binding instrument should be negotiated, for how long it should take, or for how many States should be involved. In the past, mandates for negotiations on environmental treaties have varied considerably in shape and form, from something relatively vague (CBD), to something quite detailed (Ozone/Montreal, Minamata). Some negotiations have been time-bound by the mandate (UNFCCC, Minamata), while others have been open (UNCLOS, CBD). The language used in a mandate for negotiations will usually be a reflection of the level the multilateral discussions have reached at the time when the mandate is adopted. And States will always be at full liberty to adopt a completely tailor-made mandate, designed for that particular process.

How long would it take? The UNFCCC was negotiated in 18 months. UNCLOS took about 9 years. Most treaties are somewhere in between. If a mandate for negotiations is adopted in March 2019, and the process follows the trajectory of the Minamata Convention, the treaty text could be ready for adoption by the

middle of 2022. If the speed of the negotiations is boosted, essentially by scheduling more frequent negotiation sessions, the treaty could even be ready even earlier. If the negotiations prove complicated and time-consuming, it could take longer. It would obviously take some time before the treaty reaches an entry-into-force threshold and the new governance structure becomes fully operational, but this does not prevent certain functions and support structures to be set up in the meantime. One would not have to wait until the treaty enters into force to set up a secretariat for example. If States agree, this could be done right after the treaty is adopted and signed.⁴⁷

In other words, for States that are eager for immediate action and are put off by the uncertainties and potential delays that a process towards a new treaty could entail, it is possible to begin to put some of the components of the new governance structure in place right away. In preparation for the negotiation of a new treaty, it could for instance make sense to establish a scientific body that could focus on developing methodology and techniques for measuring actual leakage of plastic waste into the ocean. Such a scientific body could be modelled on the IPCC, which “was set up in 1988 ... to provide policymakers with regular assessments of the scientific basis of climate change, its impacts and future risks,

47 One example of this is the Comprehensive Nuclear-Test-Ban Organization, which is the organization set up to promote the implementation of the Comprehensive Nuclear-Test-Ban Treaty (CTBT). The CTBT was adopted in 1996, but still lacks the ratification of eight specific States before it can enter into force. In the meantime, the secretariat is fully functional, and is keeping track of nuclear testing around the world.

and options for adaptation and mitigation.”⁴⁸ A decision to establish such a body could be made already in March 2019, or it could be set up by a different UN body, such as the General Assembly.

Finally, and as a way of concluding, what States need to decide is whether they fundamentally believe that a continuation along the current path (business as usual) will resolve the marine plastic pollution crisis, or whether they accept that a different approach is required. In considering that question, they should bear in mind some of the key reasons why the problem has not already been solved, and on that basis make a sober assessment of what the role of a new legally binding treaty could be in terms of 1) unlocking the “commons dilemma”, 2) generating global political urgency and 3) translating that political urgency into cooperative action.

The aim of this policy paper has been to make the case for why a new legally binding treaty on marine plastic pollution is the most important contribution the international community can make on the path towards the goal of a plastic free ocean. If States accept this case and agree that a new legally binding treaty is indeed needed—even if it might take time to conclude and even if certain immediate measures should be pursued in the interim—they should make sure this conviction is communicated to other States, in relevant forums and at appropriate levels. And in operative terms, States should call for a mandate for negotiations on such a treaty to be adopted by the next UNEA, in March 2019.

48 IPCC Factsheet: What is the IPCC?. Available from http://www.ipcc.ch/news_and_events/docs/factsheets/FS_what_ipcc.pdf.

