5

The 'Thin Law' of Plastic Regulation and a Proposal for a Regional or Global Waste Tariff

Anastasia Telesetsky

5.1 INTRODUCTION

In general, effective rule of law relies on certain general attributes, including predictability, stability and accountability. In several ocean law areas including the subject of this chapter – marine plastic pollution – States have attempted to implement basic rule of law principles through laws, regulations and codes. In practice, however, the existing marine plastic pollution laws have failed to achieve an effective environmental rule of law, and this will continue to be so until States require some accountability from the primary producers and users of plastics. While the plastic packaging industry, especially the single-use plastic market, will continue to increase output, the industry has generally been able to avoid legal accountability for the harms associated with its products by shifting attention to consumers' 'desire' for convenience and municipalities' responsibilities to manage solid waste.

This chapter suggests that much of existing law that could address marine plastic packaging waste operates as a smokescreen for continued industry operations. This has consequences for both the plastic waste challenge and capping existing carbon emissions. As this chapter will argue, the problem is 'thin law', where the law exists but either fails to tackle the most difficult management aspects of the problem or attempts to tackle difficult issues but allows numerous exceptions.

Section 5.2 offers a brief introduction to an increasingly well-known problem: the saturation of plastic packaging waste into marine spaces. Section 5.3 identifies gaps and challenges with existing plastic management legal tools using several examples. And Section 5.4 offers a potential solution to the 'thin law' problem with the introduction of tariffs to stimulate a transition to a circular economy where packaging remains a resource and not waste.

https://doi.org/10.1017/9781009253741.009 Published online by Cambridge University Press

5.2 PROBLEM: THE PLASTOCENE

Chronic plastic pollution in the oceans from packaging has attracted global attention. One estimate posits 50–80 per cent of marine litter as plastic in origin.[1] Impacts on living systems include entanglement, ingestion, smothering and transport of toxins and non-endemic species.[2] In the 1960s, early marine litter research pointed to the lethality of many of these fishing-related plastics for seabirds, turtles and sea mammals.[3] By the 1970s and 1980s, continued research indicated that the problems associated with plastic had intensified. In some instances, plastic has changed the physical environment with unknown implications for species depending on coastal currents and beaches.[4] Researchers continue to locate plastic not just along inhabited coastal areas but also the world's remotest islands, such as Henderson Island in the Pitcairn Island chain, and the world's deepest sea features, including the Marianas Trench.[5]

The Pew Foundation estimates that continuing 'business as usual' practices in current management of plastic waste will result in increased use of our shared oceans as an 'oceanfill'.[6] Known chronic impacts of marine plastics on the ocean ecosystem such as entrapment and ingestion are well-documented by researchers and non-governmental organizations. Less-researched impacts of marine plastics may also include long-term negative consequences for ecosystems, commerce, national security and food security.[7] The impact on human health of ingested microplastics from food sources such as fish remains uncertain. It is possible that

[1] D. Barnes et al., Accumulation and fragmentation of plastic debris in global environments (2009) 364 *Philosophical Transactions of the Royal Society B: Biological Sciences* 1985–1998.

[2] M. R. Gregory, Environmental implications of plastic debris in marine settings: Entanglement, ingestion, smothering, hangers-on, hitch-hiking and alien invasions (2009) 364 *Philosophical Transactions of the Royal Society B* 2013–2025.

[3] P. G. Ryan, A brief history of marine litter research, in M. Bergmann et al. (eds.), *Marine Anthropogenic Litter* (Cham: Springer 2015) 1–25.

[4] H. S. Carson et al., Small plastic debris changes water movement and heat transfer through beach sediments (2011) 62 *Marine Pollution Bulletin* 1708–1713.

[5] J. Lavers and A. Bond, Exceptional and rapid accumulation of anthropogenic debris on one of the world's most remote and pristine islands (6 June 2017) 114 (23) *PNAS* 6052–6055; Reis Thebault, 'He went where no human had gone before. Our trash had already beaten him there' (14 May 2019), *The Washington Post*.

[6] Pew Foundation, 'Breaking the plastic, wave' (2020), www.pewtrusts.org/-/media/assets/2020/07/breakingtheplasticwave_report.pdf

[7] Sunwook Hong et al., Navigational threats by derelict fishing gear to navy ships in the Korean seas (June 2017) 119 *Marine Pollution Bulletin* 100–105 (plastic fishing gear entangles propellers on vessels, including navy ships); Anne Nash, Impacts of marine debris on subsistence fishermen: An exploratory study (March 1992) 24 *Marine Pollution Bulletin* 150–156; P. Farrell and K. Nelson, Trophic level transfer of microplastic: *Mytilus edulis* (L.) to *Carcinus maenas* (L.) (2013) 177 *Environmental Pollution* 1–3; Ana Markic et al., Plastic ingestion by marine fish in the wild (2020) 50 *Critical Reviews in Environmental Science and Technology* 657–697. (Researchers reviewing 93 papers on plastic ingestion in fish found microplastic ingestion in 67 per cent of the 391 commercial fish species.)

these microplastics concentrate toxins in the environment.[8] Equally alarming and inadequately researched, plastics release greenhouse gases as they disintegrate in the ocean, and microplastics may be interrupting the ability of the ocean to operate efficiently as a carbon sink.[9]

In response to unsettling media images of sea turtles with straws in their noses, rivers clogged with plastic waste and villages burning imported plastic waste, global norms had begun to slowly shift towards reducing virgin plastic packaging output. Young people have been particularly committed crusaders to ending ocean plastic pollution.[10] While normative shifts can be identified in the demands of some consumer groups and the actions of some corporations, have these normative shifts been reflected in the law? Does the rule of law as applied to oceans compel legal reform that will slow or reverse 'business as usual' trends? Or is the existing law 'thin law' that will be unable to shift the packaging industry because application of the law will only replicate the status quo?

5.3 GAPS AND CHALLENGES: TOO MUCH 'THIN LAW' FOR A THICK LAW PROBLEM

As observed in the previous section, the global community has had decades of awareness of the problem of plastics. The global community has been addressing known problems with marine plastics for almost five decades since adoption of the Convention on the Prevention of Pollution by Dumping of Wastes and Other Matters (London Convention). In 1988, with a focus on vessel operations, States passed Annex V of the International Convention for the Prevention of Pollution from Ships to prevent intentional garbage disposal. These laws, if fully complied with, would reduce at least one known source of marine pollution. Vessel-based plastic pollution remains, however, a problem, as indicated by the registration of 10,000 pollution incidents in the Western and Central Pacific Ocean between 2003 and 2015; 37 per cent of these incidents were intentional discharges of plastic.[11]

[8] US Environmental Protection Agency, Toxicological Threats of Plastic, www.epa.gov/trash-free-waters/toxicological-threats-plastic (Observing that 'When PBTs [persistent, bioaccumulative and toxic substances] encounter plastic debris, they tend to preferentially sorb (take up or hold) to the debris. In effect plastics are like magnets for PBTs.')

[9] Sarah-Jean Royer et al., Production of methane and ethylene from plastic in the environment (1 August 2018) *PLOS ONE*, http://dx.doi.org.ezproxy.uio.no/10.1371/journal.pone.0200574; Alina Wieczorek et al., Microplastic ingestion by gelatinous zooplankton may lower efficiency of the biological pump (April 2019) 53 *Environmental Science & Technology* 5387–5395; Cai Zhang et al., Toxic effect of microplastic on marine microalgae *Skeletonema costatum*: Interactions between microplastic and algae (January 2017) 220(B) *Environmental Pollution* 1282–1288.

[10] See e.g., Ocean Heroes Network, Ocean Heroes Bootcamp, https://oceanheroes.blue/ (asserting that 'This bootcamp turns kids into plastic-fighting superheroes.')

[11] K. Richardson et al., Marine pollution original from purse seine and longline fishing vessel operations in the Western and Central Pacific Ocean 2003–2015 (March 2017) 46(2) *Ambio*

As problematic as 'at-sea' plastics are, land-based plastic garbage poses risks that have yet to be addressed comprehensively through law. The United Nations Convention on the Law of the Sea (UNCLOS) that requires States to prohibit pollution from land-based sources is weak. States only committed themselves to adopt laws and regulations 'taking into account internationally agreed rules, standards and recommended practices and procedures' designed to prevent, reduce or control toxic, harmful or noxious substances from land-based sources.[12] As of 2020, there are no international rules, standards or recommended practices and procedures for land-based plastics unless States were to legislate based on emerging industry trends towards reducing the amount of virgin plastic being used in packaging.[13]

To avoid offshoring of plastic pollution problems, the Basel Convention parties adopted amendments that became effective on 1 January 2021, requiring shippers to obtain prior informed consent for particular shipments of plastic waste deemed to be hazardous.[14] At the regional level, States have also attempted to address land-based pollution through a variety of instruments calling on them to take action. For example, the Cartagena Convention's Protocol Concerning Pollution from Land-Based Sources and Activities urges State participants to reduce solid waste/marine litter by developing National Programmes of Action for Watershed and Coastal Management as well as developing marine management plans to reduce marine pollution.[15] The Protocol serves an important coordination role to assist the Caribbean Sea States in tackling the reality that the Caribbean region is home to the second most plastic-contaminated sea after the Mediterranean Sea.[16] While the Protocol itself will not eliminate marine litter, it is expected to catalyse national legislation.

What is needed to eliminate marine litter is regulation of source material and production. The challenge for the 'rule of law' in this area is how to achieve this type of regulation without being outmanoeuvred by a powerful industry of fossil fuel, chemical and plastic corporations. Most States in response to public concerns have offered some form of legislation designed to address plastic waste. Many of these responses are 'thin', and by 'thin' this chapter refers to responses that do not directly address the problem at hand, or when they do address the problem at hand are

190–200. (Reporting that most of the incidents were from Papua New Guinea and six water fishing nations: Taiwan, United States, Korea, Philippines, Japan and China.)

[12] Montego Bay, 10 December 1982, in force 16 November 1994, 1833 U.N.T.S. 397.

[13] Unilever Announces Ambitious New Commitments for a Waste-Free World (7 October 2019), www.unilever.com/news/press-releases/2019/unilever-announces-ambitious-new-commitments-for-a-waste-free-world.html

[14] Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention) Basel, 22 March 1987, in force 5 May 1993, 1673 UNTS 57. Basel Convention Plastic Waste Amendments to Annex IX, OEWG-11/7 (2019).

[15] Available at www2.ecolex.org/server2neu.php/libcat/docs/TRE/Full/En/TRE-001331.txt

[16] Report on Status of Styrofoam and Plastic Bag Bans in the Wider Caribbean, UNEP – Caribbean Environment Programme (May 2019), https://gpml-caribe.org/download/32/reports/1486/status-of-styrofoam-and-plastic-bans-in-the-caribbean.pdf

engulfed in exceptions that allow operations to continue according to the existing status quo. What this means is that even though there is law on the books, the law as conceived is unable to address the scale of the problem. Looking at the examples in the next sections, one might conclude that 'thin law' is the best that one can expect from political compromise. While this may be the pragmatic reality of the authority of modern legislative institutions, these 'thin' laws fail to offer any possibility of shifting the environmental paradigm as they continue to encourage ongoing investments in conventional fossil fuel-based plastic production.

5.3.1 *Thin National Laws*

Three examples illustrate this 'thin law approach. First, the United States as a major plastic producer has no national approach to reducing packaging sources that contribute to marine litter. While, on the one hand, persistent plastic that becomes waste could be characterized as hazardous waste under the Resource Conservation and Recovery Act (RCRA) depending on ecological toxicity associated with accumulated marine litter,[17] this law has never been applied consistently across industries to reduce mismanaged waste. For example, even though researchers in 2010 working in the Puget Sound region recovered 870 gillnets that had arguably become waste containing plastic filaments that entrapped thousands of fish, hundreds of birds and dozens of mammals, no attempt has been made to hold the fishing industry or fishing net manufacturers accountable for failing to manage a potentially dangerous waste material because this would have required the regulators or courts to be creative in applying the RCRA.[18] Nor are plastic beverage container manufacturers considered to be generators of waste for the purposes of the RCRA even though only minimal numbers of bottles are ever recycled. The RCRA law, despite setting national standards, is not 'fit' to address marine debris or the amassing of post-consumer plastics except to ensure that landfills are properly designed.

More specific attempts to address Marine Debris in US legislation fare no better in terms of delivering outcomes capable of addressing the scale of the challenge. The Marine Debris Act as amended by the Save our Seas Act provided for the National Oceanic and Atmospheric Administration to work with other federal agencies to address marine debris sources, to assist in facilitating a response to a 'severe marine debris event' and to develop international action.[19] Not unsurprisingly, given the growth of the plastics industry in the United States and the strength

[17] M. J. Bean, Legal strategies for reducing persistent plastics in marine environments (1987) 18 *Marine Pollution Bulletin* 357–360.

[18] T. P. Good et al., Derelict fishing nets in Puget Sound and the Northwest Straits: Patterns and threats to marine fauna (2010) 60 *Marine Pollution Bulletin* 39–50.

[19] Save Our Seas Act of 2018, P.L. 115–265, https://marinedebris.noaa.gov/sites/default/files/2018%20Save%20our%20Seas%20Act%2C%20Title%20I%20%28S.%203508%29.pdf

of the industry lobby,[20] the law fails to specifically address unabated plastic manufacturing for ends such as single-use packaging as one of the unmitigated sources of marine pollution.

A second 2020 Save Our Seas 2.0 Act that passed the partisan US House and Senate extends financing for a trust fund and a prize competition.[21] While the prize competition offers an improvement over the existing 2018 Save our Seas law by rewarding one or more individuals for the development of ocean-degradable packaging materials and other packaging innovations, the law remains quite 'thin' because it fails to recognize the existence of numerous viable ocean-degradable packaging materials and to mandate for better packaging standards using these existing materials. Instead, the proposed US law presumes that the market will boost the prize winner's innovation, plastic production will shift to new materials on a schedule that is amenable to plastic producers and Congress will not need to intervene. Equally 'thin' are the provisions on addressing the proliferation of ocean-bound plastic in the fishing industry, where government administrators 'shall encourage United States efforts, such as the Fishing for Energy net disposal program'.[22]

The United States' approach is a 'thin' approach because it offers nothing more than a potential indirect fix through the possible development of a new market niche. There are no affirmative steps designed to transform existing supply chains. The United States could have attempted a 'thick' law fix that would address the heart of the problem, as it attempted to do with the 1970 Clean Air Act mandating 'technology-forcing' that required the automobile industry to design higher efficiency vehicles and better emission control systems.[23] The 'thinness' of US efforts is unsurprising given the powerful lobbying support from the Grocery Manufacturers Association, the America Chemistry Council and the Plastic Industry Association.

A second example of a 'thin' approach is taken by Uganda whose legislation, at first glance, seems to be on target to address the issue of plastic production. Uganda extended a ban on plastic bags, but a closer review of the ban illustrates that a large sector of single-use plastic packaging production remains intentionally unregulated. When Uganda opted in 2010 to ban the importation, sale and use of plastic bags in response to the waste challenges faced by the nation, the government adopted a set of regulations that allowed for extensive exceptions to the more general prohibition

[20] Thomas Hundertmark et al., Accelerating plastic recovery in the United States (22 December 2019) McKinsey & Company Chemicals, www.mckinsey.com/industries/chemicals/our-insights/accelerating-plastic-recovery-in-the-united-states# (Estimating that demand for plastics may grow in the United States by 35 per cent above current levels by 2040).

[21] Save our Seas 2.0 Act (2020) (n 19) P.L. 116–224.

[22] Ibid. at Sec. 133(b).

[23] Clean Air Act, Section 110, 42 U.S.C.A. 7410(a)(2)(A) and Section 202(b)19)(A), 42 U.S.C.A. 7521(b)(1)(A).

against plastic bags, including 'plastic for packaging of toilet paper', 'shrink sleeves made of plastic for labelling of water bottles, cosmetic bottles, and jars', 'plastic bags used for packaging of candy sweets, biscuits, pasta, sugar... and any other food or cosmetic product requiring moisture barrier properties' and 'plastic sheeting for agricultural, horticultural or floricultural use'.[24] When the schedule to the regulations listing the exceptions to the ban is read *in toto*, the list of exceptions encompasses a broad array of potentially problematic packaging and industrial materials, where alternative packaging materials are likely to exist though they may be more costly. While these exceptions that were negotiated into the law reflect the reality of stakeholders who have already sunk costs into packaging materials and packaging machinery, they also reflect a 'thin' approach to law, as the status quo for plastic manufacturing remains for much of Uganda.[25]

Finally, even where a State imposes a ban on plastic importation or production, laws may appear tough on their face but are unable to be implemented due to unenforceability. As UNEP authors noted in a recent report on the legal limits of single-use plastics, 'the majority of bans do not contain specific enforcement provisions, such as fines or prosecutions'.[26] For countries where the normative push in support of the legal ban framework lacks broad community support, lack of enforcement means that the law may become 'ultrathin', as it depends on persuasion for implementation rather than authority.

5.3.2 *Thicker Laws?*

A couple of 'thick' laws have yet to be fully tested but could change production paradigms if broadly adopted and with the intention of innovating in the existing packaging market. What constitutes a 'thick law' for the purposes of marine plastic waste is a law with enough substantive content and implementation to lead to a fundamental change in the current packaging economy that sells a million conventionally produced plastic bottles every minute and expects to grow by 20 per cent.[27] As of today, few countries are prepared to experiment with these laws. On 29 July 2019, Tuvalu introduced an import ban on single-use bottles under 1.5 litres and food

[24] Government of Uganda, The finance (permitted plastic bags and other plastics for exceptional use) regulations 2010 No. 32 (20 August 2010).

[25] Uganda's president vocalized an intention to implement a ban in June 2018, but there has been limited political will to stop plastic manufacturing. Attention has shifted to plastic recycling. Pritish Behuria, The comparative political economy of plastic bag bans in East Africa: Why implementation, has varied in Rwanda, Kenya, and Uganda, The University of Manchester Global Development Institute (February 2019), http://hummedia.manchester.ac.uk/institutes/gdi/publications/workingpapers/GDI/gdi-working-paper-2019037-behuria.pdf

[26] UNEP, Legal limits on single-use plastics and microplastics: A review of national laws and regulations (2018) 48, https://wedocs.unep.org/bitstream/handle/20.500.11822/27113/plastics_limits.pdf

[27] Sandra Laville and Matthew Taylor, A million bottles a minute: World's plastic binge 'as dangerous as climate change', *The Guardian* (28 June 2017).

wrap as well as bags, straws, cutlery and plates.[28] Failure to comply could lead to an individual fine of up to US$3420 or a corporate fine of up to US$6840 for a first offence and/or imprisonment of up to two months. Depending on how regulators interpret 'food wrap', these laws could change how locally produced food is distributed and packaged. Tuvalu is, however, a very small market for global trade.

As of mid-2020 Costa Rica is in the process of implementing a law requiring importers, producers, marketers and distributors of single-use plastic bottles and products that are packaged in single-use bottles to engage in either: using recycled resins, recovering bottles in an extended producer responsibility scheme, designing products minimizing waste or working with municipalities to recover waste.[29] Violations of the law would be subject to fines and an obligation to compensate and restore environmental damage. Implementation of this law could substantially change packaging practices within Costa Rica, but there is no requirement that any of the packaging be marine biodegradable.

In the Caribbean Sea and Pacific Ocean region, several 'thicker' laws have been proposed with a ban focused on particular packaging and single-use items including single-use plastic bags, Styrofoam containers, plastic utensils and plastic straws.[30] For each of these items, there are readily available alternatives that are less damaging in terms of generating potential marine pollution. As of 2020, Canada is in the process of proposing a 'thicker' law to reduce plastic packaging in the market by banning additional products beyond the Caribbean and Pacific States, including beverage six-pack rings and food packaging made from plastics that are difficult to recycle. Many other products, including garbage bags, snack food wrappers, disposable personal care items and beverage containers, are not proposed for inclusion in the single-use plastics ban due to a lack of existing readily available alternative packaging.[31]

The paradigm that needs to shift is from single-use disposable materials to some version of a circular packaging economy where materials selected for use by the industry do not contribute to toxicity or other serious long-term impacts on the environment. The challenge for countries that have adopted these rules is that, as States with limited market share, it may take time before products can be shifted to marine-friendly packaging. Whether there would be consumer backlash due to the

[28] Government of Tuvalu Waste Management (Prohibition on the importation of single-use plastic) regulation 2019, https://tuvalu-data.sprep.org/system/files/bothregulationstouploadenvironmentportalinform.zip

[29] Government of Costa Rica, Law No. 9786 Law to combat pollution by plastic and protect the environment (6 December 2019) (Art. 5).

[30] See e.g., Bahamas, Barbados, Belize, the Dominican Republic, Grenada, Jamaica, Trinidad and Tobago, Guyana, Vanuatu, Fiji.

[31] Government of Canada, A proposed integrated management approach to plastic products to prevent waste and pollution, www.canada.ca/en/environment-climate-change/services/canadian-environmental-protection-act-registry/plastics-proposed-integrated-management-approach.html#toc12

unavailability of products leading to legislative retraction remains to be seen with the recently adopted Caribbean laws. In Saint Vincent and the Grenadines, the ban on distribution, sale and use of disposable plastic shopping bags has been suspended until after the Christmas season in part because of COVID-19 but also allegedly to allow businesses the ability to deplete their stocks of plastic bags.[32]

For either 'thin' laws or 'thick' laws, implementation can always pose a challenge. Even where a given regulation provides for administrative penalties such as Uganda's 2010 regulations prohibiting the import or use of plastic carrier bags measuring less than 30 microns in thickness,[33] state institutions appear to lack the political will to pursue enforcement activities due to special interests. A 2018 commentary in a Uganda newspaper observed that the law 'has for the last 8 years almost had no legal force' despite commitments by the National Environmental Management Authority, Kampala Capital City Authority, the President and the Finance Minister to make progress.[34] The High Court of Uganda even weighed in on the matter with a 2012 legal opinion indicating that the continued proliferation of unmanaged plastic garbage across Uganda, including some items that were deemed permissible under the government regulation, violated the rights of Ugandan citizens to a clean and healthy environment.[35] The Ugandan government, as a whole, has proved to be less than resolute in implementing its law because of constant pressure from plastic manufacturers in Uganda, who argue that the ban is destroying their livelihood and that the problem is not high rates of manufacturing but low rates of recycling.[36]

The gaps in the law operate more like a sieve. While certain products are subject to regulation, including bans designed in part to shift the packaging industry to less environmentally damaging materials, the status quo remains largely in place for

[32] Ban on Use of Disposable Plastic Bags Suspended- PM, Searchlight (15 August 2020), https://searchlight.vc/searchlight/breaking-news/2020/08/15/ban-on-use-of-disposable-plastic-bags-suspended-pm/

[33] Government of Uganda (n 24) at Section 6 and 7 (Specifying penalties of 120,000 Uganda shillings per day for initial violations, which is approximately USD$32.50 per day, and 70,000 shillings for each day of continuing violations, which is about US$19).

[34] Wetaya Richard, Enforcement frustrate Uganda's efforts to ban Polythene bags, *Masaaba Chronicle* (6 July 2018), https://masaabachronicle.com/news/commentary/commentary/enforcement-frustrates-uganda-s-efforts-to-ban-polythene-bags

[35] Greenwatch v. Attorney General and National Environmental Management Agency, High Court of Uganda (Misc. Cause No. 140 of 2002) UGHC 205 (5 October 2012), https://ulii.org/ug/judgment/high-court/2012/205 ('All this court can say is that whoever is involved in the process of enacting a law towards the protection of the environment should do so as a matter of urgency because the damage is likely to be extremely costly. Given this observation, the best this court can do is make a declaration that the manufacture, distribution, use, sale, sell [sic] disposal of plastic bags, plastic containers, plastic food wrappers, and all other forms of plastic commonly referred to as "kaveera" violates the rights of citizens of Uganda to a clean and healthy environment as acknowledged by both parties.')

[36] Richard (n 34) (quoting from National Environmental Management Agency staff).

most containers. Single-use plastics remain a 'wicked problem'[37] that is hard to resolve because the problems associated with production and consumption continue to accrue across a dispersed landscape.

Ideally, a global instrument will emerge to fill this gap. Some discussions have advanced. In 2019, UNEP launched a project 'Protecting the Marine Environment from Land-Based Pollution Through Strengthened Coordination of Global Action' that includes linking implementation of the Global Programme of Action to the UN Environment Assembly (UNEA), which is the 'world's highest-level decision-making body on the environment'.[38] During the third session of the UNEA in 2018, States convened an ad hoc open-ended expert group on marine litter and plastics that has continued proposing global responses. As the scale of marine plastic waste challenges expands, the Assembly may in coming meetings 'consider the need for international rules, as well as recommended practices and procedures, to further the objectives of the Global Programme of Action' and offer some essential rules or standards.[39]

In 2020, the expert group collected nine potential State and regional governance responses for future Assembly action. Responses varied greatly across geographical groups. The African Group called for a new internationally legally binding agreement that would include reduction targets, national action plans, reporting (including plastic production, plastic use, plastic waste management), monitoring of national discharge by an international scientific body, a financial mechanism to support implementation, technology transfer and capacity building and adopting 'uniform regulatory measures … [for] those categories of plastic products that are most prone to leakage and that pose a particular risk to the environment, including single-use plastics, fishing gear and primary microplastics'.[40] Norway agreed with the idea for a new instrument but recommended that the focus be on enhancing cooperation and coordination between States to minimize plastic waste, better management of recycling, designing sustainable plastic products, sharing responsibility for plastic waste management fairly, creating targeted measures for microplastics and developing a clearinghouse of knowledge around marine plastic.[41]

[37] Tod Hardin, The magnificent 7 elements of plastics as a 'wicked problem' (8 December 2015), https://plasticoceans.org/magnificent-7-elements-plastics-wicked-problem/; H. Rittel and M. Webber, Dilemmas in a general theory of planning (1973) 4 *Policy Science* 155–169.

[38] www.unenvironment.org/explore-topics/oceans-seas/what-we-do/addressing-land-based-pollution/global-action-protect-marine; https://environmentassembly.unenvironment.org/

[39] Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities, UNEP(OCA)(LBA)/IG.2/7 (3 December 1985), Para. 77, https://papersmart.unon.org/resolution/uploads/1995-gpa.pdf

[40] Draft Outline of Summary of Submissions on Potential Response for Continued Work for Consideration by the United Nations Environment Assembly (2020), http://wedocs.unep.org/bitstream/handle/20.500.11822/31980/Draft%20outline%20for%20response%20options%2023%20March.pdf?sequence=7

[41] Ibid.

https://doi.org/10.1017/9781009253741.009 Published online by Cambridge University Press

Vietnam offered an even more specific and ambitious vision of a future treaty. The States' draft instrument that would include binding measures to regulate subsidies to the fossil-fuel industry, identify alternative materials to replace plastics, reduce production of low density polyethylene, introduce eco-labelling standards, improve compliance with Basel Convention on any trade in plastic waste, ban certain uses of low density polyethylene and 'problematic plastics', implement Extended Producer Responsibility schemes for private industry, set international standards on waste management practices for export and import of recycled waste, create an international financial mechanism for waste management and recovery, mandate national action on marine cleanup, create a Regional-level Plastic Study Center, implement an international or regional mechanism for monitoring and reporting of transboundary plastic waste flows, regulate import and export of plastic materials and waste, adopt national action plans that match global obligations, adopt regular reporting, generate global rules and standards on extended producer responsibility, implement the 'polluter pays' principle and create capacity building programmes.[42]

The United States' submission sought more cooperation between States but did not support new international obligations. Rather it supported better local implementation. The United States called for better use of existing instruments and institutions to manage marine litter through regional seas programmes, regional fisheries bodies and river basin committees.[43]

Is existing law fit for purpose to protect oceans from unmanaged marine plastics? Regrettably, no. Existing law is simply too 'thin' because the laws either fail to address the essential challenge of marine litter, like the proposed US law, or the substantive components of laws appear not to be systematically implemented, as in Uganda. International law conversations at the UNEA offer hope that States might be able to coordinate a global response to be implemented nationally, but as of yet there is no common vision beyond agreement that marine plastic litter must be reduced. While not every large plastic-producing or using country participated in submitting responses, the existing responses illustrate two important framings of existing marine plastic pollution issues. For some entities such as the United States who are eager to protect their industries, marine plastic pollution is understood not as a consumption problem but as a waste management challenge. There is no political interest in a paradigm shift. For other entities such as the African group, Norway or Vietnam, there appears to be substantial political interest in transforming the status quo of plastic production to create a paradigm shift allowing for wholesale reimagination of aspects of our economy that have become conventional. Even so, there are differences in approach.

[42] Ibid.
[43] Ibid.

While concluding any global instrument to specifically address marine plastics will be fraught with political difficulties given the numerous populist/nationalist politicians governing certain States who have historically operated as bottlenecks to international cooperation, allowing business as usual for the conventional plastic industry will only continue to undermine the object and purpose of existing legal regimes such as the Law of the Sea Convention. If law is going to be part of any potential paradigm shift to change what plastic is produced and how it will be used, there need to be stronger market signals. Section 5.4 builds on what Vietnam proposed indirectly in its submission to the ad hoc commission in terms of regulating 'subsidies' for fossil-fuel based primary feedstocks. In addition to any possible re-examination of fossil fuel subsidies, States across the globe need to apply a reasonable global carbon tax on plastic manufacturing from fossil fuel derivatives to achieve both a reduction of marine plastic litter but also a reduction of greenhouse gas emissions.

5.4 SOLUTION: OVERDUE SINGLE-USE WASTE TARIFFS AND PLASTIC FISHING GEAR TARIFFS TO ADDRESS MAJOR SOURCES OF MARINE PLASTICS

As suggested by the ongoing challenges of regulating through 'thin' and 'thicker' rules, there are yawning gaps in existing legislation to reduce the amount of single-use plastic in circulation. Most notably, the piecemeal approach taken by the 'thicker' rules that ban the importation or sale of certain single-use items still fails to change the larger paradigm of relying on single-use plastic for daily necessities.

In the past decade, States and some enterprises have begun to promote the concept of a 'circular economy', which is understood as an economy designed to reduce waste and pollution by designing 'cradle to cradle' products that do not rely on non-renewable feedstocks and can be either reused or more fully recycled.[44] Certain products such as single-use products generally do not conform to the principles of a 'circular economy'. How do we take a linear economy and create a 'circular economy'?

One tool for advancing the 'circular economy' might be global tariffs. Environmental economists are fond of suggesting that environmental issues can be handled by proper pricing so that goods reflect the costs of environmental externalities. Yet as the ongoing carbon tax debates have continued to unspool over the last two decades, there has been little agreement on how to multilaterally deploy economic instruments to achieve global change. Every country and municipality is left to its own devices.

[44] UN Industrial Development Organization, Circular Economy, www.unido.org/sites/default/files/2017-07/Circular_Economy_UNIDO_0.pdf

This failure to develop a multilateral response ignores the interactions among global enterprises, target markets and environmental externalities. In our global system of capitalism, fossil fuel industries and plastic manufacturers are continually seeking to identify and create new markets, with particular growth targeted for the Middle East, China and the United States – all entities that have shown historical intransigence on reducing emissions.[45] The lack of any multilateral waste tariff enables this global growth.

Economic instruments such as tariffs offer additional instrument choices beyond direct regulation and voluntary instruments.[46] While truly international tariffs have not been negotiated, they would provide an efficient means of pricing externalities that States are being forced to absorb either in the form of additional investments in waste management or in damage to marine resources. Adopting an international tariff would be politically challenging but would address the gap in the existing rule of law where there is no real accountability to address single-use plastics as a growing source of carbon emissions or a global environmental and public health threat.

The work of the United Nations Environmental Assembly in the years to come would have the most impact on curbing plastic pollution by focusing political will on tackling the upstream aspects of drivers of plastic waste, which includes production of single-use plastic products that have not been designed to be part of a 'cradle to cradle' system. While the downstream aspects of plastic waste are the most visible aspects of the problem in the form of trash-strewn beaches and garbage-clogged rivers, it will not be possible to alleviate these problems if production continues to accelerate. Affluent countries already struggle with locating space for landfilling, and incineration has its own public health costs.[47] Certain regions such as the EU are already attempting essential policy investments to make these changes to focus on upstream production.[48]

To curb production, the economics of single-use plastic production would need to change. One means of changing production is through taxes. A multilateral

[45] Center for International Environmental Law, *How Fracked Gas, Cheap Oil, and Unburnable Coal are Driving the Plastics Boom* (2017), www.ciel.org/wp-content/uploads/2017/09/Fueling-Plastics-How-Fracked-Gas-Cheap-Oil-and-Unburnable-Coal-are-Driving-the-Plastics-Boom.pdf

[46] Niko Soininen and Froukje Maria Platjouw, Resilience and adaptive capacity of aquatic environmental law in the EU: An evaluation and comparison of the WFD, MSFD, and MSPD, in David Langlet and Rosemary Rayfuse (eds.), *The Ecosystem Approach in Ocean Planning and Governance* (Leiden: Brill, 2019), 17–79.

[47] Cole Rosengren, Public companies increased control of $74B US waste industry in 2018 (4 June 2019), www.wastedive.com/news/public-companies-increased-control-of-74b-us-waste-industry-in-2018/556079/

[48] See e.g. European Commission, *A European Strategy for Plastics in a Circular Economy* (2018), https://ec.europa.eu/environment/circular-economy/pdf/plastics-strategy-brochure.pdf (Providing an overview of Europe's 'New Plastics Economy' and calling for improved design of products, regulation of what constitutes biodegradable and compostable, and reduction in single-use plastics.)

carbon tax would be a good start but is politically challenging.[49] As of 2020, some forty-six countries have some form of carbon tax, including the EU Member States, the (pre-Brexit) United Kingdom, Switzerland, Iceland, Canada, Mexico, Argentina, Chile, New Zealand, Australia, Singapore, Japan, South Korea and Kazakhstan.[50] Most analysis of the impact of carbon taxes has focused on the cost increases for certain resources. The impact of these taxes on reduction of marine pollution from plastic sources has yet to be measured. Many of these taxes have only recently been adopted.

Despite all of the merits of a carbon tax system in terms of its efficiency and fairness (e.g., focusing payments at the level where decisions can be made about production), few countries appear to be pricing carbon high enough to create the types of reduction needed to reduce emissions to the 'safe' level urged by the Intergovernmental Panel on Climate Change. In the European Union, the epicentre for the most countries engaged in a carbon tax, excess carbon allowance permits have been on the market for years, resulting in low carbon prices.[51] The United Kingdom recognized some of this failing and enacted a carbon price floor for certain carbon-intensive industries designed to financially incentivize a shift to cleaner energy production.[52] Even with the current low prices for carbon allowances in the EU, researchers have still observed a reduction in carbon emissions across the EU as part of Europe's oft-criticized Emissions Trading Scheme, suggesting that a carbon tax system would deliver even more reductions if the price of carbon is uniform.[53]

It has been, however, politically difficult to have a carbon tax that is more than simply window-dressing since voters in at least some parts of the world are unwilling to accept that the 'polluter pays' principle also applies to consumers. In Australia, the Labor Government introduced a carbon tax but then lost the elections to the Liberal party, who gutted the programme in favour of industry interests.[54]

Some countries such as Canada are using a revenue-neutral approach to appease voters. For Canadian provinces that do not have a carbon pricing policy that meets

[49] John Kemp, Carbon taxes will be needed to reduce CO_2 emissions (7 November 2019), *Reuters*, www.reuters.com/article/us-climatechange-taxation-kemp-column/carbon-taxes-will-be-needed-to-reduce-co2-emissions-kemp-idUSKBN1XH242

[50] World Bank, https://carbonpricingdashboard.worldbank.org/

[51] Organisation for Economic Cooperation and Development, Effective carbon rates 2018: Pricing carbon emissions through taxes and emissions trading (2018). www.oecd.org/tax/effective-carbon-rates-2018-9789264305304-en.htm

[52] David Hirst, Carbon Price Floor and Price Support mechanism, Briefing paper (8 January 2018), https://researchbriefings.files.parliament.uk/documents/SN05927/SN05927.pdf

[53] Patrick Bayer and Michael Aklin, The European Union Emissions Trading System reduces CO_2 emissions despite low prices (21 April 2020) 117 *PNAS* 16, 8804–8812.

[54] Australian Government, Department of Industry, Science, Energy, and Resources, 'Repealing the carbon tax', https://publications.industry.gov.au/publications/climate-change/climate-change/government/repealing-carbon-tax.html

https://doi.org/10.1017/9781009253741.009 Published online by Cambridge University Press

certain benchmarks, Canada collected a fuel tax, beginning in 2019, starting at around 4.42 cents per litre. For most of the affected provinces, 90 per cent of revenues are redistributed to individual Canadians through Climate Action Incentive payments to offset higher costs for individuals who use less fuel.[55] Ten per cent is returned to small businesses, schools, hospitals, cities, non-profits and indigenous communities. Canada also initiated a parallel system for large industries with global competition that were not charged the fuel tax but instead were required to purchase carbon credits for excess emissions in a programme called the 'output-based pricing system'.

A truly global carbon tax could change the calculus of operation for major energy-intensive industries such as the chemicals and plastics sectors. One estimate by researchers calculates that a consumption tax on fossil fuel-derived plastic would shrink the plastic market by 7.24 per cent through reducing global demand.[56] The bazillion dollar multilateral question is how to set a global carbon tax that is politically palatable but also effective. A carbon tax is desirable and would directly address greenhouse gas emissions and, indirectly, pollution. By raising the costs of plastics so that single-use plastic would no longer be the cheapest packaging option, manufacturers would presumably seek alternative packaging approaches for goods that are presently in single-use plastic containers. The increase in cost associated with plastic packaging should decrease the amount of plastic waste being generated and the potential for plastic to prejudice both the terrestrial and marine environments.

In the interim before a global carbon tax catalyses system-wide changes across all industries, States should respond to citizen demands for a first step towards implementing the circular economy in the packaging industry and the fishing industry by placing tariffs on specific non-essential plastic products that contribute to marine pollution. An international waste tariff would focus attention on the externalities associated with the global trade in non-essential single-use plastics and problematic plastic fishing gear. A non-essential plastic should be defined in a harmonized fashion to include excess packaging such as double wrapping for advertising purposes (e.g., a plastic drink bottle with a plastic sleeve advertising the brand) as well as containers that could be manufactured from alternative sources (e.g., plastic milk jugs that could be manufactured from glass). States could agree to levy General Agreement on Tariffs and Trade-compliant import tariffs on certain plastics items from other member States to cover not just carbon-related costs (e.g., carbon is

[55] Government of Canada, Implementing Canada's plan to address climate change and grow the economy: Putting a price on carbon pollution, Technical briefing, 22 October 2018, www.canada.ca/content/dam/eccc/documents/pdf/climate-change/pricing-pollution/ECCC_Technical_Deck_En.pdf

[56] Neus Escobar et al., Land use mediated ghg emissions and spillovers from increased consumption of bioplastics (2018) 13(12) *Environmental Research Letters*.

released when plastics begin to decompose)[57] but, more importantly, adequate disposal costs.[58] Non-discriminatory tariffs will require similar levies to be placed on domestic plastics. To prevent leakage of non-tariffed plastics from non-member States into a member's market, members should refuse imports of plastics from non-member States that would not otherwise be subject to levies unless the non-member State agrees bilaterally to be subject to the same levies. This approach has legal precedents found in the Basel Convention[59] and the Montreal Protocol.[60]

Critics might argue that focusing on drafting a multilateral trade-focused treaty in the middle of a waste crisis contributes too little too late and that available political attention should instead be focused on national and local efforts to reduce plastic consumption.[61] While possibly appropriate for certain situations such as domestic production of plastics for domestic markets, this critique ignores the global supply chain aspects of single-use plastic markets. As noted earlier in this chapter, the growth in petrochemical production infrastructure in the Middle East, China and the United States is intended for expansion of surplus plastic production into international markets, not just for national markets.

Tariffs strengthen the rule of environmental law by offering more predictability for economic actors seeking to enter an alternative packaging market as well as some financial accountability from those producers who continue to sell non-essential plastics into the marketplace. Tariffs are 'thick' because they have a substantive content that can be operationalized through customs and revenue agents. If these waste tariffs are set at an appropriate level to cover the long-term costs of plastics to environmental and human health, then implementation of waste tariffs could lead to a fundamental change in the current packaging economy. Under the rules of non-discrimination, a tariff must not give an advantage to domestic producers over foreign producers. This would mean that States with tariffs in place on imported plastic goods would be expected to have similar measures in place for domestic

[57] Sarah-Jeanne Royer et al., Production of methane and ethylene from plastic in the environment (2018) 13 *PLOS ONE* 8. (Finding an acceleration of greenhouse gas emissions as plastics photochemically degrade).

[58] Highly recyclable plastics could be assigned minimal waste disposal costs while low recyclable plastics or plastics that cannot be recycled would be assigned high costs. In theory, if these costs are passed on to consumers, then consumers would, if pure financial costs matter to them, opt to select more recyclable plastics when given a choice to avoid packaging costs.

[59] Basel Convention (n 14) Art. 4(5) 'A Party shall not permit hazardous wastes or other wastes to be exported to a non-Party or to be imported from a non-Party'.

[60] Montreal Protocol on Substances That Deplete the Ozone Layer, Montreal, 16 September 1987, in force 1 January 1989, 1522 UNTS 3, Art. 4(1) 'Within one year of the entry into force of this Protocol, each Party shall ban the import of controlled substances from any State not party to this Protocol'.

[61] Some States are pursuing their own 'plastic taxes'. Civil society groups and recycling management companies submitted the California Recycling and Plastic Pollution Reduction Act in 2020 to raise a 1 cent tax on non-recyclable and non-compostable packaging to support waste management through subsidies to the recycling industry.

producers. The key to success of any waste tariff will be setting the tariff at a rate capable of helping state markets to shift towards new packaging and fishing gear materials.

Some States, such as many African countries, Vietnam and Norway, have been publicly outspoken about the need to take system-wide steps to promote a circular economy capable of addressing plastic pollution. These States can take leadership in a different direction than the current effort to address marine plastic pollution, which has largely depended on ad hoc efforts by individual States to improve waste management. While more can certainly be done to improve waste management through capacity building and financing, focusing on waste management alone will not achieve the principles of the circular economy. States must give attention to ongoing plastic production and what role the market plays in creating conditions for what has become a persistent problem. Unlike the 'thin and 'thicker' national laws that have attempted to address production concerns provisionally by regulating easy-to-regulate products, a multilateral trade tariff offers a State committed to systematically reducing plastic pollution the ability to raise the ceiling across manufacturers to demand better design and fewer sources of waste.[62]

5.5 CONCLUSION

This chapter has reviewed the increasingly well-understood problem of marine plastic pollution while noting that conventional single-use plastic production is also compounding our emissions crisis. Existing international responses have been insufficient to curb plastic pollution. Well-intended national legal responses have failed to address plastic pollution by focusing only on waste management or allowing exceptions to swallow rules. As States attempt to practically achieve circular economy principles in relation to plastic usage, they will need to eliminate competition in their markets from cheap and unnecessary plastics. One means of doing this is by properly setting prices to reflect the long-term environmental and social costs of plastics within a given State. To shift markets unilaterally is very difficult, as evidenced by the government of Kenya, which struggles with leakage of banned plastic materials from neighbouring States.[63] Global cooperation is essential to support the transition to a circular economy, with States collectively seeking new solutions to both packaging challenges and marine fishing efforts. A trade treaty

[62] This chapter has focused on the reduction of single-use plastics in particular. Some researchers argue for a reduction of all single-use packaging and not just plastics because of other environmental costs associated with such packaging. Timo Herberz, Claire Barlow and Matthias Finkbeiner, 'Sustainability assessment of a single-use plastics ban' 12(9) (2020) 3746 *Sustainability* www.mdpi.com/2071-1050/12/9/3746.

[63] Duncan Moore, UN Environment (16 May 2018), 'How smuggling threatens to undermine Kenya's plastic bag ban', www.unenvironment.org/news-and-stories/story/how-smuggling-threatens-undermine-kenyas-plastic-bag-ban (alleging an illegal trade in plastic bags from Uganda).

focused on pricing external costs associated with plastics between interested parties such as the African Group, Norway and Vietnam – who have politically indicated some ambition to eliminate plastic waste streams – could prove transformative for limiting new sources of marine litter, while having much-needed spillover effects on reducing emissions.

The rule of law plays a critical role in achieving the post-Plastocene era. A waste tariff addresses the accountability gap that exists in current approaches to systematically addressing marine plastic pollution. It does so by changing basic assumptions that all products entering a particular market should be regarded as functionally equivalent and environmentally neutral.