

Controlling GHG Emissions from Shipping

The Role, Relevance and Fitness for Purpose of UNCLOS

David Testa

3.1 INTRODUCTION

At less than 3 per cent of global Greenhouse Gas (GHG) emissions,¹ it may be tempting to argue that shipping emissions do not constitute a particularly alarming or significant component of the global climate change problem. This would be a mistaken approach. According to one estimate, if the international shipping industry were a country, it would be ranked as the sixth largest emitter of energy-related CO₂, just above Germany.² Moreover, according to the International Maritime Organisation (IMO) Fourth GHG Study, maritime CO₂ emissions are projected to increase considerably in the coming decades. Projections vary widely, depending on future economic and energy developments, but the IMO predicts that emissions are projected to increase from about 90 per cent of 2008 emissions in 2018 to 90–130 per cent of 2008 emissions by 2050.³ Given these statistics and projections, there can be no doubt that GHG emissions from shipping need to be decisively addressed as part of international efforts to combat climate change.

Considering that the United Nations Convention on the Law of the Sea (UNCLOS)⁴ was negotiated between 1972 and 1982, it should come as no surprise that the Convention makes no express reference to climate change. This does not mean that UNCLOS has no role to play in the context of climate change generally or in the more specific context of efforts to regulate GHG emissions from shipping.

¹ See IMO, 'Fourth IMO GHG Study 2020: Executive Summary' (2021) <wwwcdn.imo.org/localresources/en/OurWork/Environment/Documents/Fourth%20IMO%20GHG%20Study%202020%20Executive-Summary.pdf> accessed 28 June 2021. (Fourth IMO GHG Study).

² International Council on Clean Transportation, 'GHG Emission from Global Shipping, 2013–2015' <https://theicct.org/sites/default/files/publications/Global-shipping-GHG-emissions-2013-2015_ICCT-Report_17102017_vF.pdf> accessed 19 February 2020.

³ Fourth IMO GHG Study (n 1), 3.

⁴ Montego Bay, 10 December 1982, in force 16 November 1994, 1833 UNTS 3.

The drafters of UNCLOS intended to establish a comprehensive regime for the oceans. This is clear from the Convention's preamble, which speaks of a desire to create:

... a legal order for the seas and oceans which will facilitate international communication, and will promote the peaceful uses of the seas and oceans, the equitable and efficient utilization of their resources, the conservation of their living resources, and the study, protection and preservation of the marine environment.⁵

While the aspiration to comprehensive coverage is clear, when applied to UNCLOS comprehensiveness is a term that must be understood in a limited sense; it denotes the sheer breadth of coverage, rather than coverage in considerable detail of all substantive matters that may conceivably arise in practice.⁶ Such detail would have rendered UNCLOS an unwieldy document and would have made the negotiation process immeasurably harder. A different approach was adopted by the Convention's drafters. The basic rules and the jurisdictional framework are authoritatively set out in UNCLOS, whereas matters of substantive technical detail are left to be fleshed out in a variety of international instruments such as the International Convention for the Prevention of Pollution by Ships (MARPOL).⁷ The extent of development that can be registered therefore depends on the willingness of States to be proactive in developing the relevant rules and standards that are contained in instruments associated with UNCLOS, such as the MARPOL Convention.

This chapter examines the role, relevance and fitness for purpose of UNCLOS in relation to ongoing efforts to tackle GHG emissions from shipping. It asks whether UNCLOS is adequate and considers what further steps need to be taken. Following this introduction, Sections 3.2 and 3.3 provide a brief overview of the UN Climate Change Regime and of the Initial IMO Strategy on Reduction of GHG Emissions from Ships. Section 3.4 examines UNCLOS's various points of relevance. It starts with a brief examination of the Convention definition of 'marine pollution' and proceeds with an analysis of Articles 192 and 194 and of Articles 211 and 212, which establish important obligations for States to regulate pollution from vessels and pollution from or through the atmosphere. It then examines flag, coastal and port State jurisdiction to regulate GHG emissions from shipping. Section 3.5 provides some concluding comments and considers whether UNCLOS can be considered as fit for purpose in this context.

⁵ UNCLOS (n 4), Preamble, para. 4.

⁶ UNCLOS 'has a wide coverage of topics; but it is not a comprehensive code – a full grammar'. See Vaughan Lowe, 'Was It Worth the Effort?' (2012) 27 *IJMCL* 875, 877.

⁷ The International Convention for the Prevention of Pollution from Ships (adopted 2 November 1973, entered into force 2 October 1983) and its Protocol of 1978 (adopted 17 February 1978, entered into force 1 October 1983) 1340 UNTS 62.

3.2 THE UN CLIMATE CHANGE REGIME

Efforts to reduce GHG emissions from shipping are happening as part of a concerted global effort to reduce GHG emissions generally. Alongside UNCLOS and specialist shipping instruments such as MARPOL, a distinct yet related regime has developed to address climate change. While an in-depth examination of this regime would be well beyond the scope of this chapter, a brief overview must be provided to contextualise efforts to reduce GHG emissions from shipping as well as to better understand external pressures that are being faced by the shipping industry.

The United Nations Framework Convention on Climate Change (UNFCCC)⁸ is 'the primary international, intergovernmental forum for negotiating the global response to climate change'.⁹ Its overall objective is to '[stabilize] greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system'.¹⁰ The Kyoto Protocol¹¹ was the first substantive international agreement to be adopted under the UNFCCC. It established binding emissions reduction targets for the developed countries listed in Annex I of the UNFCCC.¹² Article 2(2) of the Kyoto Protocol obliges Annex 1 parties to 'pursue limitation or reduction of emissions of greenhouse gases . . . from aviation and marine bunker fuels, working through the International Civil Aviation Organization and the International Maritime Organization, respectively'.¹³

The Paris Agreement¹⁴ entered into force on 4 November 2016. It brings all State parties into a common cause to undertake ambitious efforts to combat climate change. The parties agreed a long-term goal to hold the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels.¹⁵ Each State must prepare, communicate and maintain successive Nationally Determined Contributions (NDCs) that it intends to achieve.¹⁶ NDCs are to be strengthened every five years in light of a global stocktaking exercise undertaken by the meeting of the parties to the Paris Agreement.¹⁷

⁸ United Nations Framework Convention on Climate Change, New York, 9 May 1992, in force 21 March 1994, 1771 UNTS 107.

⁹ UNGA, 'Transforming our world: The 2030 Agenda for Sustainable Development' (25 September 2015) UN Doc A/Res/70/1 Preamble para. 31.

¹⁰ UNFCCC (n 8), Art. 2.

¹¹ Kyoto Protocol to the United Nations Framework Convention on Climate Change, Kyoto, 11 December 1997, in force 16 February 2005, 2303 UNTS 162, 37 ILM 22 (1998).

¹² *Ibid.*, Art. 3.

¹³ *Ibid.*, Art. 2(2).

¹⁴ UNFCCC (n 8), 'Adoption of the Paris Agreement' (FCCC/CP/2015/L.9/Rev.1, 12 December 2015) <<https://undocs.org/FCCC/CP/2015/L.9/Rev.1>> accessed 30 September 2019.

¹⁵ Paris Agreement, Paris, 12 December 2015, in force 4 November 2016, Art. 2(1)(a).

¹⁶ Paris Agreement, Art. 4(2).

¹⁷ Paris Agreement, Art. 14.

3.3 THE INITIAL IMO STRATEGY ON REDUCTION OF GHG EMISSIONS FROM SHIPS

The IMO has been dealing with the question of air pollution from ships in some form or other since the 1980s.¹⁸ Central to the IMO's efforts in this regard is the MARPOL Convention. Annex VI of the convention, which deals with the Prevention of Air Pollution from Ships, is the most relevant. It regulates emissions of sulphur oxide and nitrogen oxide, ozone-depleting substances, volatile organic compounds and shipboard incineration.¹⁹ In 2011, the IMO's Marine Environment Protection Committee (MEPC) adopted a package of technical measures for new ships and operational reduction measures for all ships. This package of measures was included in a new Chapter 4 of MARPOL Annex VI, titled 'Regulations on Energy Efficiency for Ships', and includes two main measures: the Energy Efficiency Design Index (EEDI) and the Ship Energy Efficiency Plan (SEEMP). The EEDI aims to stimulate continued innovation and technical development of all those components that influence the fuel efficiency of a ship from its design stage. The SEEMP establishes a mechanism for shipowners to improve the energy efficiency of both new and existing ships using operational measures such as speed optimisation and just-in-time arrival in ports.

On 13 April 2018, the MEPC adopted the Initial IMO Strategy on Reduction of GHG Emissions from Ships.²⁰ The Strategy identifies three levels of ambition. First, the carbon intensity of ships is to decline through implementation of further phases of the Energy Efficiency Design Index (EEDI) for new ships. Second, the carbon intensity of international shipping is to decline to reduce average CO₂ emissions by at least 40 per cent by 2030 while pursuing efforts to reduce average CO₂ emissions towards 70 per cent by 2050, compared to 2008. Third, to peak GHG emissions from international shipping as soon as possible and to reduce the total annual GHG emissions by at least 50 per cent by 2050 compared to 2008 while pursuing efforts towards phasing them out.

The Initial IMO Strategy signals a willingness to address GHG emissions from international shipping and, for the first time, establishes levels of ambition in this regard. At the same time, there can be no doubts about the fact that the Strategy is an initial strategy; a political document of an aspirational nature that needs to be followed up by substantive action and measures over the coming years.

¹⁸ For a detailed historic account of IMO efforts see Aldo Chircop, Meinhard Doelle and Ryan Gauvin, 'Shipping and Climate Change: International Law and Policy Considerations' 36 onwards, Centre for International Governance Innovation Special Report 2018 (hereinafter 'CIGI Special Report') <www.cigionline.org/sites/default/files/documents/Shipping%27s%20contribution%20to%20climate%20change%202018web_0.pdf> accessed 30 September 2019.

¹⁹ MARPOL (n 7) Annex IV, Chapter 3.

²⁰ Resolution MEPC.304(72), 'Initial IMO Strategy on Reduction of GHG Emissions from Ships' (13 April 2018) (IMO GHG Strategy).

The Strategy has also been criticised for not being ambitious enough. Doelle and Chircop, for instance, have argued that '[i]t is hard to see how full decarbonization well after 2050 can be considered a fair contribution to the long-term goals of the Paris Agreement, which ultimately calls for efforts to keep global average temperature increases to within 1.5% of pre-industrial levels'.²¹ The IMO Strategy, like current nationally stated mitigation ambitions submitted under the Paris Agreement,²² will therefore need to be revised if it is to contribute fairly to and be consistent with the Paris Agreement temperature goals.

3.4 THE LAW OF THE SEA CONVENTION

3.4.1 *Pollution of the Marine Environment*

Article 1(1)(4) of the Convention defines 'pollution of the marine environment' as:

the introduction by man, directly or indirectly, of substances or energy into the marine environment . . . which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities.²³

The UNCLOS definition of marine pollution is a wide and comprehensive one that is subject to evolutionary interpretation.²⁴ By design, it 'provides an open definition on marine pollution which may include all sources of marine pollution in the present and future'.²⁵

Considering that the definition encompasses the introduction of both 'substances' and 'energy' into the marine environment, it is difficult to argue in good faith that GHG emissions from shipping do not constitute 'pollution of the marine environment'. The warming of the oceans introduces 'energy' into the marine environment that results or is likely to result in deleterious effects. The introduction of CO₂ into the water column results in deleterious effects through ocean acidification. Given all this, Bodansky finds no difficulty in concluding that 'emissions from maritime shipping clearly constitute "pollution of the marine environment" within the

²¹ Meinhard Doelle and Aldo Chircop, 'Decarbonizing International Shipping: An Appraisal of the IMO's Initial Strategy' (2019) 28 *RECEIL* 268–277, 273.

²² The IPCC's 'Global Warming of 1.5°C Special Report' concluded that '[p]athways reflecting [current nationally stated mitigation ambitions] would not limit global warming to 1.5°C, even if supplemented by very challenging increases in the scale and ambition of emissions reductions after 2030 (*high confidence*)'. See IPCC, 'Global warming of 1.5°C' (2019) <www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_Full_Report_Low_Res.pdf> accessed 22 October 2019.

²³ UNCLOS (n 4), Art. 1(4).

²⁴ Alan Boyle, 'Further Development of the Law of the Sea Convention: Mechanisms for Change' (2005) 54 *ICLQ* 563, 573.

²⁵ Alexander Proelss (ed.), *United Nations Convention on the Law of the Sea: A Commentary* (München/Oxford/Baden-Baden: Beck/Hart/Nomos 2017) 23.

meaning of Article 1.1(4),²⁶ and similar views have been expressed by other authors.²⁷ Since GHG emissions therefore amount to ‘pollution of the marine environment’, the question that must be answered next is: which precise provisions of the Convention are engaged by GHG emissions and what are the implications of these provisions in practice?

3.4.2 General Provisions: Articles 192 and 194

Article 192 establishes a general obligation on all States to protect and preserve the marine environment. As noted in the *South China Sea* arbitration, ‘the content of the general obligation in Article 192 is further detailed in the subsequent provisions of Part XII ... as well as by reference to specific obligations set out in other international agreements’.²⁸ On this basis, in the *South China Sea* arbitration, the arbitral tribunal integrated the definition of ‘ecosystem’ from the Convention on Biological Diversity²⁹ as well as aspects of the CITES Convention³⁰ into its reasoning, enabling it to reach the conclusion that ‘Article 192 includes a due diligence obligation to prevent the harvesting of species that are recognised internationally as being at risk of extinction and requiring international protection’.³¹ In a similar manner, it is submitted that Article 192 serves to bring the UN Climate Change Regime into the scope of UNCLOS and that the Paris Agreement effectively sets the standard for giving effect to Article 192 insofar as State obligations in the context of climate change are concerned.³² This is in line with the principle of systemic integration enshrined in Article 31(3)(c) of the Vienna Convention on the Law of Treaties (VCLT).³³ According to Article 31(3)(c), in interpreting a treaty, together with the context, account shall be taken of ‘any relevant rules of international law applicable in the relations between the parties’.³⁴ As Bowman observes,

²⁶ Daniel Bodansky, ‘Regulating Greenhouse Gas Emissions from Ships: The Role of the International Maritime Organisation’ (2016) 9 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2813785>.

²⁷ See, e.g., James Harrison, *Saving the Oceans through Law: The International Legal Framework for the Protection of the Marine Environment* (Oxford: Oxford University Press 2017) 26–27; Alan Boyle, ‘Climate Change, Ocean Governance and UNCLOS’ in *Law of the Sea: UNCLOS as a Living Treaty* (London: BIICL 2016) 211, 218; Yoshifumi Tanaka, ‘Regulation of Greenhouse Gas Emissions from International Shipping and Jurisdiction of States’ (2016) 25 *RECIEL* 337.

²⁸ *South China Sea Arbitration (Philippines v China)*, PCA, Award on the Merits, 12 July 2016 para. 942.

²⁹ Convention on Biological Diversity (adopted 5 June 1992, entered into force 29 December 1993) 1760 UNTS 79.

³⁰ Convention on International Trade in Endangered Species of Wild Fauna and Flora (adopted 3 March 1973, entered into force 1 July 1975) 993 UNTS 243.

³¹ *South China Sea Arbitration* (n 28), para. 956.

³² For a similar view see Boyle (n 27), 220.

³³ Vienna Convention on the Law of Treaties (adopted 23 May 1969, entered into force 27 January 1980) 1155 UNTS 331.

³⁴ *Ibid.*, Art. 31(3)(c).

what systemic integration requires is that ‘interpretation of each individual provision . . . be woven into the broader fabric not only of the treaty as a whole, but of the wider legal system’.³⁵

The nature of the Article 192 obligation to protect and preserve the marine environment as a due diligence obligation can have important ramifications in the context of tackling GHG emissions from shipping. As affirmed in the *Responsibilities in the Area* opinion, the concept of due diligence can ‘change over time as measures considered sufficiently diligent at a certain moment may become not diligent enough in light, for instance, of new scientific or technological knowledge’.³⁶ Paragraph 7 of the IMO GHG Strategy establishes an obligation for the Strategy to be revised every five years after its final adoption in 2023. Re-assessment should not be restricted to aspects of the Strategy such as short, medium and long-term measures but should include careful consideration of all the relevant elements, including the all-important levels of ambition. These should be re-evaluated considering the latest scientific and technical knowledge available and maintained in line with the global effort under the Paris Agreement to keep temperature increases to within 1.5 per cent of pre-industrial levels.

Article 194(1) obliges States to take all measures necessary to prevent, reduce and control pollution of the marine environment from any source. As Boyle notes, although Article 194 makes no express reference to GHG emissions, ‘it is entirely possible to read Article 194(3) as covering atmospheric depositions of CO₂ resulting in marine pollution’.³⁷ Atmospheric pollution is mentioned specifically in Article 194(3)(a), which provides that measures taken pursuant to Part XII must include measures designed to minimise to the fullest extent possible ‘the release of toxic, harmful or noxious substances, especially those which are persistent, from land-based sources, *from or through the atmosphere* or by dumping’.³⁸ Article 194(3)(b) then tackles vessel-source pollution specifically by requiring that measures taken pursuant to Part XII must include measures designed to minimise to the fullest extent possible pollution from vessels.³⁹

3.4.3 More Specific Provisions: Articles 211 and 212

Article 211 expands on the obligation contained in Article 194(3)(b) and addresses both national and international law-making. Insofar as international law-making is concerned, Article 211(1) provides that ‘States, acting through the competent

³⁵ Michael Bowman, ‘Normalizing the International Convention for the Regulation of Whaling’ (2008) 29 *Michigan Journal of International Law* 293, 343.

³⁶ *Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area* (Advisory Opinion) ITLOS No. 17 (1 February 2011) para. 117.

³⁷ Boyle (n 27), 217.

³⁸ UNCLOS (n 4), Art. 194(3)(a) – emphasis added.

³⁹ UNCLOS (n 4), Art. 194(3)(b).

international organization or general diplomatic conference, shall establish international rules and standards to prevent, reduce and control pollution of the marine environment from vessels'.⁴⁰ Article 211(1) requires that '[s]uch rules and standards . . . be re-examined from time to time as necessary'. The obligation to re-examine rules is an important one that complements the construal of Article 192 in the preceding section as an obligation of due diligence. Article 211(2) deals with national law-making and provides that:

States shall adopt laws and regulations for the prevention, reduction and control of pollution of the marine environment from vessels flying their flag or of their registry. Such laws and regulations shall at least have the same effect as that of generally accepted international rules and standards established through the competent international organization or general diplomatic conference.⁴¹

Article 211(2) establishes an important prescriptive obligation in relation to flag States. Given the phrasing of Article 211(2), a crucial question is whether the Regulations on Energy Efficiency for Ships that are contained in MARPOL Annex VI Chapter 4 can be considered as Generally Accepted International Rules and Standards (GAIRS). A problem with MARPOL Annex VI Chapter 4 is that the relevant amending resolution in terms of which Chapter 4 was added to Annex VI was not adopted by consensus, as is typically the case with IMO decisions, but by a vote in which forty-nine out of fifty-nine MARPOL State parties at the time voted in favour, but Brazil, Chile, China, Kuwait and Saudi Arabia voted against.⁴² The fact that five States with a significant number of ships in their registries voted against gives Harrison reason to believe that the relevant Regulations 'may not qualify as being generally accepted for the purposes of Article 211(2)'.⁴³ This may have been true at the time of adoption but, as has been noted in other contexts, the fact that a number of States at some point opposed a given measure does not disqualify the same measure from becoming generally accepted at a later point.⁴⁴ All those States that opposed the adoption of Chapter 4 eventually ratified Annex VI,⁴⁵ and, as of October 2019, MARPOL Annex VI has ninety-five contracting parties representing 96.71 per cent of world tonnage between them.⁴⁶ It is therefore submitted that the energy efficiency regulations contained in MARPOL Annex VI Chapter 4 can be considered as GAIRS for the purpose of Article 211(2). Whether it will be possible to

⁴⁰ UNCLOS (n 4), Art. 211(1).

⁴¹ UNCLOS (n 4), Art. 211(2).

⁴² Report of the MEPC on its 62nd Session (MEPC 62/24, 26 July 2011) 57.

⁴³ James Harrison, 'Recent Development and Continuing Challenges in the Regulation of Greenhouse Gas Emissions from International Shipping' (2013) *Ocean Yearbook* 379.

⁴⁴ Hugo Caminos and Vincent Cogliati-Bantz, *The Legal Regime of Straits: Contemporary Challenges and Solutions* (Cambridge: Cambridge University Press 2014) 308.

⁴⁵ Tanaka (n 27), 339.

⁴⁶ IMO, 'Status of Conventions' (constantly updated) <www.imo.org/en/About/Conventions/StatusOfConventions/Pages/Default.aspx> accessed 8 October 2019.

state the same for future rules on GHG emissions from shipping will largely depend on the circumstances of their adoption.

While Article 211(2) establishes a prescriptive obligation for flag States, Article 217 establishes a corresponding obligation of enforcement: ‘States shall ensure compliance by vessels flying their flag or of their registry with applicable international rules and standards, established through the competent international organization or general diplomatic conference, and with their laws and regulations adopted in accordance with this Convention for the prevention, reduction and control of pollution of the marine environment from vessels . . .’⁴⁷

Article 212(3) requires States to ‘endeavour to establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control [atmospheric] pollution’.⁴⁸ Insofar as atmospheric pollution from ships in particular is concerned, UNCLOS State parties have fulfilled this responsibility through the adoption of MARPOL Annex VI. In relation to national law-making, Article 212(1) requires States to: ‘adopt laws and regulations to prevent, reduce and control pollution of the marine environment from or through the atmosphere, applicable to the air space under their sovereignty and to vessels flying their flag or vessels or aircraft of their registry, *taking into account* internationally agreed rules, standards and recommended practices and procedures’.⁴⁹

Two main distinctions exist between Article 211(2) and Article 212(1). First, Article 212(1) refers not to GAIRS but to ‘internationally agreed rules, standards and recommended practices and procedures’.⁵⁰ This means that ‘Article 212(1) does not require a rule or standard to be “generally accepted” before it is relevant’.⁵¹ Second, unlike Article 211(2), which requires flag States to adopt laws and regulations that ‘shall at least have the same effect as that of generally accepted international rules and standards’, Article 212(1) requires States to ‘tak[e] into account internationally agreed rules, standards and recommended practices and procedures’. As a result, ‘States are free to adopt less or more stringent national instruments under this reference’.⁵² As argued above, there can be little doubt today that the rules contained in MARPOL Annex VI Chapter 4 are generally accepted. That said, it is not entirely possible to exclude the possibility of such doubts resurfacing in relation to future rules, especially if the IMO will once again have to resort to majority voting. In such an eventuality, Article 212 will ensure that States are obliged to ‘tak[e] into account internationally agreed rules, standards and recommended practices and procedures’, at least until clarity can be obtained about whether the relevant rules can be considered as GAIRS under Article 211(2).

⁴⁷ UNCLOS (n 4), Art. 217.

⁴⁸ UNCLOS (n 4), Art. 212(3).

⁴⁹ UNCLOS (n 4), Art. 212(1) – emphasis added.

⁵⁰ UNCLOS (n 4), Art. 212(1).

⁵¹ Harrison (n 43), 379.

⁵² Proelss (n 25), 1448.

Article 222 requires States to ‘enforce, within the air space under their sovereignty or with regard to vessels flying their flag or vessels or aircraft of their registry, their laws and regulations adopted in accordance with article 212, paragraph 1 . . .’⁵³

3.4.4 *Prescriptive and Enforcement Jurisdiction*

The forthcoming sub-sections analyse the jurisdiction and obligations pertaining to flag, coastal and port States under UNCLOS in regard to GHG emissions from ships.

3.4.4.1 Flag State Jurisdiction

Flag States have primary jurisdiction over their vessels, and, on the high seas, they enjoy practically exclusive jurisdiction.⁵⁴ The privileged position that flag States enjoy is subject to corresponding duties. In Article 94(1) UNCLOS obliges flag States to ‘effectively exercise [their] jurisdiction and control in administrative, technical and social matters over ships flying [their] flag’.⁵⁵

The enforcement jurisdiction of flag States is regulated by Article 217, which requires States to ‘ensure compliance by vessels flying their flag . . . with applicable international rules and standards, established through the competent international organization or general diplomatic conference, and with their laws and regulations adopted in accordance with this Convention for the prevention, reduction and control of pollution of the marine environment from vessels . . .’⁵⁶ Flag States are obliged to ensure such enforcement irrespective of where a violation occurs.⁵⁷ Article 217 establishes an obligation of due diligence. As the ITLOS Seabed Disputes Chamber held in the *Responsibilities in the Area* Opinion, an obligation of due diligence is an ‘obligation to deploy adequate means, to exercise best possible efforts, to do the utmost, to obtain this result . . . this obligation may be characterized as an obligation “of conduct” and not “of result”’.⁵⁸ In practice, flag States fulfil their enforcement obligations under Article 217 by issuing certificates indicating compliance with the relevant rules and regulations and by investigating and prosecuting suspected infringements of international standards.⁵⁹

Doubts have often been expressed about the efficacy of flag State control. Effective enforcement of the relevant regulations can be costly, and some flag States may be primarily interested in the registration fees and taxes that they obtain

⁵³ UNCLOS (n 4), Art. 222.

⁵⁴ UNCLOS (n 4), Art. 92.

⁵⁵ UNCLOS (n 4), Art. 94(1).

⁵⁶ UNCLOS (n 4), Art. 217.

⁵⁷ *Ibid.*

⁵⁸ *Responsibilities and Obligations in the Area* (n 36), para. 110.

⁵⁹ Harrison (n 27), 142.

from their ship registries. UNCLOS seeks to deal with flag State failure to exercise effective jurisdiction and control over its vessels primarily through Article 94(6), which provides that '[a] State which has clear grounds to believe that proper jurisdiction and control with respect to a ship have not been exercised may report the facts to the flag State'.⁶⁰ A flag State that receives such a report is obliged to investigate the matter and to take any remedial action that may be necessary.⁶¹ Moreover, according to Article 211(7), the flag State must promptly inform the requesting State and the competent international organisation of the action taken and its outcome.⁶² If a reporting State remains unsatisfied with flag State action, it will have the option of instituting dispute settlement proceedings against the flag State in accordance with the dispute settlement provisions of UNCLOS.⁶³ In practice, however, 'there are no cases in which a flag State has been held to account in this manner, and the effect of these procedures has thus been limited'.⁶⁴

3.4.4.2 Coastal State Jurisdiction

TERRITORIAL SEA In the territorial Sea, a coastal State may adopt laws and regulations relating to preservation of the environment of the coastal State and prevention, reduction and control of pollution thereof.⁶⁵ This right is considerably restricted by Article 21(2), which prescribes that such laws and regulations 'shall not apply to the design, construction, manning or equipment of foreign ships unless they are giving effect to [GAIRS]'.⁶⁶ Chircop et al. argue that '[t]he logical consequence [of this] is that unilateral rules and standards on atmospheric emissions inconsistent with MARPOL Annex VI may not be legislated and enforced'.⁶⁷ While this is generally correct, there appears to be no reason why a coastal State should not be able to use the prescriptive jurisdiction that is conferred on it by Article 21 to unilaterally adopt operational measures (such as speed reduction requirements) to reduce GHG emissions from ships in its territorial sea.

According to Article 19, 'any act of *wilful* and *serious* pollution'⁶⁸ contrary to the Convention strips passage of its innocent character⁶⁹ and can be the subject of coastal State enforcement jurisdiction.⁷⁰ UNCLOS does not offer any guidance as

⁶⁰ UNCLOS (n 4), Art. 94(6).

⁶¹ Ibid.

⁶² UNCLOS (n 4), Art. 217(7). See also *Request for an Advisory Opinion Submitted by the Sub-Regional Fisheries Commission* (Advisory Opinion) ITLOS No. 21 (2 April 2015), para. 118.

⁶³ UNCLOS (n 4), Art. 286.

⁶⁴ Harrison (n 27), 143. See also Proels (n 25), 713.

⁶⁵ UNCLOS (n 4), Art. 21(1)(f).

⁶⁶ UNCLOS (n 4), Art. 21(2).

⁶⁷ CIGI Report (n 18), 18.

⁶⁸ UNCLOS (n 4), Art. 19(2)(h) – emphasis added.

⁶⁹ UNCLOS (n 4), Art. 19(1).

⁷⁰ UNCLOS (n 4), Art. 25(1).

to how the terms ‘wilful’ and ‘serious’ are to be interpreted. Whether pollution is serious or not will to some extent need to be determined on a case-by-case basis,⁷¹ but it is submitted that an infringement of rules on atmospheric emissions from ships is not the best example of an act of pollution serious enough to render passage non-innocent under Article 19 of UNCLOS.⁷² In practice, and unless there are particularly compelling circumstances, States are likely to be reluctant to take enforcement action in the territorial sea for fear of unjustifiably interfering with innocent passage and will likely consider port State jurisdiction as a safer and more appropriate way to deal with rules on atmospheric pollution from ships.

EXCLUSIVE ECONOMIC ZONE The general rule in regard to prescriptive coastal State jurisdiction to prevent vessel-source pollution in the Exclusive Economic Zone (EEZ) is set out in Article 211(5), which determines that coastal States ‘... may adopt laws and regulations for the prevention, reduction and control of pollution from vessels conforming to and giving effect to generally accepted international rules and standards established through the competent international organisation or general diplomatic conference’.⁷³ In requiring domestic legislation to conform and give effect to Generally Accepted International Rules and Standards (GAIRS), Article 211(5) limits the prescriptive jurisdiction of coastal States and reaffirms the pre-eminence of the international level for rule-setting. The implication of Article 211(5) in the case of GHG emissions from ships is that the prescriptive entitlement of coastal States is presently restricted to incorporating the provisions of MARPOL Annex VI into their domestic law and to making the said provisions applicable to their respective EEZs.

Article 220 provides coastal States with graduated enforcement competence in the EEZ proportionate to the perceived severity of pollution damage involved.⁷⁴ An infringement of rules on atmospheric pollution from vessels cannot realistically be classified as a discharge ‘causing major damage or threat of major damage to the coastline’⁷⁵ and it is unlikely that such an infringement would ordinarily be considered as ‘causing or threatening significant pollution of the marine environment’.⁷⁶ It would therefore appear that, insofar as GHG emissions from ships are concerned, the coastal State’s enforcement powers in the EEZ are in practice restricted to requesting information from a vessel, and this only where there are

⁷¹ Proelss (n 25), 195 – Barnes notes that ‘some waters may be more sensitive to pollution than others, or subject to prevailing high levels of pollution such that there is no tolerance to further pollution’.

⁷² For a similar view see Tanaka (n 27), 339.

⁷³ UNCLOS (n 4), Art. 211(5).

⁷⁴ Shabtai Rosenne, Alexander Yankov and Myron Nordquist (eds.), *United Nations Convention on the Law of the Sea, 1982: A Commentary* (Vol IV, Dordrecht: Martinus Nijhoff 1991) 282.

⁷⁵ UNCLOS (n 4), Art. 220(6).

⁷⁶ UNCLOS (n 4), Art. 220(5).

clear grounds for believing that the vessel has committed a violation of applicable international rules and standards.

3.4.4.3 Port State Jurisdiction

Article 218(1) establishes the general principle of port State enforcement of international rules and standards.⁷⁷ When a vessel is voluntarily within a port or at an offshore terminal of a State, that State may undertake investigations and, where the evidence so warrants, institute proceedings in respect of any discharge from that vessel *outside* the internal waters, territorial sea or EEZ of that State in violation of applicable international rules and standards.⁷⁸

Although the term ‘discharge’ is nowhere defined in UNCLOS, it has been suggested⁷⁹ that this term should be interpreted by reference to MARPOL, which defines it as ‘any release howsoever caused from a ship and includes any escape, disposal, spilling, leaking, pumping, emitting or emptying’.⁸⁰ This is a wide definition that encompasses accidental as well as operational pollution. Port States are therefore entitled to exercise extraterritorial jurisdiction in relation to discharge infringements caused by the emission of substances such as sulphur and nitrogen dioxide. It is good to keep in mind, however, that in practice port States may be reluctant to initiate costly legal proceedings and may in any case not be in a position to gather strong enough evidence to prosecute.

In addition to the jurisdiction that is made available by Article 218, States have a largely unfettered⁸¹ right to deny vessels entry into their ports. On the basis of the reasoning that ‘who can do more can also do less’,⁸² it is possible to take a wider view of port-State jurisdiction and to consider it as including a right to prescribe and enforce conditions for entry. The existence of this right is confirmed by Article 211(3) of UNCLOS, which requires States that establish requirements for the prevention, reduction and control of marine pollution as a condition for the entry of foreign vessels into their ports or internal waters to publicise such requirements and to communicate them to the competent international organisation.⁸³ Requirements for entry into ports need to be adopted on a non-discriminatory basis⁸⁴ and in good faith.⁸⁵

⁷⁷ Proelss (n 25), 1489.

⁷⁸ UNCLOS (n 4), Art. 218(1) – emphasis added.

⁷⁹ Proelss (n 25), 1493.

⁸⁰ MARPOL (n 7), Art. 2(3)(a).

⁸¹ Although largely unfettered, a port State’s right to deny entry is subject to some limitations. See Erik Molenaar, ‘Port-State Jurisdiction: Towards Comprehensive, Mandatory and Global Coverage’ (2007) 38 *Ocean Development and International Law* 225, 228.

⁸² Molenaar (n 81), 228. See also Bevan Marten, *Port-State Jurisdiction and the Regulation of International Merchant Shipping* (Cham: Springer 2014).

⁸³ UNCLOS (n 4), Art. 211(3).

⁸⁴ UNCLOS (n 4), Art. 227.

⁸⁵ UNCLOS (n 4), Art. 300.

3.4.4.4 Port State Control

Port State control is a proactive and preventive mechanism whereby port States verify whether a given vessel's condition and its documentation comply with international rules and standards. Unlike port State jurisdiction proper, port State control is not geared towards institution of proceedings but is restricted to taking administrative measures of verification, potentially including detention of the vessel.

The conduct of port State control inspections is envisaged by MARPOL, Article 5 (2) of which provides that any such inspection 'shall be limited to verifying that there is on board a valid certificate, unless there are clear grounds for believing that the condition of the ship or its equipment does not correspond substantially with the particulars of that'.⁸⁶ In that case, or if the ship does not carry a valid certificate, the port State 'shall take such steps as will ensure that the ship shall not sail until it can proceed to sea without presenting an unreasonable threat of harm to the marine environment'.⁸⁷ More specific rules for port State control on Annex VI requirements are set out in Regulations 10 and 11 of Annex VI. Port State control is also envisaged by and consistent with the Law of the Sea Convention.⁸⁸

3.5 FITNESS FOR PURPOSE AND THE WAY AHEAD

It is appropriate to conclude this chapter by considering whether UNCLOS can be considered as 'fit for purpose'. The answer to this question depends largely on the purpose that we expect UNCLOS to fulfil.

As it does in other contexts, in the context of GHG emissions from shipping UNCLOS adequately fulfils its designated function as a constitution for the oceans. This is evident in several ways. First, as seen in Section 3.4.1, the Convention provides a flexible definition of marine pollution that comfortably encompasses GHG emissions from shipping. Second, the Convention is conducive to harmonious coexistence between the different regimes that apply in this area. Article 192 allows for systemic integration of the UN climate change regime into the scope of the Convention, with the Paris Agreement effectively setting the standard for giving effect to Article 192 insofar as State obligations in the context of climate change are concerned.⁸⁹ Third, the Convention establishes clear rules in relation to flag, coastal and port State jurisdiction.⁹⁰ Flag and port State jurisdiction (including port State control) are arguably the two most important forms of jurisdiction for successful implementation of existing and future measures.

⁸⁶ MARPOL (n 7), Art. 5(2).

⁸⁷ *Ibid.*

⁸⁸ See UNCLOS (n 4), Arts. 219 and 226.

⁸⁹ Section 3.4.2.

⁹⁰ Section 3.4.4.

But if we expect UNCLOS to be a comprehensive solution on its own, then we will invariably be disappointed. This should not be surprising. The basic rules that are set out in UNCLOS were by design intended to be complemented by more comprehensive and detailed technical rules and regulations. This is at once an advantage of UNCLOS – in light of the flexibility and dynamism that it allows – and a potential pitfall of long-term stagnation as a result of State inaction.

The IMO's Initial Strategy is very much a tentative and preliminary step towards giving meaningful content and substance to UNCLOS's general provisions. Moving ahead, it is clear, however, that the Strategy will need to be followed up by substantive GHG emission reduction measures that are sufficiently ambitious in nature. In line with UNCLOS, these measures will need to be systemically integrated with the wider international environmental law framework and will need to be informed by the relevant goals under the UN Climate Change regime. UNCLOS offers the basic rules, the necessary structure and flexibility to deal with today's environmental problems, including GHG emission from ships, but it is up to the international community to make use of this flexibility and to fulfil common and individual obligations under UNCLOS to develop and then enforce adequate rules and standards. Only in this way can an effective regime for GHG emissions reduction in shipping be established and the rule of law truly be allowed to prevail.