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Intercontinental shipping in the European Union emissions trading system: A 'fifty–fifty' alignment with the law of the sea and international climate law?

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Abstract

The European Commission has proposed to extend the European Union (EU) emissions trading system to 50% of the carbon dioxide emissions from intercontinental maritime voyages that start or end at European ports. Yet, it remains unclear why this 'fifty–fifty' scope was selected and whether it is compatible with international law. This article disentangles the proposal's rationale and maps the EU's jurisdictional possibilities and limitations from the perspective of the law of the sea and international climate law. The findings suggest that, although there are sufficient jurisdictional grounds for implementing the extended emissions trading system as a port entry condition, the applicable legal limitations require certain amendments to the EU proposal. Concrete legal suggestions are formulated to increase alignment with the enforcement restrictions of the United Nations Convention on the Law of the Sea and with the principle of common but differentiated responsibilities and respective capabilities in international climate law, while complying with the obligations of nondiscrimination, good faith, and nonabuse of rights.

1 | INTRODUCTION

Despite its significant and growing contribution to climate change, international maritime transport remains without an effective regulatory framework for reducing greenhouse gas (GHG) emissions.[1] In July 2021, the European Union (EU) initiated a legislative process to include a share of international shipping in its emissions trading system (ETS).[2] Under the proposal, the EU ETS would impose an emissions cap and charge a market-based carbon price related to 50 percent of the GHG emissions from any intercontinental voyage that starts or ends at a European port.[3] All large commercial vessels that call at European ports will be required to pay for their emissions, regardless of their flag.[4]

Certain stakeholders in the international maritime sector reacted negatively to this EU proposal.[5] They argued, among others, that it

[1]Shipping emissions represent approximately 3 percent of global anthropogenic GHG emissions and are projected to increase significantly by 2050. International Maritime Organization (IMO), 'Fourth IMO GHG Study 2020' (IMO 2021) 1, 3.

[2]Commission (EU) 'Proposal for a Directive of the European Parliament and of the Council Amending Directive 2003/87/EC Establishing a System for Greenhouse Gas Emission Allowance Trading within the Union, Decision (EU) 2015/1814 and Regulation (EU) 2015/757' (Communication) COM(2021) 551 final, 14 July 2021.

[3]ibid art 1(5). In the present article, the term 'European' narrowly refers to the European Economic Area (EEA), which consists of the 27 EU Member States, Norway, Iceland, and Liechtenstein. The term 'intercontinental' refers to voyages between European and non-European ports.

[4]ibid Annex(c)(vii).

[5]See, for example, R Suda, 'Japan Opposes EU's Plan to Include Shipping in ETS' (Argus Media, 7 June 2021) <https://www.argusmedia.com/en/news/2222131-japan-opposes-eus-plan-to-include-shipping-in-ets>; M Hand, 'EU Emissions Trading for Shipping Highlights Europe and Global Shipowner Divide' (Seatrade Maritime, 15 July 2021) <https://www.seatrade-maritime.com/environmental/eu-emissions-trading-shipping-highlights-europe-and-global-shipowner-divide>.

represents an overreaching 'unilateral' measure, which undermines efforts at the International Maritime Organization (IMO) towards the adoption of a globally applicable market-based instrument for the reduction of maritime emissions.[6] This debate brings up memories from the early 2010s, when the EU attempted to extend the EU ETS to (100 percent of the) carbon emissions from intercontinental flights departing from or arriving at European airports. Its jurisdiction was contested by several countries, including the United States and China, and eventually, the scope of the scheme was temporarily limited to intra-European flights only.[7]

In its proposal to include maritime transport into the EU ETS, the European Commission justified its regulatory initiative based on the fact that existing regulations for shipping, including energy efficiency measures adopted by the IMO, are inadequate for reducing maritime emissions in light of international climate goals.[8] Surprisingly, despite the possible jurisdictional tensions, the Commission did not assess the compatibility of the envisaged maritime ETS with international law in its Impact Assessment accompanying the proposal. Although earlier studies examined potential legal barriers to the theoretical prospect of including international shipping in the EU ETS, with deviating conclusions,[9] the feasibility of the proposed "fifty–fifty" scope has hardly been analysed from the perspective of international law.[10]

This article aims to fill this gap by mapping the jurisdictional possibilities and limitations for the endeavour, with a focus on two pertinent branches of international law: (i) the law of the sea and (ii) international climate law. In this analysis, the legal-dogmatic method is complemented with broader insights from the law and economics literature on maritime and aviation emissions. Suggestions are then formulated with a view to improving the alignment of the proposed maritime EU ETS with the identified legal limitations. This exercise is also an opportunity to further clarify and, where possible, reconcile the interaction between the principle of nondiscrimination and the common but differentiated responsibilities and respective capabilities (CBDR-RC) principle. Mediating the possible friction between the aforementioned norms was characterized as a "priority" for future research by Wu and others, who conducted a systematic literature review on maritime emissions trading.[11]

The article is structured as follows. Section 2 briefly describes the envisaged design of the European trading scheme for maritime transport and disentangles the rationale behind the 'fifty–fifty' scope as proposed by the Commission. Sections 3 and 4 analyse the proposed ETS extension based on the jurisdictional possibilities and limitations raised by the law of the sea and international climate law, respectively. Section 5 then explores the interaction between the identified limitations and makes concrete legal suggestions for aligning the proposed scheme with both branches of international law. Section 6 concludes.

2 | THE PROPOSED SCOPE FOR EU MARITIME EMISSIONS TRADING

The EU ETS, often characterized as a 'cornerstone' of European climate policy, is a market-based instrument that aims to 'promote reductions of greenhouse gas emissions in a cost-effective and economically efficient manner'.[12] It does so by obliging companies to cover their annual GHG emissions with a corresponding number of tradable permits (allowances).[13] By steadily reducing the number of new allowances issued each year, the EU ETS imposes an absolute declining cap on the total emissions under its scope.[14] Currently, the scheme is on course to achieve a 51% reduction of GHG emissions by 2030 (compared with 2005) from its covered sectors, namely, electricity and heat producers, energy-intensive industries, and airlines performing flights within the European Economic Area (EEA).[15]

A necessary first step before the intended inclusion of shipping in the EU ETS was the collection of reliable data on GHG emissions from maritime transport.[16] This was achieved with the introduction of the EU Monitoring, Reporting, and Verification (MRV) Shipping Regulation, which obliges shipping companies to report the carbon dioxide (CO_2) emissions of their ships to the Commission on an annual basis.[17] The MRV Regulation applies to all large merchant vessels that stop at EEA ports 'to load or unload cargo or to embark or disembark passengers'.[18] Its geographical scope is the same as the one unsuccessfully proposed for intercontinental aviation a decade before: As of 2018, shipping companies have been reporting the full range (100 percent)

[6]Throughout the present article, the term 'unilateral' is purposefully avoided. In the context of the climate change regime complex, the term 'minilateral' might be more fitting to describe a regional measure considered by 30 sovereign (EEA) States. See K Kulovesi, 'Addressing Sectoral Emissions Outside the United Nations Framework Convention on Climate Change: What Roles for Multilateralism, Minilateralism and Unilateralism?' (2012) 21 Review of European Community and International Environmental Law 193, 202.

[7]B Martinez Romera and H van Asselt, 'The International Regulation of Aviation Emissions: Putting Differential Treatment into Practice' (2015) 27 Journal of Environmental Law 259, 275. Initially with the 'stop-the-clock' Decision 377/2013, and subsequently with Regulations 421/2014 and 2017/2392, the EU has been deferring the application of the scheme to extra-European flights until 31 December 2023.

[8]Commission (EU) (n 2) Explanatory Memorandum 5. For an overview of the relevant IMO measures, see L Finska and H Ringbom, 'Regulation of GHGs from Ships: On the Available Discretion for Regulatory Solutions in a European and Finnish Perspective (BALEX 2022) 8–15.

[9]A literature review outlining contrasting views on the issue was conducted by G Dominioni, D Heine and B Martinez Romera, 'Regional Carbon Pricing for International Maritime Transport: Challenges and Opportunities for Global Geographical Coverage' (2018) 12 Carbon and Climate Law Review 140, 144–147.

[10]For an appraisal of the Commission proposal from a law of the sea perspective, see Finska and Ringbom (n 8) 46–51.

[11]M Wu et al, 'Carbon Emission Trading Scheme in the Shipping Sector: Drivers, Challenges, and Impacts' (2022) 138 Marine Policy 104989, 10–11.

[12]Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC [2003] OJ L275/32 (EU ETS Directive) art 1.

[13]ibid art 3(a). An allowance corresponds to 1 tonne of CO_2 or equivalent GHG emissions.

[14]See generally E Woerdman, 'EU Emissions Trading System' in E Woerdman, M Roggenkamp and M Holwerda (eds), *Essential EU Climate Law* (2nd edn, Edward Elgar 2021) 45.

[15]Commission (EU) (n 2) Explanatory Memorandum 1; EU ETS Directive (n 12) Annex I.

[16]Commission (EU) 'Integrating Maritime Transport Emissions in the EU's Greenhouse Gas Reduction Policies' (Communication) COM(2013) 479 final, 28 June 2013, 5.

[17]Regulation 2015/757 of the European Parliament and of the Council of 29 April 2015 on the monitoring, reporting and verification of carbon dioxide emissions from maritime transport, and amending Directive 2009/16/EC [2015] OJ L123/55 (MRV Shipping Regulation) art 11(1).

[18]ibid arts 2 and 3(b).

of their CO_2 emissions for intra-European voyages (between and within EEA ports), as well as for extra-European voyages (between EEA ports and non-EEA ports).[19]

The proposed maritime EU ETS mirrors the MRV Shipping Regulation in terms of covered GHGs (currently only CO_2), ship types, and inclusion thresholds,[20] but the 'geographical scope' of the ETS is narrower than the MRV Regulation's with regard to intercontinental voyages.[21] Shipping companies will be required to surrender allowances for all of their intra-European GHG emissions but only for half of their GHG emissions from extra-European voyages.[22] This proposed 'fifty–fifty' rule means that a company operating a ship that transports containers from New York to Hamburg (or vice versa) would have to surrender only 50 EU ETS allowances for every 100 tonnes of CO_2 or equivalent GHGs emitted in that voyage. But why did the Commission opt for a narrower geographical scope for the maritime ETS, and how did it justify this differentiation compared with the MRV Regulation?

Unfortunately, the Commission's voluminous Impact Assessment does not provide much clarity in that regard. To the contrary, it demonstrates that a full coverage of intercontinental voyages would provide certain important environmental, economic, and political advantages compared with the 'fifty–fifty' approach. First, the full scope would result in greater overall emissions reductions of 59 compared with 45 million tonnes of CO_2 by 2030.[23] Second, it would generate an additional 1.2 billion Euros in revenues from auctioning allowances compared with the 'fifty–fifty' scope by 2030.[24] Third, the broader the scope, the stronger the political–economic incentives for an agreement on a market-based emissions reduction measure with global coverage at the IMO.[25] Lastly, the majority (65 percent) of the respondents to the Commission's open public consultation indicated their preference for a full geographical scope.[26]

Considering the emission reduction and economic objectives of the EU ETS, the above suggests that a full scope would be more fit for purpose than the one proposed.[27] Nevertheless, the Commission opted for a narrower 'fifty–fifty' coverage on the basis of a political decision made after an opaque "implicit weighting of the different criteria."[28] It did not define these decision-making criteria but only characterized the 'fifty–fifty' scope as 'a practical way to solve the issue of Common but Differentiated Responsibilities and Capabilities', which would allow non-European coastal States 'to decide on appropriate action in respect of the other (50%) share of emissions'.[29] Although the Commission did not elaborate this statement any further, the proposed 'fifty–fifty' scope for shipping appears as an effort to avert international political backlash, similar to what happened with aviation. This political risk was highlighted in the public consultation for the EU ETS revision.[30] It was also implied in the Impact Assessment for the proposed FuelEU Maritime Regulation, which is envisaged to apply in parallel with the ETS and aims to progressively decrease the GHG intensity of maritime fuels combusted in voyages from and to European ports.[31] Similarly to the EU ETS, the FuelEU Maritime proposal covers 'a half of the energy used' in intercontinental voyages, with the acknowledgement that this narrower scope 'could be easier to accept by third-country operators, but would have considerably lower impact'.[32]

One would expect the Commission to comprehensively justify its choice to deviate from the most suitable option for achieving the given policy objectives. Under EU law, suitability is a component of the proportionality principle, with regard to which the Commission is obliged to justify its draft legislative acts.[33] In practice, however, the Court of Justice of the European Union (CJEU) traditionally recognizes the broad discretion of EU institutions when making legislative choices in complex policy areas and confines itself to reviewing only whether the proposed measure is 'manifestly inappropriate'.[34] It seems unlikely that the proposed scope for the maritime ETS would fail such a high-threshold judicial test.[35] Yet, within this sensitive political context, an explicit justification of the proposed scope based on an analysis of its compatibility with international law could have increased legal certainty, by placing (the rule of) international law at the heart of the political discussions between the EU and its global partners. Most importantly, the EU institutions are obliged to exercise their regulatory powers within the limitations that international law imposes.[36] In its brief analysis of the proposal's legal feasibility, the

[19] ibid art 2(1).
[20] Commission (EU) (n 2) Annex (c)(vii). Vessels with cargo-carrying capacity below 5000 gross tonnes, as well as certain ship types, such as warships and fishing vessels, are excluded.
[21] The term 'geographical scope', also used by the Commission and in the literature, is a simplification. What is narrower in the maritime ETS proposal is not the actual geographical location of emissions from intercontinental voyages but the annual obligation to cover them with allowances.
[22] Commission (EU) (n 2) art 1(5).
[23] Commission (EU) 'Impact Assessment Report Accompanying the Proposal for a Directive of the European Parliament and of the Council Amending Directive 2003/87/EC Establishing a System for Greenhouse Gas Emission Allowance Trading within the Union, Decision (EU) 2015/1814 and Regulation (EU) 2015/757' (Staff Working Document) SWD(2021) 601 final, 14 July 2021, Part 1, 89.
[24] ibid 105.
[25] ibid Part 4, 44–45.
[26] ibid Part 1, 150.
[27] EU ETS Directive (n 12) art 1.
[28] Commission (EU) (n 23) Part 1, 155, 158.
[29] Commission (EU) (n 2) recital 17. The merits of this justification are examined in Section 5.
[30] Commission (EU) (n 23) Part 1, 150, 108. The 'fifty–fifty' scope was suggested by the European Federation for Transport and Environment (T&E) as a more politically viable option. See T&E, 'Maritime ETS Public Consultation – Detailed T&E Briefing on the Design Options' (2020) 6–7. See, similarly N Wissner et al, 'Integration of Maritime Transport in the EU Emissions Trading System' (Öko-Institut 2021) 14.
[31] Commission (EU) 'Proposal for a Regulation of the European Parliament and of the Council on the use of renewable and low-carbon fuels in maritime transport and amending Directive 2009/16/EC' (Communication) COM(2021) 562 final, 14 July 2021.
[32] Commission (EU) 'Impact Assessment Report Accompanying the Proposal for a Regulation of the European Parliament and of the Council on the use of renewable and low-carbon fuels in maritime transport and amending Directive 2009/16/EC' (Staff Working Document) SWD (2021) 635 final, 14 July 2021, 44. See also Finska and Ringbom (n 8) 47.
[33] Consolidated Version of the Treaty on European Union [2016] OJ C202/13 (TEU) art 5; Consolidated Version of the Treaty on the Functioning of the European Union [2016] OJ C202/47 (TFEU) Protocol No 2 art 5. See T Harbo, 'The Function of the Proportionality Principle in EU Law' (2010) 16 European Law Journal 158, 165, 179–180.
[34] See Case C-189/01, *Jippes*, ECLI:EU:C:2001:420 para 83; Case C-310/04, *Spain v Council*, ECLI:EU:C:2006:521 para 99, and case law cited therein. See also Harbo (n 33) 177–178; W Sauter, 'Proportionality in EU Law: A Balancing Act?' (2013) 15 Cambridge Yearbook of European Legal Studies 439, 449–452.
[35] *Spain v Council* (n 34) is one of the few instances when an EU act was annulled based on a 'manifest inappropriateness' test. However, unlike the contested economic assessment in *Spain v Council*, jurisdictional decisions like those involved in the 'fifty–fifty' ETS proposal can have political dimensions that go beyond an exhaustive set of 'relevant factors'. See also Case C-127/07, *Arcelor*, ECLI:EU:C:2008:728 paras 57–60.
[36] TEU (n 33) art 3(5); TFEU (n 33) art 216(2); Case C-286/90, *Poulsen and Diva Navigation*, ECLI:EU:C:1992:453 para 9.

Commission focused exclusively on EU law rather than on international law.[37]

This gap, therefore, necessitates an analysis of the possibilities and limitations placed on the proposed 'fifty–fifty' geographical scope by international law. Two branches of international law are directly relevant for this assessment. Because the proposed EU regulation applies to international maritime activities, it is necessary to assess its compatibility with the law of the sea. At the same time, because the object and purpose of the proposal is the reduction of international GHG emissions, the EU's jurisdiction should also be analysed from the perspective of international climate law. Previous publications examined legal barriers to a theoretical extension of the EU ETS to 100 percent of intercontinental shipping emissions, by focusing mainly on the law of the sea and international trade law.[38] Although the latter is also (indirectly) relevant, it is excluded from the focus of the present article, as it is widely accepted in the literature that even a maritime EU ETS with a full geographical scope is unlikely to be in conflict with the World Trade Organization (WTO) agreements.[39]

3 | POSSIBILITIES AND LIMITATIONS UNDER THE LAW OF THE SEA

3.1 | Possibilities

The United Nations Convention on the Law of the Sea (UNCLOS) has been ratified both by the EU and by its Member States ('mixed agreement'), and most of its provisions reflect customary international law.[40] Often identified as a 'constitution for the oceans', UNCLOS delimits States' maritime jurisdiction and, hence, their capacity to prescribe and enforce their laws upon different actors in different areas of the sea.[41] Because this capacity ultimately stems from the principle of sovereignty,[42] it is severely limited with regard to activities that take place on the high seas, which is a maritime area that is subject to no State's sovereignty.[43] By contrast, UNCLOS allows States to exercise broad jurisdictional powers over their ports and internal waters, which, similarly to land, are subject to the coastal State's full sovereignty.[44]

As a result, it is widely accepted that customary international law does not recognize a general right of vessels to access ports.[45] States have a broad right to set conditions for entry into their harbours. According to UNCLOS Article 25(2):

> In the case of ships proceeding to internal waters or a call at a port facility outside internal waters, the coastal State also has the right to take the necessary steps to prevent any breach of the conditions to which admission of those ships to internal waters or such a call is subject.[46]

Therefore, by deciding to call at a port, ships voluntarily subject themselves to the applicable conditions for entry.[47]

There are many examples of national or regional environmental regulations imposing more stringent port entry requirements than agreed IMO standards.[48] For instance, following the disastrous Exxon Valdez (1989) and Prestige (2002) oil spills, the United States and the European Community, respectively, restricted single hull tankers from accessing their ports, regardless of flag.[49] Nevertheless, such port entry requirements have a fundamental difference to those that the maritime EU ETS imposes. The former refers to a vessel feature (hull construction) that remains static throughout a ship's journey, whereas the latter refer to conduct (emission of GHGs) that changes over time based on ship characteristics, operational choices, and external conditions. Port State jurisdiction for prescribing 'static' requirements, such as double hulls, is relatively easy to justify, as a noncompliant ship is in (continuous) violation of the prescribed conditions at the moment it enters port.[50] Conversely, the application of 'nonstatic' requirements, such as regulations on GHG emissions, may need to be geographically

[37]Commission (EU) (n 23) Part 1, 150; Part 2, 145.

[38]See M Kremlis, 'The Inclusion of the Shipping Industry in the EU ETS' (2010) 19 European Energy and Environmental Law Review 145, 152–155; T Bäuerle et al, 'Integration of Marine Transport into the European Emissions Trading System' (Umweltbundesamt 2010) 88–94; H Ringbom, 'Global Problem—Regional Solution? International Law Reflections on an EU CO_2 Emissions Trading Scheme for Ships' (2011) 26 International Journal of Marine and Coastal Law 613; C Hermeling et al, 'Sailing into a Dilemma: An Economic and Legal Analysis of an EU Trading Scheme for Maritime Emissions' (2015) 78 Transportation Research Part A: Policy and Practice 34, 42; NL Dobson and C Ryngaert, 'Provocative Climate Protection: EU "Extraterritorial" Regulation of Maritime Emissions' (2017) 66 International and Comparative Law Quarterly 295, 298. The international climate law dimension has received more limited attention: see DP Rodriguez, 'The Inclusion of Shipping in the EU Emission Trading Scheme: A Legal Analysis in the Light of Public International Law' (2012) 3 Revista Catalana de Dret Ambiental 1, 6–16; D Heine et al, 'A Regional Solution for a Transnational Problem? A Mechanism to Unilaterally Tax Maritime Emissions While Satisfying Extraterritoriality, Tax Competition and Political Constraints' (Rotterdam Institute of Law and Economics 2015) 24–44.

[39]Even if the scheme were found to be inconsistent with a core provision of the General Agreement on Tariffs and Trade 1994 (adopted 15 April 1994, entered into force 1 January 1995) 1867 UNTS 187 (GATT), such as Articles I, III, V, or XI, it could likely be justified under Article XX(b) or (g). See Kremlis (n 38) 153; Bäuerle et al (n 38) 93; Ringbom (n 38) 636–637; Dobson and Ryngaert (n 38) 315–325; Rodriguez (n 38) 36–37.

[40]United Nations Convention on the Law of the Sea (adopted 10 December 1982, entered into force 16 November 1994) 1833 UNTS 3 (UNCLOS). Pursuant to UNCLOS art 1(2)(2) and Annex IX, art 4(3), the rights and obligations of States under the treaty apply mutatis mutandis to the EU. See E Paasivirta, 'The European Union and the United Nations Convention on the Law of the Sea' (2015) 38 Fordham International Law Journal 1045, 1046–1050.

[41]M Gavouneli, *Functional Jurisdiction in the Law of the Sea* (Martinus Nijhoff 2007) 1–7.

[42]ibid 6.

[43]UNCLOS (n 40) arts 87, 89, and 92. On the high seas, each ship is subject to the exclusive jurisdiction of the flag State.

[44]ibid arts 25(2) and 211(3); *Case concerning Military and Paramilitary Activities in and against Nicaragua (Nicaragua v United States of America)* (Judgment) [1984] ICJ Rep 392, para 213. See EJ Molenaar, 'Port State Jurisdiction: Toward Comprehensive, Mandatory and Global Coverage' (2007) 38 Ocean Development and International Law 225, 227.

[45]AV Lowe, 'The Right of Entry into Maritime Ports in International Law' (1977) 14 San Diego Law Review 597, 598; L De La Fayette, 'Access to Ports in International Law' (1996) 11 International Journal of Marine and Coastal Law 1; C Ryngaert and H Ringbom, 'Introduction: Port State Jurisdiction: Challenges and Potential' (2016) 31 International Journal of Marine and Coastal Law 379, 382.

[46]UNCLOS (n 40) art 25(2).

[47]JR Crawford, *Brownlie's Principles of Public International Law* (9th edn, Oxford University Press 2019) 449; Gavouneli (n 41) 44.

[48]For specific examples, see Molenaar (n 44) 231–232; Rodriguez (n 38) 40–41.

[49]A Boyle, 'EU Unilateralism and the Law of the Sea' (2006) 21 International Journal of Marine and Coastal Law 15, 24.

[50]See Molenaar (n 44) 230, and Ringbom (n 38) 621–622, who highlights the paradoxical nature of the fact that static requirements are easier to justify, despite that they are often more "intrusive" than nonstatic ones.

defined. This can have jurisdictional implications, as UNCLOS apportions jurisdiction based on maritime zones.

Before examining these possible implications, a distinction should be made between the prescriptive and the enforcement elements of State jurisdiction. Prescriptive jurisdiction refers to 'the authority of a state to make law applicable to persons, property, or conduct', whereas enforcement jurisdiction refers to "the authority of a state to exercise its power to compel compliance with law."[51] Because it is clear that, in principle, States have a right to enforce their laws within their ports, what merits further attention here is the permissible geographical radius of *prescriptive* port State jurisdiction.[52] For instance, can a State's nonstatic port entry requirements relate to ships' conduct on the high seas? This is a relevant question, as the extended EU ETS would partially cover emissions that occur beyond European territorial waters.

UNCLOS clearly allows States to prescribe rules with regard to conduct in their internal waters, which are jurisdictionally assimilated to land, and in their territorial sea, without prejudice to the right of innocent passage.[53] From the exclusive economic zone (EEZ) and beyond, UNCLOS deals with prescriptive port State jurisdiction in connection to enforcement. For the purpose of in-port investigations and proceedings, it allows States to prescribe laws in the EEZ for the prevention, reduction, and control of vessel-source pollution, giving effect to 'generally accepted international rules and standards established through the competent international organization or general diplomatic conference' (hereafter, 'international rules').[54] Beyond the EEZ, Article 218 UNCLOS allows States to conduct in-port investigations and proceedings for discharges from vessels on the high seas, and under certain circumstances even in maritime zones of other States, as long as these discharges breach international rules.[55]

One possible interpretation of these provisions could be that they preclude *a contrario* States from relating their port entry requirements to conduct beyond their territorial sea, unless these requirements reflect international rules.[56] However, this approach seems to be at odds with Articles 25(2) and 211(3) UNCLOS, which broadly allow the prescription of port entry conditions related to vessel-source pollution without a geographical restriction, in light of States' sovereignty over their ports.[57] This interpretation also appears to collide with Article 230(1) UNCLOS, according to which '[m]onetary penalties only may be imposed with respect to violations of *national laws and regulations or* applicable international rules … committed by foreign vessels *beyond the territorial sea*'.[58]

A more consistent approach would be that UNCLOS only qualifies certain intrusive forms of in-port enforcement (namely, 'investigations' and 'proceedings') with the prescriptive requirement of 'international rules' in relation to conduct beyond the territorial sea. In other words, UNCLOS does not preclude States from establishing port entry conditions in relation to ships' conduct beyond their territorial sea, but it prevents them from undertaking in-port investigations and instituting proceedings related to extraterritorial vessel-source pollution, unless a breach of international rules is suspected.[59] Accordingly, States retain their broad (yet not limitless) right to altogether refuse port access to ships that do not comply with the prescribed entry conditions. This is perhaps counter-intuitive, as a denial of entry can have more onerous economic implications for a shipping company than investigations and proceedings.[60] However, a denial of entry can be justified by the fact that it does not take away a benefit that ships are entitled to under international law, whereas investigations and proceedings require stronger justification grounds, as they can lead to punitive actions, such as fines, cargo confiscation, or even vessel detention.[61]

As a result, the UNCLOS framework does not exhaustively determine the permissible reach of extraterritorial prescriptive port state jurisdiction. Therefore, in the absence of a *lex specialis*, the 'fifty–fifty' scope of the EU ETS needs to be assessed in light of general international law, which complements UNCLOS,[62] and specifically in light of customary international law of State jurisdiction.[63] This legal assessment is carried out in Section 5.1. In addition to possible customary jurisdictional constraints, UNCLOS itself also qualifies the broad right of States to regulate entry into their harbours in several ways, which are analysed below.

3.2 | Limitations

The main limitations to the exercise of port State jurisdiction identified in UNCLOS are the requirements of nondiscrimination, good faith, and nonabuse of rights.[64] Moreover, as discussed above, the Convention also imposes specific restrictions regarding in-port enforcement, in light of which the envisaged enforcement framework of the EU ETS needs to be assessed. In addition to these UNCLOS limitations, a State can always self-limit its port State jurisdiction

[51] See MN Shaw, *International Law* (8th edn, Cambridge University Press 2017) 483; Crawford (n 47) 440. The definitions above are excerpted from American Law Institute, *Restatement (Fourth) of the Foreign Relations Law of the United States* (American Law Institute Publishers 2018) Sections 101(a) and 101(c).

[52] G De Baere and C Ryngaert, 'The ECJ's Judgment in Air Transport Association of America and the International Legal Context of the EU's Climate Change Policy' (2013) 18 European Foreign Affairs Review 389, 406.

[53] UNCLOS (n 40) arts 21(2), 24(1), and 211(4). Ringbom (n 38) 620, 623; TL McDorman, 'Port State Enforcement: A Comment on Article 218 of the 1982 Law of the Sea Convention' (1997) 28 Journal of Maritime Law and Commerce 305, 308.

[54] UNCLOS (n 40) arts 56(1)(b)(iii), 211(5), and 220(1), in light of 211(6). Although the IMO is the competent organization for many aspects of international shipping, it is not excluded that other multilateral fora can also develop international rules in specific policy areas. See H Ringbom, *The EU Maritime Safety Policy and International Law* (Brill/Nijhoff 2008) 397–398.

[55] For a comprehensive analysis of this provision, see McDorman (n 53) 318–322.

[56] Hermeling (n 38) 44; Ringbom (n 38) 624–625. This would mean that a flag-neutral EU ETS would have to be geographically limited to European internal waters and territorial seas, unless approved by the IMO. A similar argumentation could be developed on the basis of UNCLOS (n 40) arts 212 and 222 on pollution from or through the atmosphere.

[57] Ringbom (n 38) 625; Molenaar (n 44) 230, 236; McDorman (n 53) 311.

[58] UNCLOS (n 40) art 230(1) (emphases added).

[59] This approach is in line with the wording of UNCLOS (n 40) arts 211(4)–(5) and 220(2)–(3). It also appears to be consistent with the approaches formulated by Molenaar (n 44) 237 and Ringbom (n 38) 626–627. See also MH Nordquist (ed), *United Nations Convention on the Law of the Sea 1982, A Commentary*, Volume IV (Martinus Nijhoff 1991) (UNCLOS Commentary) 260–272.

[60] Ryngaert and Ringbom (n 45) 385.

[61] Molenaar (n 44) 229.

[62] See UNCLOS (n 40) preamble and art 293(1).

[63] Ringbom (n 38) 628–629; Dobson and Ryngaert (n 38) 298–299.

[64] Molenaar (n 44) 228; Ringbom (n 38) 621; Dobson and Ryngaert (n 38) 314, 330.

further with regard to specific subject matters, by undertaking bilateral or multilateral treaty commitments.[65]

3.2.1 | Nondiscrimination

Several UNCLOS provisions impose an obligation on States not to discriminate, neither in form nor in fact, against foreign ships.[66] This prohibition of nationality-based discrimination in the law of the sea serves the historical need of global shipping for a regulatory environment that facilitates freedom of communications and unhindered trade.[67] The proposed design of the maritime EU ETS clearly complies with the nondiscrimination obligation, as it applies equally to all ships, regardless of their country of registration (flag) or the nationality of their owners, managers, operators, or charterers.[68] Also, the different emissions coverage between intra-European ('full-scope') and intercontinental ('half-scope') voyages does not constitute discrimination, as the differentiation is not based on nationality but on route, and applies equally to all vessels.[69] Similarly, the fact that the EU ETS will only apply to merchant ships with cargo-carrying capacity larger than 5000 gross tonnes does not constitute discrimination, as the differentiation is based on objective criteria and predefined thresholds that apply in a uniform, flag-neutral manner.[70]

3.2.2 | Good faith

The duty of States to fulfil their obligations in good faith is enshrined in Article 300 of UNCLOS. Being a general principle of international law, the meaning of good faith is elusive and largely context dependent.[71] In the case of port entry requirements for the prevention, reduction, and control of pollution of the marine environment, one manifestation of the good faith principle is the obligation of port States to 'give due publicity to such requirements' and 'communicate them to the competent international organization'.[72] Thus, upon the adoption of the maritime EU ETS and its transposition into national law, the EU Member States and the EEA States participating in the scheme should duly publish the applicable port entry requirements and communicate them to the IMO. Because the EU itself is not a party to the IMO Convention, the EU Member States are free to determine how they will carry out this communication.[73] For instance, they can mandate the Member State that holds the rotating Presidency of the Council to submit the communication jointly on their behalf, 'in the interest of the EU'.[74]

Moreover, in the context of global concerns of shared responsibility like international maritime emissions,[75] the good faith principle can take the form of a requirement to engage in *bona fide* multilateral negotiations towards an effective regulatory solution at a global level, before implementing regional or unilateral measures.[76] It would be hard to dispute the compliance of the EU's regulatory initiative with this requirement. For years, the EU has been leading negotiating efforts for a market-based measure with global coverage at the IMO and has committed to continue doing so.[77] Instigating political momentum for such an emissions reduction mechanism for global shipping is actually among the explicit policy goals of the EU ETS expansion.[78] To that end, the latest legislative proposal contains a review clause that obliges the Commission to consider amending the EU ETS if a global market-based measure is eventually adopted by the IMO.[79] After all, even if 100 percent of extra-EEA voyages were included in the EU ETS, still more than 85 percent of global shipping emissions would remain unpriced.[80] From this perspective, the EU should continue making good faith efforts for the adoption of climate regulations within the IMO, as its duty to cooperate with the international community has not been exhausted by the fact that, thus far, measures agreed have been inadequate.[81] This is particularly pertinent in a period when multilateralism is facing deepening challenges.[82]

3.2.3 | Nonabuse of rights

Article 300 of UNCLOS also stipulates that States 'shall exercise the rights, jurisdictions and freedoms recognized in this Convention in a manner which would not constitute an abuse of rights'.[83] The prohibition of abuse of rights entails a balancing of interests in cases of competing jurisdictions, under the premise that a State should exercise its sovereignty and sovereign rights in a proportionate and reasonable

[65]Ringbom (n 38) 621.
[66]UNCLOS (n 40) art 227 but also arts 24(1)(b), 25(3), 42(2), 52(2), and 234.
[67]See Convention and Statute of the International Regime of Maritime Ports (adopted 9 December 1923, entered into force 26 July 1926) 58 LNTS 285, preamble.
[68]Commission (EU) (n 2) arts 1(2)(d) and 1(5).
[69]See, by analogy, J Scott and L Rajamani, 'EU Climate Change Unilateralism' (2012) 23 European Journal of International Law 469, 490.
[70]See Commission (EU) (n 23) Part 1, 51.
[71]S Reinhold, 'Good Faith in International Law' (2013) 2 UCL Journal of Law and Jurisprudence 40, 61.
[72]UNCLOS (n 40) art 211(3). Regarding the definition of the 'competent international organization', see n 54.
[73]Case C-161/20, *Commission v Council*, ECLI:EU:C:2022:260 paras 57 and 77.
[74]ibid para 77.
[75]J Peel, 'Climate Change' in A Nollkaemper and I Plakokefalos (eds), *The Practice of Shared Responsibility in International Law* (Cambridge University Press 2017) 1009, 1010.
[76]See International Law Association, 'Resolution 2/2014, Declaration of Legal Principles Relating to Climate Change' (adopted 11 April 2014) Annex: Draft Articles (ILA Draft Articles) art 9(2). See also Dobson and Ryngaert (n 38) 331.
[77]J van Leeuwen and K Kern, 'The External Dimension of European Union Marine Governance: Institutional Interplay between the EU and the International Maritime Organization' (2013) 13 Global Environmental Politics 69, 77–83.
[78]Commission (EU) (n 2) Explanatory Memorandum 8; Commission (EU) (n 23) Part 1, 27 and Part 4, 44.
[79]Commission (EU) (n 2) art 1(6) and preamble, recital 18. See also European Parliament, 'Amendments adopted by the European Parliament on 22 June 2022 on the proposal for a directive of the European Parliament and of the Council amending Directive 2003/87/EC', P9_TA(2022)0246, Amendment 503, art 3ge(1).
[80]Commission (EU) '2020 Annual Report on CO_2 Emissions from Maritime Transport' (Staff Working Document) SWD(2021) 228 final, 17 August 2021, 29; IMO (n 1) 1.
[81]See Molenaar (n 44) 226.
[82]See United Nations, 'Secretary-General's Remarks at the Closing of the Seventy-Sixth Session of the United Nations General Assembly' (12 September 2022) <https://www.un.org/sg/en/content/sg/statement/2022-09-12/secretary-generals-remarks-the-closing-of-the-seventy-sixth-session-of-the-united-nations-general-assembly-delivered>.
[83]UNCLOS (n 40) art 300.

manner, so without encroaching upon the sovereignty or sovereign rights of other States.[84]

Such jurisdictional frictions are conceivable between port States and flag States. Next to the right of States to prescribe and enforce port entry conditions, the law of the sea also recognizes the right of all States to exercise exclusive jurisdiction upon ships flying their flag on the high seas, referred to as the flag State principle.[85] Although a portion of the emissions covered by the 'fifty–fifty' scope would indeed occur beyond European territorial waters, this exclusivity of the flag State refers solely to its enforcement (and not to its prescriptive) powers on the high seas.[86] On that basis, even if port entry conditions are related to conduct on the high seas, the flag state principle is not infringed by port State jurisdiction, as the port State does not exercise enforcement powers on the high seas.[87] In recent State practice, this assertion is supported by the fact that the EU MRV Regulation has been implemented without objections since 2018, even though it prescribes conduct (namely, monitoring emissions) on a per-voyage basis in relation to the high seas.[88]

Nevertheless, it has been contended that the EU ETS could effectively impair freedom of navigation, through the exertion of economic pressure on the navigational choices of vessels on the high seas.[89] The authors' argument is not convincing, as it is founded on the presumption that port States are obliged 'not to hamper the free entry into a State's port'.[90] This obligation, however, as demonstrated above, is not recognized by general international law. The EU ETS prescribes neither specific emissions abatement measures nor separate emissions limits for each ship or company. Under the proposed scheme, shipping companies are free to (i) choose from a variety of available operational and technical measures to reduce emissions, (ii) not take any measures and cover their emissions by buying additional allowances instead, purchased at auction or from other companies, and (iii) not call at European ports altogether. Moreover, the ETS imposes an annual financial obligation on the shipping company, rather than on the ship itself, which is fundamentally different from the traditional navigational restraints that UNCLOS aims to safeguard against.[91] In light of the above, the implementation of a system that prices GHG emissions, pursuant to the polluter-pays principle, as a port entry condition cannot be argued to restrict freedom of navigation on the high seas.[92]

3.2.4 | Enforcement restrictions

As analysed in Section 3.1, UNCLOS restricts the enforcement powers of port States in relation to extraterritorial vessel-source pollution. In addition to these restrictions, it also places several general safeguards that aim to moderate jurisdictional tensions between flag States and port States, by preventing the latter from exercising their enforcement powers in an abusive manner.[93] These safeguards range from a requirement to avoid unnecessary delays for foreign vessels during investigations by port authorities[94] to an obligation to promptly notify the flag State concerned about any enforcement measures taken.[95]

Before appraising the enforcement framework of the maritime EU ETS from a law of the sea perspective, it is important to note that all enforcement-related limitations above refer to situations of 'pollution of the marine environment'.[96] The extent to which GHG emissions fall within the UNCLOS definition for 'pollution of the marine environment' is not entirely clear.[97] The treaty was negotiated during the 1970s and early 1980s, when climate change was still far from a prominent point on the international agenda.[98] The enforcement-related provisions agreed upon sought to accommodate the interest of coastal States to protect the marine environment primarily from forms of pollution like oil spills and dumping, while preventing undue interference with the classical navigational rights of flag States.[99] For this reason, it is difficult to assess a market-based climate regulation like the EU ETS through the lens of the UNCLOS enforcement framework.[100] Nevertheless, particularly because the scope of the European scheme includes emissions that occur beyond European territorial waters, the applicable enforcement measures should be chosen carefully, as the type of enforcement action taken is a crucial element for justifying port State jurisdiction with extraterritorial prescriptive elements.[101]

The proposed maritime EU ETS enforcement framework comprises

- a monetary penalty of €100 for each tonne of GHGs emitted without allowance[102];

[84] A Kiss, 'Abuse of Rights' in A Peters and R Wolfrum (eds), *Max Planck Encyclopedia of Public International Law* (online edn, Oxford University Press 2008) <www.mpepil.com> paras 4, 16. See also UNCLOS Commentary (n 59), Volume V, 150–152.

[85] UNCLOS (n 40) art 92.

[86] AN Honniball, 'The Exclusive Jurisdiction of Flag States: A Limitation on Pro-Active Port States?' (2016) 31 International Journal of Marine and Coastal Law 499, 520–521. See also Kremlis (n 38) 153; Ryngaert and Ringbom (n 35) 386; Dobson and Ryngaert (n 38) 314. Nonetheless, there is no consensus among international judges on this issue. See, notably, International Tribunal for the Law of the Sea (ITLOS), *M/V Norstar (Panama v Italy)*, Judgment No. 25 (10 April 2019) para 225, and Joint Dissenting Opinion (para 20) of seven judges.

[87] Honniball (n 86) 509, 529.

[88] MRV Shipping Regulation (n 17) art 19 and Annex 1. Regarding its implementation, see Commission (EU) (n 80).

[89] Hermeling et al (n 38) 44. The authors refer to UNCLOS Article 87(1), by analogy to Article 24(1)(a) on innocent passage.

[90] ibid 43.

[91] See Finska and Ringbom (n 8) 50. See also Section 3.2.4.

[92] See Rio Declaration on Environment and Development in 'Report of the United Nations Conference on Environment and Development' UN Doc A/CONF.151/26 (vol I) (12 August 1992) (Rio Declaration) Principle 16. See also De La Fayette (n 45) 18.

[93] UNCLOS (n 40) art 218 and arts 223–233. Ringbom (n 38) 621.

[94] UNCLOS (n 40) art 226.

[95] ibid art 231. See Molenaar (n 44) 235.

[96] Articles 192–237 comprise Part XII of UNCLOS, titled 'Protection and Preservation of the Marine Environment'.

[97] UNCLOS (n 40) art 1(4). Many authors accept that GHGs are a form of marine pollution. See Y Shi, 'Are Greenhouse Gas Emissions from International Shipping a Type of Marine Pollution?' (2016) 113 Marine Pollution Bulletin 187, 191; Bäuerle et al (n 38) 90–91; Heine et al (n 38) 38; Dobson and Ryngaert (n 38) 313. For more critical approaches, see Ringbom (n 38) 627–628, with regard to the narrower notion of 'discharges'; Hermeling et al (n 38) 43.

[98] See P Jackson, 'From Stockholm to Kyoto: A Brief History of Climate Change' (UN Chronicle, June 2007) <https://www.un.org/en/chronicle/article/stockholm-kyoto-brief-history-climate-change>.

[99] See McDorman (n 53) 306.

[100] Finska and Ringbom (n 8) 49–50.

[101] Molenaar (n 44) 229.

[102] EU ETS Directive (n 12) art 16. The penalty increases according to the European index of consumer prices (hence with inflation).

- publication of the noncompliant companies' names ('naming and shaming')[103]; and
- a ban of entry to European ports ('expulsion order') against all ships under the responsibility of the noncompliant company, if it fails to comply for two or more consecutive years and 'where other enforcement measures have failed to ensure compliance'.[104] This measure of last resort has already been in place to ensure compliance with the EU MRV Shipping Regulation.[105]

Article 230 UNCLOS stipulates that only monetary penalties may be imposed against pollution-related violations.[106] The negotiation history of the provision indicates that it primarily aims to prevent the imposition of prison (criminal) sentences and that it does not preclude port States from taking administrative enforcement actions, such as restrictions of access to ports.[107] Thus, supposing that a failure to surrender EU ETS allowances can be considered to be a pollution-related violation, both the €100 monetary penalty and the ban of entry to port are in principle permissible enforcement measures under the UNCLOS safeguards regime. The latter penalty is without prejudice to situations where foreign ships in distress seek refuge in port—the EU ETS proposal includes a derogation for such situations.[108] In addition, nothing in UNCLOS would appear to restrict States from enacting reputational penalties, such as the publication of noncompliant companies' names.

Nevertheless, as explained in Section 3.1, UNCLOS limits port States' ability to institute proceedings related to extraterritorial vessel-source pollution, unless a breach of international rules is suspected.[109] The notion of 'proceedings' under UNCLOS Part XII is not defined. It, however, appears to encompass a broad set of punitive measures,[110] including vessel detentions, cargo confiscations, but also fines.[111] The EU ETS monetary penalty of €100 per tonne can indeed be considered a punitive enforcement measure (fine) in the above sense and could therefore be problematic from a law of the sea perspective if imposed for emissions that occur beyond the EU's territorial sea. Because the EU ETS will require shipping companies to pay for their in-scope emissions on an annual basis, it would be practically impossible to distinguish territorial from extraterritorial maritime emissions. If a company falls short of their allowance surrendering obligation, the geographical location of the emissions that have not been covered cannot be determined.

In light of the above, it is recommended that international voyages are exempted from the EU ETS monetary penalty of €100 per tonne.[112] This derogation would increase the scheme's compatibility with UNCLOS without compromising the integrity of the EU ETS, as shipping companies would remain obliged to cover their unfulfilled allowance obligations,[113] and the risk of a company-wide ban of access to all European ports appears to be a sufficient deterrent against noncompliance.[114] The issuance of an expulsion order is currently left to the discretion of the Member State of the port of entry,[115] but in the absence of monetary penalties, it could be made compulsory against companies that, for instance, fail to cover their allowance obligations for two consecutive years. Clarifications are also needed as to which ships 'under a company's responsibility' should be denied port access,[116] to safeguard effectiveness and legal certainty, and in light of proportionality considerations, particularly if the expulsion order will assume a central role in the maritime EU ETS enforcement framework.

A relevant final point is that UNCLOS obliges port States to ensure that foreign shipping companies have a right to judicial recourse related to damage or loss arising from unlawful or disproportional penalties imposed.[117] The obligation of Member States to provide such remedies is embedded in the EU's *acquis communautaire*[118] and is also stipulated specifically in relation to the expulsion order in Article 20(4) of the MRV Shipping Regulation. However, because this provision applies to the enforcement of monitoring and reporting, but not necessarily of allowance surrendering obligations, inserting or explicitly referring to it through an amendment to Article 16 of the EU ETS Directive can enhance legal clarity and ensure alignment with this UNCLOS enforcement safeguard.

Yet, no matter how carefully enforcement measures may be chosen, international law does not allow States to enforce legislation that has been enacted in the absence of a legitimate prescriptive jurisdictional basis.[119] Therefore, what remains to be examined is the geographical reach of the EU's prescriptive port State jurisdiction under general international law. Before doing so, it is first necessary to map the applicable legal possibilities and limitations from the perspective of international climate law.

4 | POSSIBILITIES AND LIMITATIONS IN INTERNTIONAL CLIMATE LAW

4.1 | Possibilities

The 1992 United Nations Framework Convention on Climate Change (UNFCCC) declared climate change as a common concern of humankind and set a general obligation for all of its 197 parties to adopt

[103]ibid.
[104]Commission (EU) (n 2) art 1(18)(c). The ban of entry only exempts the Member State whose flag the ship is flying, which must order the ship's detention until the company fulfils its obligations.
[105]EU MRV Shipping Regulation (n 17) art 20(3).
[106]With the exception of a "wilful and serious act of pollution in the territorial sea," which is not applicable in this case.
[107]UNCLOS Commentary (n 59) 363–370. Ringbom (n 53) 335.
[108]Molenaar (n 44) 228. See Commission (EU) (n 2) art 1(18)(c).
[109]UNCLOS (n 40) arts 211(5), 218, and 220.
[110]See ibid art 220, which explicitly names detention as an example, and art 223, which implies judicial proceedings by referring to witnesses and evidence. See also Ringbom (n 54) 282.
[111]Molenaar (n 44) 229.
[112]This is in line with the suggestion of Bäuerle et al (n 38) 96, to "exclude draconian monetary penalties" from the maritime ETS enforcement framework. See also Ringbom (n 38) 626–627; Molenaar (n 44) 238.
[113]EU ETS Directive (n 12) art 16(3).
[114]See Molenaar (n 44) 229; Ryngaert and Ringbom (n 45) 385; De La Fayette (n 45) 8, 15.
[115]Commission (EU) (n 2) art 1(18)(c).
[116]See Finska and Ringbom (n 8) 49.
[117]UNCLOS (n 40) art 232.
[118]See Joint Cases C-6/90 and C-9/90, *Francovich and others*, ECR I-05357 para 37.
[119]Crawford (n 47) 461; McDorman (n 53) 314.

climate mitigation measures, in accordance with their unequal historical responsibilities for the causes of climate change and their differing present economic capabilities to combat it.[120] Although the UNFCCC does not refer explicitly to maritime transport, it stipulates that climate mitigation policies and measures should 'cover all relevant sources' and 'comprise all economic sectors'.[121]

Subsequently, the 1997 Kyoto Protocol obliged countries with developed or transitional economies ('Annex I Parties') to implement climate policies, to individually or collectively achieve binding emissions reduction targets.[122] A specific reference to maritime transport was included in Article 2(2) of the Kyoto Protocol:

> The Parties included in Annex I shall pursue limitation or reduction of emissions of greenhouse gases not controlled by the Montreal Protocol from aviation and marine bunker fuels, working through the International Civil Aviation Organization and the International Maritime Organization, respectively.[123]

This provision can be interpreted as a requirement to cooperate towards a regulatory solution for maritime GHG emissions under the auspices of the IMO, but not as a clause that provides the organization with *exclusive* competence for their regulation, as it imposes an obligation of conduct ('shall pursue') on a limited number of States (Annex I Parties).[124] Nonetheless, Article 2(2) of the Kyoto Protocol may have contributed to the fact that GHG emissions from international shipping have fallen into a prolonged regulatory limbo. Since 1997, discussions at the IMO on climate mitigation measures have been progressing slowly. In the meantime, international maritime GHG emissions have remained unregulated, as they were excluded from national or regional climate inventories and targets.[125] It was not until 2018 that the IMO adopted its Initial GHG Strategy, in which it expressed an ambition 'to reduce the total annual GHG emissions [from international shipping] by at least 50% by 2050 compared to 2008'.[126] However, the International Energy Agency (IEA) projected that, with the existing IMO policies, CO_2 emissions from ships globally will instead increase by around 50 percent by mid-century.[127]

The 2015 Paris Agreement has set the collective goal to keep the rising global average temperature 'to well below 2°C above pre-industrial levels', while pursuing efforts to restrict the temperature increase to 1.5°C.[128] It obliges all parties to define their own GHG reduction targets, referred to as nationally determined contributions (NDCs), and pursue domestic measures to achieve them.[129] The treaty does not specify what sectors should be included in or excluded from the NDCs nor does it contain a special reference to maritime transport (as an earlier draft in support of a sectoral climate target for international shipping did not make it to the final treaty text).[130] However, the Paris Agreement explicitly states that developed countries should lead climate mitigation efforts, by undertaking 'economy-wide absolute emission reduction targets'.[131]

Pursuant to the CBDR-RC principle, the EU must shoulder a large share of global mitigation efforts, due to its significant share of historical *responsibility* for climate change, but also due to its considerable economic, technological, and institutional *capabilities* to combat it.[132] Some legal scholars have even argued that the EU might have a due diligence obligation to exercise its regulatory power in order to put international shipping on a Paris-aligned trajectory.[133] This argument is backed by the preventive and precautionary principles embedded in the UNFCCC framework. These principles permit (or, according to some, necessitate) action to prevent a risk of 'serious or irreversible damage', even when such risk is not scientifically certain.[134] The current state of scientific knowledge indicates with high confidence that human-induced climate change is the main driver of increasingly frequent and intense extreme weather events globally.[135] As international maritime emissions contribute a nonnegligible share to the concentration of GHGs in the atmosphere,[136] the above suggests that international climate law allows (if not obliges) the EU to adopt regulations for their mitigation.

4.2 | Limitations

International climate law also places certain limitations on States' ability to adopt and implement climate mitigation measures. On the basis of a doctrinal analysis of the UNFCCC, the Kyoto Protocol, and the

[120]United Nations Framework Convention on Climate Change (adopted 9 May 1992, entered into force 21 March 1994) 1771 UNTS 107 (UNFCCC) preamble, arts 4(1) and 3(1).
[121]UNFCCC (n 120) art 3(3).
[122]Kyoto Protocol to the United Nations Framework Convention on Climate Change (adopted 11 December 1997, entered into force 16 February 2005) 2303 UNTS 148 (Kyoto Protocol) arts 2 and 3.
[123]ibid art 2(2).
[124]Case C-366/10, *Air Transport Association of America and Others* (ATAA), Opinion of AG Kokott, ECR I-13755 paras 175–188; B Martinez Romera, 'The Paris Agreement and the Regulation of International Bunker Fuels' (2016) 25 Review of European, Comparative and International Environmental Law 215, 217; Rodriguez (n 38) 13; Ringbom (n 38) 639; Heine et al (n 38) 28–30.
[125]HN Psaraftis, 'Market-Based Measures for Greenhouse Gas Emissions from Ships: A Review' (2012) 11 WMU Journal of Maritime Affairs 211; Martinez Romera (n 124) 220–222. See United Nations Environment Programme (UNEP), 'Emissions Gap Report 2021: The Heat Is On' (2021) 25 and 27.
[126]IMO, 'Resolution MEPC.304(72), Initial IMO Strategy on Reduction of GHG Emissions from Ships' MEPC 72/17/Add.1 (13 April 2018) (IMO GHG Strategy) Annex 11, para 3.1.3. A revised Strategy is to be adopted in 2023 (ibid para 7.1).
[127]Compared with 2019. IEA, 'Energy Technology Perspectives 2020' (Revised version, February 2021) 277.
[128]Paris Agreement (adopted 12 December 2015, entered into force 4 November 2016) 55 ILM 743, art 2(1).
[129]ibid art 4(2).
[130]See UNFCCC Ad Hoc Working Group on the Durban Platform for Enhanced Action 'Negotiating Text' UN Doc FCCC/ADP/2015/1 (25 February 2015) paras 40 and 116.5. See Shi (n 97) 187–188.
[131]Paris Agreement (n 128) art 4(4). See also UNFCCC (n 120) arts 3(1) and 4(2)(a).
[132]See C Holz, S Kartha and T Athanasiou, 'Fairly Sharing 1.5: National Fair Shares of a 1.5°C-Compliant Global Mitigation Effort' (2018) 18 International Environmental Agreements: Politics, Law and Economics 117.
[133]Peel (n 75) 1033–1034; Dobson and Ryngaert (n 38) 304–305; ILA Draft Articles (n 76) art 7(A)2.
[134]UNFCCC (n 120) art 3(3); Rio Declaration Principle (n 92) 15. See NL Dobson, 'Exploring the Crystallization of "Climate Change Jurisdiction": A Role for Precaution?' (2018) 8 Climate Law 207, 221–224; Peel (n 75) 1036.
[135]Intergovernmental Panel on Climate Change (IPCC), 'Summary for Policymakers' in V Masson-Delmotte et al (eds), *Climate Change 2021: The Physical Science Basis, Working Group I Contribution to the Sixth Assessment Report* (Cambridge University Press 2021) para A3.
[136]See n 1.

Paris Agreement, the main limitations identified are the requirements of nondiscrimination and nonrestriction of trade, prevention of double counting, and consideration of economic impacts on third countries.

4.2.1 | Nondiscrimination and nonrestriction of trade

The UNFCCC stipulates that '[m]easures taken to combat climate change, including unilateral ones, should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade'.[137] As demonstrated in Section 3.2.1, the proposed maritime EU ETS is nondiscriminatory. Moreover, previous studies have analysed whether the European scheme for shipping could impose unlawful restrictions on international trade and have concluded that even a full coverage of intercontinental maritime emissions would be in line with the WTO framework.[138] Because the narrower the geographical scope, the lower its impact on international trade is projected to be,[139] the 'fifty–fifty' scope is thus unlikely to constitute a means of unlawful trade restriction.

4.2.2 | Prevention of double counting

When accounting for their NDCs, countries must ensure that double counting of emissions reductions is avoided.[140] In the case of international maritime emissions, double counting could occur if regional market-based measures, such as the EU ETS, overlap with market-based measures implemented in the future by other countries, regions, or the IMO.[141] However, it is technically feasible to prevent double counting through international coordination and the establishment of transparent crediting mechanisms.[142] The European Commission demonstrated that it is vigilant of the need to minimize the negative effects of overlapping measures with the IMO when it proposed to streamline the EU's MRV Shipping Regulation of 2015 with the corresponding monitoring scheme that the IMO adopted 1 year later.[143] To further safeguard regulatory transparency and lower the risk of double counting, the EU should amend its NDC to include the share of international maritime emissions that will be covered by the EU ETS.[144] These international shipping emissions should be reported as a separate item, distinct from domestic shipping emissions, to ensure consistency with the Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories.[145]

4.2.3 | Consideration of economic impacts on third countries

According to Article 4(15) of the Paris Agreement, 'Parties shall take into consideration in the implementation of this Agreement the concerns of Parties with economies most affected by the impacts of response measures, particularly developing country Parties'.[146] This provision imposes an obligation of conduct, rather than of result, as it does not require parties to prevent or alleviate potential impacts of climate response (mitigation) measures on developing countries, but only to 'take their concerns into consideration'. This wording reflects a compromise of the historical dispute within UNFCCC negotiations on whether, in light of the CBDR-RC principle, developing countries should be supported, or even compensated, for economic impacts they may suffer as a result of developed countries' climate policies.[147] The latter were hesitant to acknowledge a general right of developing countries to financial support or compensation for such potential economic impacts, as it could lead to disproportional liabilities—for instance, requests to compensate the losses of oil-exporting developing countries due to decreased fossil fuel demand, caused by developed countries' stringent climate policies.[148]

In 2018, the UNFCCC parties established a forum dedicated to fleshing out how negative economic consequences of response measures can be minimized for developing countries, while maximizing potential cobenefits.[149] So far, the work programme, a minimum denominator of different political positions, has been framed mainly around capacity building and the exchange of best practices for impact assessment exercises, as well as for the implementation of economic diversification and just transition policies in developing countries.[150] This type of support refers specifically to the impacts of climate response measures and is distinct from the hard obligation imposed on developed countries to financially assist developing ones with respect to climate mitigation and adaptation.[151]

[137]UNFCCC (n 120) art 3(5).
[138]See n 39.
[139]Commission (EU) (n 23) Part 1, 108.
[140]Paris Agreement (n 128) art 4(13).
[141]L Schneider, A Kollmuss and M Lazarus, 'Addressing the Risk of Double Counting Emission Reductions under the UNFCCC' (2015) 131 Climatic Change 473, 477.
[142]ibid 481–484. For instance, regulatory overlap between the EU ETS and an IMO market-based measure could be avoided by linking the two schemes or by exempting each other's emissions scope. See Commission (EU) (n 23) Part 4, 45.
[143]Commission (EU) 'Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EU) 2015/757 in order to take appropriate account of the global data collection system for ship fuel oil consumption data' (Communication) COM (2019) 38 final, 4 February 2019.
[144]See UNFCCC 'Decision 18/CMA.1, Modalities, Procedures and Guidelines for the Transparency Framework for Action and Support Referred to in Article 13 of the Paris Agreement' UN Doc FCCC/PA/CMA/2018/3/Add.2 (19 March 2019) para 88.
[145]ibid para 53; IPCC, '2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories' (2019) Volume 1, Chapter 8, para 8.2 and Table 8.2. See also UNEP (n 125) 22, 24–25.
[146]Similarly, see UNFCCC (n 120) arts 4(8) and 4(10); Kyoto Protocol (n 122) arts 2(3) and 3 (14).
[147]N Chan, 'The "New" Impacts of the Implementation of Climate Change Response Measures' (2016) 25 Review of European, Comparative and International Environmental Law 228. A chronology of UNFCCC work on this matter is available at <https://unfccc.int/topics/mitigation/workstreams/response-measures/chronology>.
[148]Chan (n 147) 228.
[149]UNFCCC 'Decision 7/CP.24, Modalities, Work Programme and Functions under the Convention of the Forum on the Impact of the Implementation of Response Measures' UN Doc FCCC/CP/2018/10/Add.1 (15 December 2018). Cobenefits of the EU ETS could include, for example, an increase of ships' fuel-efficiency globally. See A Bradford, 'The Brussels Effect' (2012) 107 Northwestern University Law Review 1, 31.
[150]UNFCCC Secretariat, 'Technical Papers on the Impact of the Implementation of Response Measures – Executive Summary (2018) <https://unfccc.int/documents/201299> 5–6; Chan (n 147) 234.
[151]Paris Agreement (n 128) art 9(1).

Before proposing the expansion of the EU ETS to 50 percent of intercontinental shipping emissions, the European Commission assessed potential socioeconomic impacts at a global level and found that the scheme's effect on traded commodity prices will generally be negligible, as only goods with a very low weight-to-value ratio may be noticeably affected.[152] Nevertheless, this relatively small impact may have considerable consequences for certain developing countries, particularly least developed countries (LDCs) and small island developing States (SIDS), that are economically dependent on EU imports and exports.[153] Relevant studies conducted by CE Delft and others had reached similar findings.[154] In the accompanying Impact Assessment, the Commission even acknowledged as a 'significant impact' of the proposal that '[d]epending on its geographical scope, an extension of EU climate policies to maritime transport could impact third countries and trade and investment flows'.[155]

In its proposal and Impact Assessment, the Commission does not indicate how it intends to alleviate possible negative economic impacts of the scheme on affected countries. Although no treaty provision imposes a hard obligation on the EU to do so, it could be argued that the Commission did not sufficiently demonstrate that it took into consideration the concerns of vulnerable States, particularly LDCs and SIDS that may be disproportionately affected by the extension of the EU ETS. This contention can be underpinned by the exceptional position that LDCs and SIDS hold within the UNFCCC regime. The fact that multiple provisions explicitly require a consideration of their special circumstances could signify a special duty of care owed to LDCs and SIDS, particularly by developed countries, pursuant to the CBDR-RC principle.[156]

5 | ALIGNMENT WITH THE LAW OF THE SEA AND INTERNATIONAL CLIMATE LAW

The analysis above suggests that the law of the sea places important limitations regarding the enforcement of the maritime EU ETS but does not exhaustively define its permissible prescriptive reach. This crucial issue has to be examined under customary international law of State jurisdiction, also in light of normative developments in the field of international climate law. Subsequently, closer attention should be placed on how possible impacts of the scheme on developing countries, particularly LDCs and SIDS, can be addressed, in line with the CBDR-RC principle of the UNFCCC, without interfering with the UNCLOS principle of nondiscrimination.

5.1 | Jurisdictional grounds for prescribing a 'fifty–fifty' scope

Traditionally, States justify the exercise of prescriptive jurisdiction beyond their territory on the basis of one of the commonly accepted doctrines of extraterritorial jurisdiction: nationality, protection, effects, or universality.[157] The application of these customary jurisdictional bases is often challenging, due to a lack of consistent State practice and a diversity of conflicting opinions about their status, scope, and interrelation.[158] This was also the case with the extension of the EU ETS to aviation, which triggered a debate on whether the full inclusion of intercontinental flights had a legitimate jurisdictional basis—and whether it constituted an extraterritorial exercise of prescriptive jurisdiction in the first place. From an EU law perspective, the dispute was settled in 2011, when the CJEU held that the EU ETS for aviation was not an extraterritorial measure but a purely territorial one, as it would apply only to planes physically located at European airports, subject to the full sovereignty of the respective State.[159]

Nevertheless, the Court's rationale has been criticized on the basis that, even if the measure is enforced territorially, the pricing of emissions beyond EEA territory still retains a *prescriptive* extraterritorial element that needs to be justified under international law.[160] On that premise, it has been considered whether the EU's jurisdiction to extend its ETS to intercontinental shipping could be based on the effects doctrine, which can justify the extraterritorial regulation of activities that produce (substantial) negative effects within the regulating state's territory.[161] This can arguably be the case for international maritime emissions, as they contribute significantly to climate change, whose catastrophic effects are increasingly felt throughout the globe, including Europe.[162] Nevertheless, the effects doctrine has been mainly developed and applied in the area of antitrust law.[163] A strict application of the doctrine would require the EU to showcase a direct causal link between the maritime emissions to be covered and the damage inflicted upon its territory, which is scientifically difficult to establish due to the cumulative manner in which GHGs impact the Earth's climate system.[164] It is apparent that the contended boundaries of traditional jurisdictional doctrines become even blurrier when confronted with the relatively novel, global, and complex threat of climate change.[165]

To overcome this problem, the literature has resorted to a simplified, single jurisdictional requirement of a 'substantial and genuine connection' between the regulating state and the regulated subject

[152]Commission (EU) (n 23) Part 4, 42–43.
[153]ibid 42, 46.
[154]J Faber et al, 'Technical Support for European Action to reducing Greenhouse Gas Emissions from International Maritime Transport' (CE Delft 2009) 25, 298–304. See also CE Delft et al, 'Study on Assessment of Possible Global Regulatory Measures to Reduce Greenhouse Gas Emissions from International Shipping' (EU Publications Office 2021) 16.
[155]Commission (EU) (n 23) Executive Summary 3.
[156]See UNFCCC (n 120) arts 3(2), 4(8), and 4(9); Paris Agreement (n 128) arts 4(6), 9(4), 9(9), 11(1), and 13(3).
[157]For definitions, see Crawford (n 47) 443–454; Gavouneli (n 41) 6–32.
[158]Ringbom (n 38) 629; MT Kamminga, 'Extraterritoriality' in Peters and Wolfrum (n 84) 16; International Bar Association (IBA), 'Report of the Task Force on Extraterritorial Jurisdiction' (2009) 125–130.
[159]*ATAA* (n 124) Judgment, paras 124–130.
[160]Dobson and Ryngaert (n 38) 307–308; Ringbom (n 38) 626.
[161]See Bäuerle et al (n 38) 81–87, 96; Dobson and Ryngaert (n 38) 327–330; Ringbom (n 38) 630–632; Dominioni et al (n 9) 147.
[162]See IPCC (n 135) para A3; IMO (n 1) 1–3.
[163]Shaw (n 51) 516; IBA (n 158) 45.
[164]Ringbom (n 38) 631; De Baere and Ryngaert (n 52) 401.
[165]Dobson and Ryngaert (n 38) 326.

matter.[166] This approach aims to strike a balance between competing jurisdictional claims, on the basis of good faith and reasonableness.[167] Although attempts have been made to analyse this 'balancing' or 'reasonableness' test into specific criteria,[168] in the absence of a commonly agreed framework, jurisdictional conflicts tend to be resolved in State practice through political compromise.[169] The 'fifty–fifty' scope proposed by the Commission for maritime emissions trading could be perceived as a tacit political compromise of this type. As a 'half-step back' compared with the unsuccessful attempt to regulate emissions from all extra-EEA flights, it may signal the EU's effort to formulate a more balanced, politically acceptable solution for capping shipping emissions.[170] In the meantime, the successful implementation of the EU MRV Shipping Regulation since 2018 has prepared the ground for the maritime ETS proposal. Such instances of State practice might signify or catalyse normative developments with regard to the regulation of international maritime GHG emissions by port States.[171]

In light of the above, the breadth of port State jurisdiction, in combination with the legal duty of developed countries to lead action against climate change pursuant to the CBDR-RC, prevention, and precautionary principles, would support the existence of a substantial and genuine connection between the EU and its 50 percent share of intercontinental maritime emissions. The underlying basis beneath this connection could eventually be 'a novel ground of jurisdiction aimed at the protection of global public goods that are insufficiently protected by international solutions', as described by De Baere and Ryngaert.[172] The permissibility of safeguarding international community interests against common concerns is also the rationale behind the universality doctrine, mainly applied in the area of global criminal law.[173] In the absence of adequate international action on shipping emissions, the EU legislates as a custodian of a commonly agreed objective enshrined in treaties with virtually universal participation, namely, the UNFCCC and the Paris Agreement.[174] The EU's exercise of jurisdiction is complemented by a strong territorial link, discerned from the application of the EU ETS as a port entry requirement and, consequently, the voluntary presence of the regulatees (ships) within EU sovereign territory (ports).[175] The fact that more than half of the ships performing intercontinental voyages are owned by EU-based entities further strengthens the 'substantial and genuine connection' between the EU and 50 percent of its intercontinental maritime emissions.[176]

Lastly, the establishment of a 'substantial and genuine connection' requires the consideration of competing jurisdictional claims by other States on the basis of comity and reasonableness.[177] Although no such contradictory claims have been submitted to date, in the future, other States may be willing to enact regulations for reducing emissions from international shipping, in an attempt to reach Paris Agreement goals, like the EU does. An advantage of the proposed 'fifty–fifty' scope is that it a priori administers the possibility of jurisdictional conflicts by providing non-European coastal States with an equal jurisdictional space to regulate their corresponding 50 percent share of intercontinental emissions.[178] The 'fifty–fifty' apportionment of jurisdictions is not an unknown concept in international law. In maritime delimitation, the border between the territorial seas of two opposite or adjacent coastal states is set at the median point between the respective baselines, unless agreed otherwise.[179] This even split reflects the principle of sovereign equality among States,[180] which encompasses the notion that all States are equal before the law and have reciprocal obligations ('formal equality').[181] Nevertheless, particularly in the area of international environmental law, a gradual recognition of the structural inequalities between States has signalled departures from traditional 'formal equality' approaches to more Aristotelian perceptions of "substantive equality," according to which the treatment of dissimilar situations should take existing differences into account.[182] The following section takes a closer look into how this concept of 'formal equality', enshrined in the UNCLOS principle of nondiscrimination,[183] can be reconciled with the 'substantive

[166]FA Mann, *The Doctrine of Jurisdiction in International Law* (AW Sijthoff 1964) 43–51; Crawford (n 47) 461; Ringbom (n 38) 631; Dobson and Ryngaert (n 38) 307.

[167]IBA (n 158) 24; Ringbom (n 38) 632; Bäuerle et al (n 38) 87.

[168]See, notably, American Law Institute, *Restatement (Third) of the Foreign Relations Law of the United States, Volume 1* (American Law Institute Publishers 1986) section 403(2). In the subsequent *Fourth Restatement* of 2018 (n 51), the factor-based approach, which proved to be unworkable in practice, was replaced by a simpler "genuine connection" requirement. WS Dodge, 'Jurisdictional Reasonableness under Customary International Law: The Approach of the Restatement (Fourth) of US Foreign Relations Law' (2019) 62 Questions of International Law 5, 6.

[169]ILA, 'Final Report of the ILA's Committee on Extra-territorial Jurisdiction, Report of the Sixty-Seventh Conference' (1996) 523; De Baere and Ryngaert (n 52) 402.

[170]The idea of a "fifty–fifty" compromise approach in international climate policy can be traced back to 1999, when the EU, distrustful of the flexible emissions trading mechanisms of the Kyoto Protocol, had (unsuccessfully) proposed to quantitatively limit their use to 50 percent. See E Woerdman, *The Institutional Economics of Market-Based Climate Policy* (Elsevier 2004) 199.

[171]Boyle (n 49) 19 points out that whether unilateral approaches crystallize as treaty or customary norms crucially depend on the reaction of other States or lack thereof. See also Martinez Romera and van Asselt (n 7) 262–263.

[172]De Baere and Ryngaert (n 52) 401.

[173]ibid 401–402; IBA (n 158) 151–152; Dobson and Ryngaert (n 38) 330. The CJEU also appears to place considerable jurisdictional weight on the protection of international community interests. See *Poulsen* (n 36) para 11; *ATAA* (n 124) Judgment, para 128.

[174]UNFCCC (n 120) art 2; Paris Agreement (n 128) art 2(1). See De Baere and Ryngaert (n 52) 401–402. This hybrid jurisdictional basis can also contain elements of the protection doctrine, to the extent that the EU adopts measures to protect its own shipping industry and trade interests from ETS evasion strategies. See Commission (EU) (n 23) Part 1, 94. See also Council (EU), 'Proposal for a directive of the European Parliament and of the Council amending Directive 2003/87/EC – General Approach', 10796/22 (30 June 2022), proposed recital 18a.

[175]This jurisdictional construction is not far apart from what Scott describes as 'territorial extension'. See J Scott, 'Extraterritoriality and Territorial Extension in EU Law' (2014) 62 American Journal of Comparative Law 87.

[176]See Commission (EU) (n 80) 6.

[177]Crawford (n 47) 441; IBA (n 158) 24; Ringbom (n 38) 631–632; De Baere and Ryngaert (n 52) 403–404; Bäuerle et al (n 38) 87.

[178]Similarly, Heine et al (n 38) 14 suggest that 'the EU only has a legitimate claim on half of the tax base', with each respective departure/destination State having the 'right to claim the other half'.

[179]UNCLOS (n 40) art 15.

[180]Charter of the United Nations (adopted 26 June 1945, entered into force 24 October 1945) 1 UNTS XVI art 2(1).

[181]G Simpson, *Great Powers and Outlaw States: Unequal Sovereigns in the International Legal Order* (Cambridge University Press 2006) 42–45.

[182]See P Cullet, 'Differential Treatment in Environmental Law: Addressing Critiques and Conceptualizing the Next Steps' (2006) 5 Transnational Environmental Law 305, 307–309.

[183]W Duan, *The International Legal Regime Relating to Marine Protected Areas in Areas beyond National Jurisdiction: Identifying and Addressing Gaps* (Brill 2022) 146. The same concept is also referred to as 'equal treatment' or 'no more favourable treatment' in IMO conventions. See Romera Martinez (n 124) 223.

equality' requirements, and thus the need for differential treatment, under the CBDR-RC principle of international climate law.

5.2 | Nondiscriminatory alignment with the CBDR-RC

The tension between the principles of nondiscrimination and CBDR-RC has been documented as a major barrier to market-based emissions reduction measures for international shipping.[184] Many discussions at the IMO have focused on how the need for a uniformly applicable regulation can be reconciled with the need for differentiation that reflects developing countries' unequal historical responsibilities and economic capabilities regarding climate change.[185] Although the initial IMO GHG Strategy recognized 'the need to be cognizant of' the CBDR-RC principle, so far, there has been no agreement on how it should be operationalized.[186] Targeted financial support to developing countries, in particular SIDS and LDCs, possibly through redistribution of carbon pricing revenues, is an option supported by several delegations.[187] Yet, disagreement persists on the desirable scope and operation of such a financial mechanism[188] but also on whether exemptions for specific routes, trades, or regions should be introduced as an additional protective layer for vulnerable countries.[189]

As IMO negotiations on market-based measures continue to progress slowly, the proposed expansion of the EU ETS comes as a bottom-up effort to accelerate the alignment of international maritime emissions with the Paris Agreement goals. To that end, it places a share of international shipping under the absolute emissions cap of the EU ETS, while exerting political pressure for an agreement on an effective scheme with global coverage at the IMO.[190] The flag-neutral design of the maritime EU ETS, in the absence of nationality-based exemptions, ensures compliance with the UNCLOS principle of nondiscrimination. At the same time, the CBDR-RC principle of the UNFCCC allows (or even obliges) the EU to legislate for the reduction of maritime emissions, as long as the concerns of third States 'with economies most affected by the impacts of response measures' are taken into consideration.[191]

Yet, the European Commission has not demonstrated that it sufficiently considered the concerns of such States, and thus the CBDR-RC principle, in the proposed design of the maritime EU ETS. Although its Impact Assessment indicates that the scheme may have a nonnegligible economic impact on certain developing countries, especially LDCs and SIDS, the proposal does not contain elements of differentiation *vis-à-vis* these States.[192] Looking back at the EU ETS aviation case, the Commission would consider exempting—from the scheme's broad geographical scope—flights from third countries, if they adopted regulations with 'an environmental effect at least equivalent to the EU ETS.[193] Scott and Rajamani argued that by making the scope contingent on a uniform requirement of 'equivalent stringency', the EU disregarded the CBDR-RC principle.[194] The 'fifty–fifty' proposal for intercontinental maritime transport may reflect the Commission's effort to circumvent this problem by unconditionally ensuring that third countries are free to adopt climate measures in line with their self-perceived differentiated responsibilities and capabilities, as defined in their NDCs, with regard to their 50 percent share of shipping emissions from trade with Europe.[195] This is possibly what the European Commission referred to when it characterized the 'fifty–fifty' scope as 'a practical way to solve the issue of' CBDR-RC.[196]

Nevertheless, the 'noncontingent' nature of the proposal for shipping does not do away with the fact that, by applying a one-size-fits-all rule, the EU still seems to disregard the diverse effects of its measure on different countries, especially vulnerable States that depend on maritime trade with Europe.[197] Compared with aviation, both the CBDR-RC principle broadly and the consideration of the impacts of response measures on States specifically are even more relevant for shipping, due to its key role for international trade and economic development.[198] Moreover, the European Parliament proposed that as of 2027, the ETS should be extended to 100 percent of emissions from all intercontinental voyages, with a possible reduction *up to* 50 percent for non-EU countries with equivalent schemes, as well as certain LDCs and SIDS.[199] This proposal resurrects the problem of 'equivalent stringency', while increasing the expected economic impacts on developing states compared with a uniform 'fifty–fifty' scope.[200] The above calls for a more

[184]See, for example, Kremlis (n 38) 148; Psaraftis (n 125) 231; Wu et al (n 11) 9.

[185]See IMO 'Report of the Third Intersessional Meeting of the Working Group on Greenhouse Gas Emissions from Ships' MEPC 62/5/1 (8 April 2011). See also S Kopela, 'Climate Change and the International Maritime Organization' in J McDonald, J McGee and R Barnes (eds), *Research Handbook on Climate Change, Oceans and Coasts* (Edward Elgar 2020) 134, 145–148.

[186]IMO GHG Strategy (n 126) para 4.13. See Kopela (n 185) 146–147.

[187]This option is often bundled together with capacity building, technology transfer, and/or technical support. See IMO, 'Report of the Marine Environment Protection Committee on its Seventy-Eighth Session' MEPC 78/17 (24 June 2022) paras 7.35–7.45. See also IMO (n 185) paras 3.59–3.62.

[188]An important point of disagreement is whether such a mechanism should compensate all economic impacts on states or only disproportionate ones. IMO (n 187) para 7.43.

[189]ibid paras 7.42 and 7.45.

[190]See Heine et al (n 38) 44.

[191]Paris Agreement (n 128) art 4(15). Although the impacts of response measures on States are clearly a relevant expression of the CBDR-RC principle in the present context, the latter is a broader concept that encompasses additional elements, such as the climate finance and technology transfer commitments of developed countries (UNFCCC (n 120) art 4(7); Paris Agreement (n 128) art 9). The precise content and normative nature of CBDR-RC remain contested, both in relation to shipping and more generally. See IMO (n 187) paras 7.38–7.43. See also Scott and Rajamani (n 69) 477–479; A Boyle and C Redgwell, *Birnie, Boyle, and Redgwell's International Law and the Environment* (4th edn, Oxford University Press 2021) 146–152.

[192]Commission (EU) (n 23) Part 4, 45–47.

[193]Directive 2008/101/EC of the European Parliament and of the Council of 19 November 2008 amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community [2009] OJ L8/3 recital 17. See Scott and Rajamani (n 69) 482. See also Martinez Romera and van Asselt (n 7) 277–278.

[194]Scott and Rajamani (n 69) 483.

[195]This approach perhaps echoes the more flexible, bottom-up framework of the Paris Agreement in relation to differentiation. See Martinez Romera (n 124) 222–223

[196]Commission (EU) (n 2) recital 17.

[197]The European ministers acknowledge the diverse socioeconomic effects of the ETS extension, at least with regard to EU Member States. See Council (EU) (n 174) proposed recitals 17a, 17c, and 17e.

[198]See United Nations Conference on Trade and Development, 'Assessment of the Impact of the IMO Short-Term GHG Reduction Measure on States' (United Nations 2021) iii–v.

[199]European Parliament (n 79) Amendments 498 and 500, arts 3 g and 3gaa. The Commission is empowered to propose derogations from the extended scope for third countries that *either* have an ETS at least equivalent to the EU ETS *or* are LDCs/SIDS with a GDP per capita lower than the EU's and include international shipping under their NDCs.

[200]Commission (EU) (n 23) Part 1, 108; Part 4, 47. Even States that fulfil the derogation criteria above would still be subject to *at least* a 50 percent scope. But see also the Parliament's Ocean Fund proposal (n 209).

careful consideration of how elements of differentiation can be introduced to the maritime EU ETS, in line with the CBDR-RC principle, while preserving compatibility with the nondiscrimination obligation under UNCLOS.

There appear to be two main possibilities for operationalizing the CBDR-RC in the context of the maritime EU ETS: either by establishing differences as to how the regulation will be implemented or by granting assistance, such as financing, capacity building, or technology transfer.[201] The former category of differential norms could take the form of exemptions or uneven splits of regulatory scopes for routes between Europe and certain developing countries. For instance, the scope of the EU ETS could altogether exempt routes between Europe and Senegal, an LDC largely dependent on EU imports,[202] or alternatively be limited to, for example, 25 percent, so that Senegal can charge a carbon price on three quarters of the emissions from its maritime trade with Europe. Additional income from emissions allowance auctions or carbon taxation could be used by the Senegalese State to alleviate potential negative impacts of higher shipping costs on society or to finance climate mitigation and adaptation measures. Also, a relatively low carbon price applied by Senegal to emissions from maritime transport could contain an otherwise excessive increase of shipping costs (and thus price of goods) for Senegalese households and industries.

Such route-based deviations would not infringe the UNCLOS principle of nondiscrimination, as long as they would apply equally to vessels of all nationalities.[203] Nevertheless, varying the scope of GHGs covered under the EU ETS based on the place of departure or destination may raise problems under WTO law, as a potential violation of the most-favoured-nation principle.[204] Moreover, a disadvantage of this approach is that it can incentivize the concentration of relatively old and inefficient ships on the (partially) exempted routes, which can exacerbate local pollution problems and create competitive distortions.[205] The incentive for investment in zero-carbon fuels and infrastructure in the respective port States is also diluted.[206] Lastly, creating a patchwork of carve outs or asymmetrical regulatory scopes would only further complicate an already convoluted regulatory landscape for international shipping, which may translate to increased administrative costs for participants and authorities.

A second, and probably preferable, way to operationalize CBDR-RC would be to use a share of maritime EU ETS revenues for providing assistance to the developing countries that are projected to be impacted by the scheme.[207] The EU could set up a support framework that further assesses potential socioeconomic impacts of the scheme on developing countries, with a special focus on vulnerable LDCs and SIDS, and improves their capacity to maximize the positive and minimize the negative impacts, according to the UNFCCC guidance documents.[208] Along these lines, the European Parliament has proposed channelling 75 percent of the maritime EU ETS revenues into an 'Ocean Fund', which will finance projects related to the decarbonization of maritime transport.[209] The Parliament supports that a portion of the Ocean Fund should be made available to countries, particularly LDCs and SIDS, whose extra-European voyages 'are covered one hundred percent (100%) by measures aiming at adapting to climate change and decreasing their emissions in the maritime sector'.[210] This proposal intents to incentivize third countries to support an extension of the EU ETS to 100 percent of emissions on their respective routes by 2027 or, alternatively, to enact (equivalent) measures on their share of emissions.[211]

From a CBDR-RC perspective, besides the problem of 'equivalent stringency' already discussed above, the European Parliament's proposal has two additional shortcomings. First, even a 'fifty–fifty' scope is projected to have economic impacts on certain developing countries, particularly EU trade-dependent LDCs and SIDS.[212] The EU should help them anticipate and address these impacts *ex ante* and not postpone its support until potential damages are already felt.[213] Second, particularly for certain vulnerable countries, financial support and technical assistance from Europe is essential for implementing climate change adaptation and mitigation measures in the maritime sector, which can increase their resilience, diversify their economies, and reduce the costs incurred by maritime carbon pricing.[214] Making financial support from the Ocean Fund conditional on the existence of such measures defies its purpose. Therefore, although the Parliament's proposal is in the right direction, removing the aforementioned barriers to access the Ocean Fund for vulnerable states would be more aligned with the CBDR-RC principle, by demonstrating that the EU takes their concerns into consideration.[215] It can also

[201] See Martinez Romera and van Asselt (n 7) 268–269. Their conceptual framework was developed with a focus on international agreements, and thus, differentiation focused on main (treaty) obligations is not applicable in the case of a regional regulation like the EU ETS. Contextual treatment norms are not further considered here either, as the European scheme does not appear to fulfil the criteria (ibid 267) that would justify the use of such indeterminate norms.

[202] Commission (EU) (n 23) part 4, 45. Forty per cent of Senegal's imports come from the EU.

[203] See Section 3.2.1.

[204] GATT (n 39) art I(1). Route-based differentiation might also be problematic under Article V (2) GATT for the cases of cargo in transit through the EU. However, these approaches may be justifiable under Article XX GATT. See Scott and Rajamani (n 69) 490; Rodriguez (n 38) 32–34; L Bartels, 'The WTO Legality of the Application of the EU's Emission Trading System to Aviation' (2012) 23 European Journal of International Law 429, 447–449.

[205] G Dominioni and D Englert, 'Carbon Revenues from International Shipping: Enabling an Effective and Equitable Energy Transition' (World Bank 2022) 16.

[206] ibid. See also CE Delft et al (n 154) 77.

[207] Several studies have highlighted revenue sharing as a more suitable option for aligning the EU ETS with CBDR-RC. See Scott and Rajamani (n 69) 492; Dominioni et al (n 9) 155; Heine et al (n 38) 52–53; CE Delft et al (n 154) 17; Martinez Romera and van Asselt (n 7) 282; Dominioni and Englert (n 205).

[208] See UNFCCC Secretariat (n 150). The revenues should be allocated based on objective criteria. Although many (combinations of) different metrics could be used, this is bound to be a controversial exercise, prone to the risk of political recoil. Using an international fund or financial mechanism as an intermediary is seen as a way to mitigate this risk. See Scott and Rajamani (n 69) 488–492; Martinez Romera and van Asselt (n 7) 281.

[209] Parliament (n 79) Amendment 501, art 3gab. Also, external assigned revenues from Article 21(2) of the FuelEU Maritime Regulation are proposed to be allocated to the Ocean Fund.

[210] ibid Amendment 501, art 3gab(6).

[211] The vague wording is likely the product of political compromise, but see the justification of draft amendment 42 proposed by the Parliament rapporteur, Peter Liese, on 14 January 2021 (on file with the author). See also n 199.

[212] Commission (EU) (n 23) Part 4, 42–43, 46.

[213] UNFCCC Secretariat (n 150) 13. From an equity perspective, preventing is preferable to remedying damages that have already been suffered. From an economic perspective, remedying damages *ex post* can often be more expensive than preventing or anticipating them. Preventive approaches can therefore lead to a more efficient allocation of the limited financial resources available. See Dominioni and Englert (n 205) 19–20.

[214] ibid 22. See also P Pauw, K Mbeva and H van Asselt, 'Subtle Differentiation of Countries' Responsibilities under the Paris Agreement' (2019) 5 Palgrave Communications 1, 4; Dominioni and Englert (n 205) 41.

[215] Paris Agreement (n 128) art 4(15).

contribute to the distinct, central obligation of developed countries to financially assist the mitigation and adaptation efforts of developing ones, particularly LDCs and SIDS.[216]

6 | CONCLUSION

The absence of references to international law from the latest EU proposal to include intercontinental shipping in its ETS leaves ample room for legal uncertainty. To help reduce this uncertainty, the present article has analysed the proposal from an international law perspective. In light of the law of the sea and international climate law, particularly the Paris Agreement, it can be concluded that the EU has sufficient legal grounds for regulating 50 percent of GHG emissions from incoming and outgoing extra-EEA voyages. However, the EU should be more vigilant about the applicable legal limitations when expanding its climate policy.

From a law of the sea perspective, the EU should consider exempting ships that perform international voyages from the noncompliance fine of €100 per tonne, to align its array of penalties with the UNCLOS enforcement limitations related to extra-territorial pollution. A threatened nonadmission into European ports, which is a more justifiable type of enforcement action under UNCLOS, appears to be an adequately dissuasive measure. At the same time, the revised EU ETS Directive should clarify certain implementation aspects of the expulsion order and should explicitly provide shipping companies with the right to judicial recourse before national courts in case the imposed penalties are deemed unlawful or disproportional. The EU and its Member States should continuously be mindful of the applicable enforcement safeguards and due publicity obligations, as well as their overarching duty to cooperate in good faith with the international community through the IMO on instruments that reduce maritime emissions with global coverage.

From an international climate law perspective, the most important limitation is the CBDR-RC principle, which in this context requires the EU to more carefully consider the potential economic impacts of the extended scheme on vulnerable countries. In practice, this can be achieved by channelling a share of the allowance auctioning revenues from international shipping to a mechanism that assists targeted developing countries, particularly LDCs and SIDS, to alleviate possible negative economic impacts, while maximizing associated climate benefits. This would be even more pertinent in the case of a broader geographical scope, due to its greater potential consequences. In order to ensure efficacy, these arrangements should be inclusive and take place prior to the scheme's entry into force. As soon as the EU ETS Directive is amended, the EU should add the newly regulated international maritime emissions to its NDC, in line with the IPCC guidelines, to ensure transparency and prevent double counting.

Probably the only yet significant advantage of a 'fifty–fifty' scope compared with a 100 percent emissions coverage is that it represents a more balanced claim of prescriptive extraterritorial jurisdiction. Does this necessarily mean that a 100 percent coverage of intercontinental shipping by the EU ETS would constitute a breach of international law? Against the background of the IMO's inaction on market-based measures and with the climate clock ticking, the majority of legal literature does not exclude that sufficient jurisdictional bases could be found to justify such a full coverage.[217] However, if other countries decide to regulate a share of intercontinental maritime emissions, the EU should provide them with the space to do so, without preconditions that neglect the CBDR-RC principle. In the end, the permissible limits of prescriptive EU climate change jurisdiction for intercontinental shipping may eventually be determined by the reaction of other States to the extension of the EU ETS. To reduce the risk of international backlash like in the case of aviation, the Commission opted for a politically safer albeit environmentally and economically suboptimal solution. Yet, an explicit integration of international law in EU proposals with extraterritorial elements will not only contribute to its observance and development but can also reduce legal uncertainty and anchor the international political discourse to a more defined framework.

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DATA AVAILABILITY STATEMENT

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

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[216] ibid arts 9(1), 9(4), and 11(3). See also Pauw et al (n 214) 5.

[217] See Bäuerle et al (n 38) 96; Ringbom (n 38) 640–641; Rodriguez (n 38) 45; Dobson and Ryngaert (n 38) 332–333; Dominioni et al (n 9) 147. For an opposite opinion, see Hermeling et al (n 38) 48.