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Reconceptualizing Fairness in International Shipping Decarbonisation: The Normative Tension between Maritime Uniformity and Climate Differentiation

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Abstract

This article proposes a perspective for understanding and bridging the normative tensions that arise when legal regimes interact, using the law-making process in international shipping decarbonisation as its focal point. A persistent difficulty lies in incorporating the climate regime's principle of common but differentiated responsibilities and respective capabilities (CBDR-RC) into the International Maritime Organization (IMO) framework, as its requirement of differentiation conflicts with the IMO's commitment to uniformity, expressed in the principle of no more favourable treatment. This conflict reflects a deeper tension in how the two regimes conceptualise fairness. In the climate regime, fairness has long been articulated through a substantive conception of justice, linking responsibility to historical emissions and capacity. In the maritime regime, by contrast, fairness is expressed through uniform rule application. When IMO turns to regulate climate-related issue, these divergent fairness grammars collide: one pushes toward differentiation and structural change, while the other secures stability through uniformity. Reframing the challenge as a matter of translation between fairness grammars helps to shift the analytical terrain towards pathways through which climate justice can be integrated without displacing maritime ship-based uniform rules. More broadly, the article shows that when legal regimes interact, the fairness grammar inherent in each regime reshapes the normative foundations of the new regulatory terrain. This perspective provides an analytical lens for the integration of climate justice into maritime decarbonisation and suggests that the emergence of new rules depends not only on legality but also on developing a shared conception of fairness capable of bridging political divergence.

1. Introduction

Fairness becomes central when interacting regimes generate competing normative claims. It shifts the focus from resolving conflicts at the level of principles or rules to reconstructing the deeper normative foundations that shape the interaction and, ultimately, the rule-making process. The normative tension between the maritime regime and the climate regime, evident in the International Maritime Organisation (IMO)'s ongoing efforts to develop shipping decarbonisation measures, provides a vivid illustration.

International shipping carries nearly 90 percent of the global trade and accounts for almost three percent of total global greenhouse gas (GHG) emissions.[1] If treated as a single state, the sector would rank as the world's ninth-largest emitter in 2023.[2] Although the IMO[3] has addressed GHG emissions from ships as a form of marine pollution since 1997[4] and has gradually embraced its regulatory role conferred by Article 2.2 of the Kyoto Protocol over the following decades,[5] political divisions among Member States continue to stall progress.[6] A recent example is the proposed Net-Zero Framework, approved for circulation at the 83rd Session of the Marine Environment Protection Committee (MEPC) in April 2025 and intended to be incorporated as a new Chapter 5 of the Annex VI to the International Convention for the Prevention of Pollution

[1] L. Quinones, 'A Historic Course Correction: How the World's Shipping Sector Is Setting Sail for Net Zero', *UN News,* 14 May 2025. https://news.un.org/en/story/2025/05/1163241. See also International Maritime Organization (IMO), *Fourth IMO Greenhouse Gas Study 2020 (*2021) at 112. The study estimated that international shipping accounted for approximately 2.89% of global anthropogenic greenhouse gas emissions in 2018. See also X. Mao, Z. Meng, B. Comer, and T. Decker, Greenhouse Gas Emissions and Air Pollution from Global Shipping, 2016–2023 (International Council on Clean Transportation, April 2025) at ii. The report indicates that global shipping's share of GHG emissions is about 2.3% of global CO_2 emissions between 2016 and 2023. This is slightly lower than the result in the *Fourth IMO Greenhouse Gas Study 2020* mainly due to updated technical advancement with regard to ship speed input in their methodology.
[2] See also X. Mao, Z. Meng, B. Comer, and T. Decker, Greenhouse Gas Emissions and Air Pollution from Global Shipping, 2016–2023 (International Council on Clean Transportation, April 2025) at 9.
[3] A United Nation specialised agency mandated by its constitutive Convention to develop and adopt international regulation to ensure maritime safety, efficiency of navigation and to prevent and control marine pollution from ships. See 1948 Convention on the Intergovernmental Maritime Consultative Organization, 289 UNTS 3 (1958),(hereinafter IMO Convention),art.1(b).
[4] International Maritime Organization (IMO), CO_2 Emissions from Ships, Resolution 8, adopted at the Conference of Parties to MARPOL 73/78, MP/CONF.3/35 (25 September 1997).
[5] 1997 Kyoto Protocol to the United Nations Framework Convention on Climate Change (hereinafter Kyoto Protocol), 2303 UNTS 162, Art 2(2).See B. M. Romera, *Regime Interaction and Climate Change* (Routledge 2018), 147–149.
[6] L. Quinones, *Supra* note 1. See also Günther Handl, 'Decarbonising the Shipping Industry: A Status Report' (2023) 38 *International Journal of Marine and Coastal Law* 730.

from Ships (MARPOL).[7] It represents the Organisation's first attempt to translate the mid-term measures of its 2023 Strategy into binding legal mechanism.[8] Despite initial optimism,[9] its adoption did not proceed as anticipated.[10] At the extraordinary MEPC ES.2 held in October 2025, Member States failed to reach the political consensus, and consideration of the amendment was postponed for one year.[11]

Behind these political impasses lies a long-standing legal debate: can the IMO meaningfully incorporate the climate regime's principle of common but differentiated responsibilities and respective capabilities (CBDR-RC)? [12] CBDR-RC ,"a core guiding principle for the implementation of multiple climate change treaties,"[13] requires that states be treated differently based on their historical contribution to global warming and their respective capacities to address climate change.[14] However, differential treatment appears to conflict directly with the IMO's foundational commitment to uniform treatment of all ships, anchored in the principle of no more

[7] International Maritime Organisation, 'IMO Approves Net-Zero Regulations for Global Shipping' (Press Release, 11 April 2025), www.imo.org/en/mediacentre/pressbriefings/pages/imo-approves-netzero-regulations.aspx
[8] See ClassNK External Affairs Department, 'Preliminary Report of IMO MEPC 83' Vol 2025-01 (14 April 2025) at 1. www.classnk.or.jp/hp/pdf/info_service/imo_and_iacs/MEPC%20ES2_sumE.pdf
See also IMO, *Draft revised MARPOL Annex VI*, Circular Letter No. 5005 (11 April 2025).
[9] Climeon, 'What the IMO's New Carbon Pricing Decision Means for Energy-Efficient Shipping' (15 April 2025) https://climeon.com/imo-carbon-pricing-shipping-2028/
[10] J. Messenger, 'Momentum on landmark IMO net-zero deal "fading" after talks postponed', *Global Trade Review,* 22 October 2025, www.gtreview.com/news/sustainability/momentum-on-landmark-imo-net-zero-deal-fading-after-talks-postponed/ .
[11] ClassNK, External Affairs Department, 'Preliminary Report of IMO MEPC Extraordinary Session,' Vol. 2025-03 (20 October 2025)
[12] S. Kopela, 'Climate Change, Regime Interaction, and the Principle of Common but Differentiated Responsibility: The Experience of the International Maritime Organization', (2014) 70–101, *Yearbook of International Environmental Law* 24 at 71. See also Y Chen,'Reconciling common but differentiated responsibilities principle and no more favourable treatment principle in regulating greenhouse gas emissions from international shipping" *Marine Policy* 123 (2021): 104317, at 2.
[13] Advisory Opinion of 23 July 2025, [2025] ICJ 1, para 148. UN Framework Convention on Climate Change, 1992, Art. 3(1). Kyoto Protocol to the UNFCCC, 1997, Art. 10. Paris Agreement, 2015, Art. 2(2) and Art. 4(3).
[14] L. Rajamani and J Peel (eds), *The Oxford Handbook of International Environmental Law* (2nd edn, Oxford University Press 2021).at 324-5.

favourable treatment (NMFT).[15] As a result, the operationalisation of the principle of CBDR-RC within the maritime regime has remained highly constrained.[16]

The clash between the two principles reflects a deeper divergence in how fairness is conceptualised in the two regimes. As established by Frank, fairness in international law consists of two independent variables: distributive justice as substantive fairness and legitimacy as procedural fairness.[17] In the climate regime, CBDR-RC embodies a conception of substantive justice—a combination of corrective justice (historical responsibility) and distributive justice (capacity).[18] In the IMO regime, by contrast, fairness is traditionally manifested through procedural justice—uniform rules applied to all ships regardless of their flag, ownership, or the economic status of the associated states.[19] This article argues that each regime has developed, within its own historical and social-legal context, a distinct fairness grammar. When these regimes interact, their respective fairness grammars must be reconstructed. Seen in this light, the meaningful incorporation of CBDR-RC into IMO decarbonisation is best understood as a translation of the climate regime's fairness grammar into a regulatory setting historically structured around procedural uniformity. The translation gap between the two regimes is conceptual before it is technical. When the IMO turns to regulate climate-related harms that are themselves the product of long-standing structural inequalities, the fairness grammar of change embodied in climate regime cannot be displaced. In such contexts, substantive fairness must be translated into the existing procedural grammar of IMO regime to enhance the compliance pull.

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[15] IMO, 2023 IMO Strategy on Reduction of GHG Emissions from Ships (Resolution MEPC.377(80), adopted 7 July 2023, Annex 15 to MEPC 80/17/Add.1). para 3.5.1, https://wwwcdn.imo.org/localresources/en/OurWork/Environment/Documents/annex/MEPC%2080/Annex%2015.pdf See also A. Chircop, 'The Quest for Universality and Uniformity: Theory and Practice of International Maritime Regulation', in J. Chuah (ed.), *Research Handbook on Maritime Law and Regulation* (2019), 132 (noting that uniformity is the defining regulatory logic of the IMO and that this logic has come under tension with CBDR-RC in the context of GHG regulation).

[16] G. Handl, 'Decarbonising the Shipping Industry: A Status Report' (2023) 38 *International Journal of Marine and Coastal Law* 730.

[17] T M. Franck, *Fairness in International Law and Institutions*(OUP 1995), at 7-8.

[18] See general C. D. Stone, 'Common but Differentiated Responsibilities in International Law', (2004) 98 AJIL 276; See also L. Rajamani, *Differential Treatment in International Environmental Law* (2006); See also E. A. Posner and C. R. Sunstein, 'Climate Change Justice', (2008) 96 Georgetown LJ 1565.

[19] A Chircop, "The International Maritime Organization" in Robin Churchill et al (eds), *The Oxford Handbook of the Law of the Sea* (OUP 2015) ch 5, esp. at 132–3.

The translation process is further complicated by multiple doctrinal, structural and operational constraints. The core difficulty lies in the bifurcation of responsibility between the UNFCCC's state-based architecture and the IMO's ship-based regulatory system.[20] The 2025 Net-Zero Framework illustrates both the effects of these constraints, and the limited ways in which differentiation is currently operationalised.[21] Despite these challenges, there potential legal pathways remain for incorporating differential treatment into shipping decarbonisation measures in a manner capable of promoting a shared perception of fairness and bridging political divergence.

The paper proceeds as follows. Section II develops the theoretical framework, contrasting the procedural fairness logic of shipping regulation with the substantive fairness logic that underpins climate justice. Section III examines the doctrinal, structural, and operational limits that currently hinder the incorporation of CBDR-RC within the IMO regime. Section IV discusses the 2025 Net-Zero Framework and possible legal pathways to integrate differentiation in it. Section V concludes by reflecting the need to reconceptualise fairness in regime interaction within an evolving landscape in international law.

2. Two Grammars of Fairness: Reconciling Order and Change

2.1 Fairness in International Law

In an anarchic international system, the pursuit of fairness in international law-making is paramount, because a shared perception of a rule as fair is often the primary basis upon which states voluntarily choose to be bound by it.[22] Fairness therefore can generate the compliance pull that sustains the functioning of international legal order.[23] Seen through this lens, fairness is both a moral justification and a pragmatic necessity for international legal order.

[20] See B. Garcia, A. Foerster and J. Lin, 'Net Zero for the International Shipping Sector? An Analysis of the Implementation and Regulatory Challenges of the IMO Strategy on Reduction of GHG Emissions', (2021) 33 *Journal of Environmental Law* 85. See also H. N. Psaraftis, 'Decarbonization of Maritime Transport: To Be or Not To Be?' (2019) 21 *Maritime Economics & Logistics* 353.
[21] IMO, *Draft revised MARPOL Annex VI*, Circular Letter No. 5005 (11 April 2025).
[22] T M. Franck, *Supra* note 17, at 7-13.
[23] Ibid.

What counts as fairness has been examined extensively across different disciplines such as moral philosophy, political philosophy, sociology, etc.[24] For the purposes of this article, fairness is understood in the sense articulated by Thomas Franck in his seminal work *Fairness in International Law and Institutions*.[25] Franck conceives fairness as comprising two independent and potentially adversarial variables: legitimacy, which reflects procedural fairness, and distributive justice, which reflects substantive fairness.[26] He caveats that it is easy either to overstate one component or to overlook the difference between the two components.[27] A rule may be legitimate and yet distributively unjust, or distributively just yet lacking legitimacy; such a rule, lacking one dimension of fairness, is therefore "only imperfectly or contingently fair."[28] Though there is much overlap between the two dimensions of fairness in international law, Frank's conceptualization requires both components, neither the procedural fairness not distributive justice, taken alone, can fully sustain international law.[29]

The two aspects of fairness can clash fiercely because their inherent goals are different: An argument based on distributive justice (substantive fairness) often favours change, while a fairness claim advanced from the perspective of legitimacy (procedural fairness) often aims at retaining stability and order.[30] There can be a tension between the desire for the right process of rule-making and application which creates order and stability and the "right" outcome based on equitable distribution of benefits and burdens which creates moral credibility in international law.[31] In this sense, international law's viability depends on its capacity to balance order and change—to preserve legitimacy while also responding to evolving ideas of justice.[32]

[24] *See e.g.* Rawls J*, Justice as Fairness: A Restatement* (Harvard University Press 2001). D Miller, *Social Justice* (1979). J Rawls, 'Justice as Fairness' (1958) 67 *The Philosophical Review* 164.
[25] T M. Franck, *Supra* note 17.
[26] T M. Franck, *Supra* note 17, at 7.
[27] Ibid, at 22.
[28] Ibid, at 22.
[29] Ibid, at 7-9.
[30] Ibid, at 23.
[31] Ibid, at 7-9.25-29.
[32] Ibid, 25.

Variable	Function	Mode of Reasoning	Regime Logic	Goal
Legitimacy (procedural justice)	Equal rule-application and participation	Uniformed rules for all actors in all circumstances	Uniformity, formal equality	Order/Stability
Distributive Justice (substantive)	Equitable distribution of burdens and benefits	Different rules for different actors/circumstances	Differentiation, equitable allocation	Moral Credibility

Table 1 Two Independent Variables of Fairness

The fairness tension becomes most evident when a claim of fairness in a newly established regime pursuing a goal of distributive justice enters a regime originally designed for procedural fairness and has a strong incentive to retain its existing order. Climate change regime embodies precisely such a justice claim based on the discourse of "change": it exposes the inadequacy of formal equality between state actors when their historical emissions and respective capacities to address the harm of climate change are deeply unequal. Whereas, the maritime regime has long committed to uniformity and non-discrimination, differentiation between states will disturb the existing legal framework of the IMO regime. When the IMO sets out to design legal instruments which are essentially climate related measures, the underlying fairness tension between the two regimes culminate, because they each interpreted the concept of fairness through their own regime perspective and developed over time different conception of fairness: the IMO's fairness conception is expressed through procedural legitimacy and the UNFCCC's fairness through distributive justice. The question is whether the conception emphasizing distributive justice in the climate regime can be translated into the IMO's conception of justice without disturbing its original order. To explore this, we need to closely examine the two conceptions of fairness in their respective regimes.

2.2 Fairness in the IMO Regime: Uniformity for Order

Maritime law's commitment to uniformity has deep roots in both custom and empire. Its ancient origins trace back to the early Middle Ages, when maritime trade was governed by shared customs forming the *lex maritima* — a *ius commune* of the sea that emerged as part of the broader *lex mercatoria* of merchants.[33] The historic *lex maritima* that developed within the *lex mercatoria* evolved primarily from the Rôles d'Oléron (12th century), with traces often linked back to the Rhodian sea law (8th–9th century BC).[34] Institutions such as attachment, maritime liens, and general average are survivals of this tradition.[35] From the fifteenth century onward, maritime law evolved as both a response to and an instrument for imperial expansion, regulating commerce, asserting dominance, and facilitating global trade.[36]

Under British imperial governance, maritime regulation was consolidated through instruments such as Admiralty law, which imposed the same legal standard across its colonies, such as Canada, leaving them only minimal room for domestic variation. [37] This was not incidental, establishing a uniform set of maritime rules across imperial sea routes eased the empirical administrative control and facilitated predictable commercial exchange across great distances. [38]

This historical legacy laid the foundation for the modern global maritime system, in which the universality of standards continues to bind all ships owned/operated by all states. In 1948, the Inter-Governmental Maritime Consultative Organization (IMCO, later renamed the IMO) was created as one of the specialised agencies that framed their work as neutral expertise in the broader context of post-Second World War institutional settlement.[39] IMCO's constitutive convention

[33] See W Tetley QC, 'The General Maritime Law – The *Lex Maritima*' (1994) 20 *Syracuse Journal of International Law and Commerce* 105, 107- 108. See also Eric van Hooydonk, 'Towards a Worldwide Restatement of the General Principles of Maritime Law' (2014) 20 *Journal of International Maritime Law* 170, 170.
[34] W Tetley QC, 'The General Maritime Law – The *Lex Maritima*' (1994) 20 *Syracuse Journal of International Law and Commerce* 105, 107.
[35] Ibid.
[36] M Raffety, 'The Law Is the Lord of the Sea": Maritime Law as Global Maritime History.' (2020): 53-74.
[37] T L McDorman, 'The History of Shipping Law in Canada, the British Dominance.' *7* (1982): *Dalhousie LJ,* 620.
[38] Collins DM, "Admiralty—International Uniformity and the Carriage of Goods by Sea" (Tulane Law Review, 1995), www.tulanelawreview.org/pub/volume60/issue1/admiraltyinternational-uniformity-and-the-carriage-of-goods-by-sea
[39] Agustín Blanco-Bazán, 'IMO-Historical Highlights in the Life of a UN Agency' (2004) 6 *Journal of the History of International Law* 259; 260.

defined its purpose as providing "machinery for cooperation among Governments in the field of governmental regulation and practices relating to technical matters of all kinds affecting shipping engaged in international trade."[40] IMCO was therefore designed to present its work as grounded in technical expertise.

The IMO's technocratic commitment to uniformity finds its most concrete legal expression in the principle of non-discrimination: the idea that all ships should be subject to the same standards of safety and environmental protection, regardless of flag or ownership. The IMO's constitutive convention itself enshrined uniformity and non-discrimination as guiding principles. Article 1(b) of the IMO Convention instructs the Organization to encourage "the removal of discriminatory action and unnecessary restrictions by Governments affecting shipping engaged in international trade so as to promote the availability of shipping services to the commerce of the world without discrimination."[41]

This mandate was operationalized through the doctrine of no more favorable treatment (NMFT) at treaty level. In its classic formulation under MARPOL article 5(4), Parties must apply the Convention to ships of non-Parties "as may be necessary to ensure that no more favorable treatment is given to such ships."[42] In other words, a country cannot seek competitive advantage by opting out of rules – its vessels will be held to the global standard in any major port. Identical clauses appear in other core IMO treaties, such as the 1988 Protocol to the Load Lines Convention, which direct inspectors that "no more favorable treatment is to be given to ships of non-Parties".[43]

The logic behind NMFT was to prevent unfair competition and avoid "a race to the bottom", without it, ships from non-compliant flags could undercut those incurring the costs of compliance. Thus, many argues that uniformity was seen as necessary for both safety and a level economic playing field.[44]

[40] 1948 Convention on the Intergovernmental Maritime Consultative Organization, 289 UNTS 3 (1958), Art.1(a).
[41] 1948 Convention on the Intergovernmental Maritime Consultative Organization, 289 UNTS 3 (1958), Art.1(b).
[42] MARPOL, 1340 UNTS 61. Annex VI, art.5(4).
[43] 1988 Protocol to the Load Lines Convention, article 1(3), http://www.admiraltylawguide.com/conven/protoloadlines1988.html
[44] A Chircop, *Supra* note 19.

Their drafting process of the IMO Conventions also privileges technical expertise and universal principles, reflecting an underlying assumption that states can collectively benefit from unified maritime rules optimized for safety and efficiency.[45] However, it is not necessarily the case that uniform compliance of all ships will guarantee justice in all circumstances especially when there is a structural economic disparity among maritime nations that are beneficial owners or operators of the regulated ships.

Nevertheless, a technocratic conception of justice is embedded in IMO's legal and institutional architecture: the equal application of standardized rules is treated as both method and moral ideal. Critical international legal scholars help expose the hidden politics of this technocratic model. For example, Martti Koskenniemi has long observed, formal equality in international law is deeply deceptive: it treats states as identical legal subjects while ignoring disparities in power, capacity, and participation.[46] More recently, he argued that much of contemporary international governance operates through a "politics of re-definition," where global problems are strategically reframed in the language of technical expertise so as to render structural bias invisible.[47] What the ideology of universality in international institutions accomplishes is the conversion of partial, contested preferences into seemingly objective managerial logic.

In the maritime domain, the IMO exemplifies this dynamic. Uniform rules provide a veneer of neutrality that conceals asymmetries of power and influence: powerful maritime nations, equipped with technical and financial resources, shape standards and control their application, while smaller and developing states are bound by rules they did not meaningfully create. The IMO's procedural fairness thus legitimizes structural inequality: it translates political dominance into the language of technical consensus. The historical process demonstrates how the IMO extracts its own grammar of fairness from its technocratic and procedural perception of fairness.

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[45] R Govindasamy, 'An Analytical Report on the IMO Convention Process from Adoption to Enforcement' (Dieselship, 16 June 2025) https://dieselship.com/uncategorized/an-analytical-report-on-the-imo-convention-process-from-adoption-to-enforcement/#ftoc-heading-12

[46] See M Koskenniemi and V Kari. "Sovereign equality." *The UN Friendly Relations Declaration at 50: An Assessment of the Fundamental Principles of International Law.* Cambridge University Press, 2020. 166-88. see also M Koskenniemi, "International Law and Hegemony: A Reconfiguration", (2004) 17 C*ambridge Review of International Affairs* 197.

[47] M Koskenniemi, 'The politics of international law – 20 years later' (2009) 20 (1) *European Journal of International Law* 7–19, at 11-2.

2.3 Fairness in the Climate Regime: Differentiation for Change

The discourse of fairness in climate regime emerged from a very different historical and political trajectory than that of maritime law and was grounded in substantive equality rather than formal equality. The climate regime developed in response to a global challenge defined by structural inequality. Consequently, differential treatment is paramount in achieving climate justice. The core normative expression of this fairness logic is the principle of CBDR-RC that demands differential treatment amongst the states whose development status and historical contribution to global warming is different.

The practice of differential treatment in international agreements is not new. It can be traced back as far as the Versailles Peace Treaty in 1919, in the post-war development debates, where the formal equality of states was first challenged by claims for material equity.[48] Development of the differential treatment in international law is closely tied to the emergence of global concerns regarding economic inequality and environmental issues in the post-war era, particularly reflecting the demands of developing countries.[49] For example, the movement led by developing nations to establish a New International Economic Order (NIEO), which started growing in the 1960s and 1970s, demanded for more systematic differential treatment within the international economic community.[50] The 1974 Declaration on the Establishment of a New International Economic Order advanced the idea that historical inequities demanded differentiated legal treatment and the global economies should be restructured to be fairer.[51] However, these early recognitions of asymmetry remained *functional* rather than moral: differentiation was justified to facilitate participation of developing countries within a universal legal order, not to redistribute responsibility or correct

[48] See C D Stone, 'Common but differentiated responsibilities in international law.' (2004) 98(2) *American Journal of International Law* 276.
[49] E Neumayer, "In Defence of Historical accountability for greenhouse gas emissions.' (2000) 33(2), *Ecological economics*, 185. See also C D Stone, 'Common but Differentiated Responsibilities in International Law' (2004) 98(2) *American Journal of International Law* 276, at 278. See also P Josephson, 'Common but Differentiated Responsibilities in the Climate Change Regime: Historic Evaluation and Future Outlooks' (Thesis, Stockholm University, 2017) at 13.
[50] P Josephson, 'Common but Differentiated Responsibilities in the Climate Change Regime: Historic Evaluation and Future Outlooks' (Thesis, Stockholm University, 2017) at 15 citing citing T Honkonen, *The Common but Differentiated Responsibility Principle in Multilateral Environmental Agreements: Regulatory and Policy Aspects* (2009) at 49-67.
[51] UNGA, "Declaration on the Establishment of a New International Economic Order," GA Res 3201 (S-VI), UN Doc A/RES/3201 (S-VI) (1 May 1974).

structural injustice.[52] As Antony Anghie observed, the universalist project of international law continued to reproduce its own hierarchies by tolerating difference only as an exception to a European norm of sameness.[53] Though these efforts are ultimately unsuccessful in achieving substantial reform, they changed the dynamics of international negotiations and introduced the rhetoric that would later be applied to environmental regulation. It was within the environmental domain that differentiation acquired an explicitly normative dimension. The 1972 Stockholm Declaration was the starting point for the CBDR principle within the environmental regime.[54] Then in the 1992 Rio Declaration on Environment and Development, Principle 7 proclaimed that "States have common but differentiated responsibilities," recognising that while all share responsibility for environmental protection, "developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command."[55]This formulation of differentiation was not a mere pragmatic accommodation but a moral proposition: fairness requires that obligations be adjusted to capacity and historical contribution.

CBDR-RC was soon codified under climate change context in binding form by Article 3(1) of the UN Framework Convention on Climate Change (UNFCCC) 1992, which provides that Parties should act "on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities."[56] CBDR-RC therefore embeds two intertwined forms of substantive justice: corrective justice and distributive justice.[57]

Corrective justice focuses on rectifying past wrongful behaviour or harms caused.[58] The principle of CBDR-RC shows corrective justice by assigning responsibility based on historical contribution

[52] P Josephson, 'Common but Differentiated Responsibilities in the Climate Change Regime: Historic Evaluation and Future Outlooks' (Thesis, Stockholm University, 2017) at 13-15.
[53] A Anghie, *Imperialism, Sovereignty and the Making of International Law* (CUP 2005) 6–8.
[54] P Josephson, 'Common but Differentiated Responsibilities in the Climate Change Regime: Historic Evaluation and Future Outlooks' (Thesis, Stockholm University, 2017) at 25-26.
[55] Rio Declaration on Environment and Development (adopted 14 June 1992) UN Doc A/CONF.151/26 (Vol I), Principle 7.
[56] UN Framework Convention on Climate Change (opened for signature 9 May 1992, entered into force 21 March 1994) 1771 UNTS 107, art 3(1).
[57] Posner and C Sunstein, 'Climate Change Justice' (2008) 96 *Georgetown Law Journal* 1565
[58] Ibid, at 1597-1598.

to the accumulation of greenhouse gases.[59] This logic was operationalised most explicitly in the distinction of state obligations between Annex I and non-Annex I Parties under the UNFCCC, and its reproduction through Annex B of the Kyoto Protocol.[60] Article 3(1) of the Kyoto Protocol requires only Annex I Parties to assume quantified emission reduction commitments, reflecting the historical responsibility of industrialised economies.[61]

Distributive justice concerns with how burdens and benefits (such as resources, wealth, or the costs of environmental protection) should be distributed among different nations or groups.[62] CBDR-RC demonstrates distributive justice by applying different standards based on a country's wealth or capability. This distributive dimension is institutionalised most clearly in Articles 4(3) and 4(5) of the UNFCCC, which oblige developed states to provide financial resources, technology transfer, and capacity-building to developing states.[63] This constitutes the *assistanc*e form of differentiation: the beneficiaries of the differential treatment are ensured access to the support necessary to meet their climate commitments.[64]

The Paris Agreement retains this substantive fairness logic but expresses it through a more flexible modality. Differentiation is preserved in Article 2(2) of the Paris Agreement and parties remain guided by equity and CBDR-RC "in the light of different national circumstances."[65] Further, it was operationalised through self-differentiated nationally determined contributions (NDCs) and differentiated expectations regarding mitigation ambition.[66]

[59] L Rajamani and J Peel (eds), *The Oxford Handbook of International Environmental Law* (2nd edn, Oxford University Press 2021), at 321
[60] United Nations Framework Convention on Climate Change (adopted 9 May 1992, entered into force 21 March 1994) 1771 UNTS 107, Annex I and Annex II; Kyoto Protocol to the United Nations Framework Convention on Climate Change (adopted 11 December 1997, entered into force 16 February 2005) 2303 UNTS 162, Article 3(1) and Annex B. See also Rajamani, Lavanya. "Interpreting the Paris Agreement in its normative environment." (2024) 77(1) *Current Legal Problems 167.*
[61] Kyoto Protocol, Article 3(1) and Annex B.
[62] E Posner and C Sunstein, 'Climate Change Justice' (2008) 96 *Georgetown Law Journal* 1565, at 1573.
[63] UNFCCC, art 4(3), art 4(5).
[64] L Rajamani, *Differential Treatment in International Environmental Law* (Oxford University Press 2006) 93–94, at 113.
[65] Paris Agreement to the United Nations Framework Convention on Climate Change (adopted 12 December 2015, entered into force 4 November 2016) https://unfccc.int/sites/default/files/english_paris_agreement.pdf, art. 2(2).
[66] Ibid, article 4(4).

In this manner, the climate regime articulates a conception of fairness that is not exhausted by formal equality. Instead, fairness is understood as requiring equitable allocation of burdens, grounded in responsibility and capability. This constitutes the climate regime's fairness grammar: a grammar of change expressed through equitable differentiation.

2.4 Fairness Grammar

in the fragmented international legal landscape, each international regime can independently develop its own perception of fairness, a perception that gradually becomes systematized as a fairness grammar embedded in its particular social, historical, and legal context. This is a dynamic process: once established, such fairness grammar forms the normative foundation of a legal regime and subsequently shapes its own rule-making and -implementing process. As Franck noted, "Fairness is not 'out there' waiting to be discovered; it is a product of social context and history." "[67] The contrasting fairness grammars developed separately by the maritime regime and the climate regime therefore offer a powerful lens for illustrating their divergent legal frameworks, regulatory approaches, and rule-making logics.

Scholars have long recognised that climate change governance operates as a transnational regime complex that is fragmented and decentralized, comprising a diverse range of institutions governing the same issue without co-ordination.[68] When the maritime regime sits within the climate complex, the two fairness grammars confront each other and pull in opposite directions: the IMO legal framework express fairness through procedural justice, seeking legitimacy through uniform application, while the UNFCCC regime advances distributive justice as fairness, seeking justice through differentiation.

Resistance to change often arises when the two dimensions of fairness pull in opposite directions. For example, during debates within the IMO's Working Group on GHG Emissions where several states argued that market-based measures (MBMs) must be consistent with the CBDR-RC

[67] T M. Franck, *Supra* note 17, at 14..
[68] R. O. Keohane and D. G. Victor, 'The Regime Complex for Climate Change' (2011) 9 *Perspectives on Politics* 7. K. W. Abbott, 'The Transnational Regime Complex for Climate Change' (2011) 30(4) *Environment and Planning C: Government and Policy* 571, at 571–90. at 573.

principle while others countered that such differentiation contradicted IMO principle of NMFT,[69] the result was limited progress in any meaningful incorporation of CBDR-RC into MBMs.

This raises a crucial question: when the two regimes with divergent grammar of fairness interact, one favours stability and order whereas the other favours change, can fairness be achieved by relying solely on one dimension and foregoing the other? For Franck, a fair international order must maintain legitimacy by ensuring procedural equality, but it must also evolve to accommodate substantive justice by differentiating in the face of inequality.[70] The IMO's adherence to procedural fairness provides predictability and stability, but its normative thinness reveals the limits of its legitimacy as fairness without any concern of distributive justice. Whereas in international environmental law, it is well established that differential treatment is an instrument to foster substantive equality where formal equality cannot lead to a fair result.[71] The CBDR-RC principle in climate regime is a major manifestation of how the differential treatment operates to ensure the corrective and distributive justice in climate law. When IMO sets out to regulate the GHG emissions, equal treatment of all ships will fail to deliver substantive equality for the states when no differentiation is made.

If fairness is, as Franck suggests, the rubric under which international law manages its tension between order and change, [72] then the interaction between the IMO and the climate regime becomes a test of what fairness means in this new regulatory domain. From this perspective, the question is not whether concerns of distributive justice undermine procedural fairness within the existing legal order, but rather how distributive justice introduces changes into that stable order and addresses the justice deficits that emerge when new legal issues arise. The incorporation of CBDR-RC within the IMO's decarbonization measures therefore represents an attempt to integrate the substantive justice dimension into an existing legal mechanism that prioritises procedural

[69] See IMO, 'Review of Proposed MBMs: The IMO, Global MBMs that Reduce Emissions and the Question of Principles' IMO Doc GHG-WG 3/3/3 (25 February 2011).
[70] T M. Franck, *Supra* note 17, at 7-8.
[71] L Rajamani and J Peel (eds), *The Oxford Handbook of International Environmental Law* (2nd edn, Oxford University Press 2021) at 320.
[72] Ibid, at 7.

justice, ultimately seeking to balance the two dimensions of fairness. This can be understood as a translation of fairness grammar from one regime to another.

3. Constraints in Translating Fairness from the Climate Regime to the Maritime Regime

If the incorporation of CBDR-RC into IMO decarbonisation represents a translation of fairness grammar across regimes, this process is further complicated and constrained by the different legal architecture of the climate regime and the IMO regime. In fact, the IMO has not turned a blind eye of the principle of CBDR-RC. Both the Initial IMO Strategy on Reduction of GHG Emissions from Ships (2018) and the Revised IMO GHG Strategy (2023) expressly list the principle of CBDR-RC among their guiding principles.[73] Whether this inclusion of CBDR-RC in the Strategy documents shows the willingness of the IMO to inform states' specifc obligations when the specific mid-term measures are designed and carried out through binding instruments such as MARPOL is another question. As an aspiration, IMO frameworks affirm CBDR-RC as one of the guiding principles for shipping decarbonisation.[74] However, this convergence remains largely symbolic due to the unfulfilled translation process of fairness conception from the climate regime to the maritime regime. The crucial question in this process is whether CBDR-RC originated in a state-based system of distributive justice can be meaningfully operationalised within a regime whose legitimacy is built on ship-based uniformity and whether it can inform the design of shipping decarbonisation measures so it can be perceived fair by the MARPOL parties without disturbing the maritime order and stability.

There are multiple constraints operating at three levels that further complicates this translation process: doctrinal, structural, and operational.

3.1 Doctrinal Constraints

Even in the absence of political disagreement among Member States, the inherent legal logic of the IMO regime itself already presents a barrier to the translation of the CBDR-RC language into

[73] See Resolution MEPC.304(72), 'Initial IMO Strategy on Reduction of GHG Emissions from Ships' (13 April 2018). See also Resolution MEPC.377(80) , '2023 IMO Strategy on Reduction of GHG Emissions from Ships' (7 July 2023) Annex 15 to MEPC 80/17/Add.1.
[74] IMO, *2023 IMO Strategy on Reduction of GHG Emissions from Ships* (Resolution MEPC.377(80), adopted 7 July 2023, Annex 15 to MEPC 80/17/Add.1). para 3.5.1.2.

its decarbonisation measures. As mentioned earlier, the fundamental legal doctrine governing ship-based regulation is the principle of NMFT.[75] Codified under MARPOL Article 5(4)[76] and embedded throughout the IMO's compliance architecture, NMFT requires that all ships be subject to the same regulatory standards, regardless of their flag, operator, or beneficial ownership.[77] Once a climate-related measure is adopted as part of the MARPOL, its design is therefore constrained by Article 5(4). Therefore, any design that differentiate ships based on the different historical contribution and respective capacities of the states behind or linked to the ships cannot be implemented under the MARPOL.

The 2025 Net-Zero Framework can illustrate how these constraints have shaped the limited and selective incorporation of CBDR-RC into maritime climate regulation. The Net-Zero Framework approved at MEPC 83 combines a GHG fuel-intensity standard with a market-based pricing mechanism, and creates the IMO Net-Zero Fund to manage revenue redistribution, capacity-building, and equitable transition support.[78] It was approved as a draft amendments to MARPOL Annex VI.[79] It is only natural that all of these regulatory measures necessarily applies uniformly to all vessels without discrimination if they are ever adopted by the parties of MARPOL. However, because of this built-in constraint, the Framework cannot differentiate obligations among ships based on the developmental status or climate responsibility of the states actually "linked" to them. As to which states are the states linked to them is a separate legal issue. Under the current legal status, ships with the same emissions profile must face the same regulatory burden, irrespective of whether the state behind them is historically high-emitting or capacity-constrained. Where differentiation does appear in the Net-Zero Framework, it does so only at the level of revenue redistribution, through the Net-Zero Fund, rather than at the level of determining legal obligation of the emitters.[80] Even when it comes to the redistribution of the fund, there is no specific

[75] See Section 2.2.
[76] MARPOL 73/78, Annex VI art 5(4).
[77] Y Chen,'Reconciling common but differentiated responsibilities principle and no more favourable treatment principle in regulating greenhouse gas emissions from international shipping" *Marine Policy* 123 (2021): 104317.
[78] IMO, Draft revised MARPOL Annex VI (Circular Letter No 5005, 11 April 2025).
[79] IMO, 'IMO approves net-zero regulations for global shipping' (Press Briefing, 11 April 2025) https://www.imo.org/en/mediacentre/pressbriefings/pages/imo-approves-netzero-regulations.aspx accessed 9 September 2025.
[80] IMO, Draft revised MARPOL Annex VI (Circular Letter No 5005, 11 April 2025).

distributive rules to abstain how the revenue collected would be distributed, furthermore, its eligibility and criteria was not discussed amongst the parties.[81]

Whether MARPOL have the mandate to create and manage a fund for the purpose of mitigating GHG emissions is questioned by state parties. Cook Islands Thailand, and United Arab Emirates (UAE) all raised to MEPC83 that MARPOL does not have the mandate to manage a climate fund and it should not be the appropriate legal instrument to incorporate such an economic measure and a separate convention should be created to manage the fund following the pattern of management of oil pollution under MAOPOL Annex 1 and the development of The International Oil Pollution Compensation Funds(IOPC Funds).[82] UAE and Thailand specifically emphasized the importance and guiding effect of CBDR-RC principle in the distribution of the fund, and the willingness to consider preferential treatment towards developing states, such as technical transfer and exemption of payment[83]

Thus, MARPOL's legal architecture — its guiding principle and mandate — can arguable limit CBDR-RC from being translated into the IMO context and potentially reshape the fairness discourse.

3.2 Structural Constraints

Even if CBDR-RC could be translated to inform the legal instruments under IMO regime, there is a structural regulatory mismatch between the climate and maritime regimes because they allocate responsibility using different regulatory units.

Under the climate regime, emissions and obligations are both attached to states. By contrast, the IMO allocates obligations directly to ships, enforced the obligations through the flag state and

[81] IMO, Report of the Marine Environment Protection Committee on Its Eight-third Session, Statement by the delegation of Cook Islands. MEPC 83/17/Add.1 Annex 22, at 10.
[82] IMO, Statement by the delegation of Cook Islands. MEPC 83/17/Add.1 Annex 22, at 10. Statement by the delegation of Thailand. MEPC 83/17/Add.1 Annex 22, at 23. Statement by the delegation of the United Arab Emirate, MEPC 83/17/Add.1 Annex 22, at 26-27.
[83] IMO, Statement by the delegation of Thailand. MEPC 83/17/Add.1 Annex 22, at 23. Statement by the delegation of the United Arab Emirate, MEPC 83/17/Add.1 Annex 22, at 26-27.

port-State jurisdiction.[84] Currently, there is no attribution mechanism linking ships' emissions to the states that ultimately benefits from, controls, or directs maritime operations. Without such a link, there is there is no structural basis within IMO regime on which differentiated state responsibility could be assessed. Further, this mismatch is deepened by the exclusion of international shipping emissions from national inventories under UNFCCC accounting rules.[85] Because these emissions are not allocated to states, the climate regime provides no responsibility anchor for the application of CBDR-RC to the shipping sector. As a result, the UNFCCC cannot differentiate what it does not count, and the IMO cannot differentiate what it does not attribute. The two compliance systems operate on incommensurable responsibility units, producing a structural misalignment that hinders the translation CBDR-RC into maritime decarbonisation obligations.

3.2.1 Regulatory Unit Mismatch: State-Based vs Ship-Based Governance

Under the climate regime, it is obvious that obligations attach to the parties of the climate treaties, which are, states. Required by Article 4(1)(a) and Article 12(1) of the UNFCCC, each party must prepare and communicate to the Conference of the Parties (COP) a national inventory of GHG emissions.[86] States must perform their obligations with regards to climate change "on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities."[87] From the Kyoto Protocol's annex system to the Paris Agreement's nationally determined contributions (NDCs), the entire architecture of the climate regime is built on state-based accounting and differentiation. By contrast, under the IMO legal order, obligations attach not to states, but to ships. MARPOL Annex VI establishes uniform technical and operational standards applicable to all vessels, and the principle of NMFT requires parties to apply identical rules to all ships, regardless of their flag, ownership, or the economic status of the states associated with them. This ship-based regulatory logic derives from functional specialization in marine pollution management under the United Nations Convention on the Law of the Sea(UNCLOS).

[84] United Nations Convention on the Law of the Sea (adopted 10 December 1982, entered into force 16 November 1994), arts 211–212.
[85] UNFCCC, art 4(1)(a).
[86] UNFCCC, article 4(1)(a) and article 12(1)(a).
[87] UNFCCC, article 3(1)

Articles 211 and 212 of UNCLOS allocates jurisdictional roles among flag, port, and coastal states while delegating the elaboration of relevant rules to the "competent international orgainsation".[88] In practice, this mandate has been exercised through the IMO, most notably through MARPOL.[89]

The result is a structural mismatch: the UNFCCC allocates climate responsibility among states, whereas the IMO equalizes obligations among ships. The climate regime differentiates to achieve equity; the maritime regime equalizes to preserve uniformity. This divergence of responsibility units exposes a structural gap in the operationalisation of CBDR-RC within the IMO.

3.2.2 The National Inventory Gap: Absence of Shipping Emissions

As previously mentioned, the UNFCCC establishes state-based accountability by requiring Parties to prepare and report national inventories of anthropogenic emissions and removals, which serve as the basis for determining mitigation commitments and capabilities.[90] Under the Revised 1996 IPCC Guidelines, however, emissions arising from fuel sold for international maritime transport were to be reported separately and not included in national totals.[91] The Kyoto Protocol subsequently affirmed this approach by providing that Annex I Parties shall address GHG emissions from marine bunker fuels "working through … the International Maritime Organization."[92] Meanwhile, the COP Decision 2/CP.3 (1997) reaffirmed that emissions from international bunker fuels (IBF) shall not be included in national totals but reported separately.[93] This institutional bifurcation created a regulatory gap: even when IMO can effectively identify the states responsible for the ships' emissions through the invention of an attribution mechanism, there is currently no corresponding legal mechanism within the UNFCCC framework to anchor these

[88] United Nations Convention on the Law of the Sea (adopted 10 December 1982, entered into force 16 November 1994), arts 211-212.
[89] IMO, 'UNCLOS and IMO – 40 years of cooperation' (IMO Media Centre, 30 November 2022) https://www.imo.org/en/MediaCentre/Pages/WhatsNew-1796.aspx See also IMO, "The United Nations Convention on the Law of the Sea (UNCLOS) and the International Maritime Organization." Available at: https://www.imo.org/en/MediaCentre/SecretaryGeneral/Pages/ITLOS.aspx
[90] See Section 3.2. See also UNFCCC, art 4(1)(a).
[91] Intergovernmental Panel on Climate Change, *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories* (IPCC 1997).
[92] Kyoto Protocol, art 2(2), as quoted in FCCC/SBSTA/1999/INF.4, at 4.
[93] Conference of the Parties, Methodological issues related to the Kyoto Protocol (Decision 2/CP.3), UN Doc FCCC/CP/1997/7/Add.1 (25 March 1998). UNFCCC SBSTA, Methodological Issues: Emissions Resulting from Fuel Used for International Transportation, UN Doc FCCC/SBSTA/1999/INF.4 (27 September 1999) 4–5.

emissions in national inventories. As a result, international shipping emissions remain structurally external to state-level mitigation commitments under the climate regime.

3.3 Operational Constraints:

Even if differentiation were doctrinally permissible and the structural mismatch between the UNFCCC and IMO could be bridged, the IMO regime lacks an operational basis for the climate responsibility to be allocated among states. The central difficulty lies in the attribution of emissions from individual ships to any particular state, which is foundational for CBDR-RC to be implemented in a regime grounded in ship-based regulatory logic.

3.3.1 The Flag-Ship Fiction

Under the law of the sea, the flag state is treated as the primary jurisdictional anchor for enforcement.[94] In theory, the flag state is responsible for ensuring that ships flying its flag comply with applicable international rules, including MARPOL Annex VI. In practice, however, the flag of a vessel is frequently a juridical fiction.[95] The attribution of maritime emissions to flag states is both administratively unworkable and normatively unjust in climate regime. The contemporary flag of convenience (FOC) system emerged in the twentieth century as a mechanism of regulatory arbitrage. Beginning with Panama's open registry in the 1920s and Liberia's registry in the 1940s, ship-owning interests located primarily in industrialised states discovered that they could externalise regulatory burdens by registering vessels in states offering minimal oversight and favourable fiscal conditions.[96] Over time, this practice became structurally embedded in global shipping: Panama, Liberia, and the Marshall Islands now account for a substantial proportion of the global merchant fleet, while the economic and managerial centres of the industry remain elsewhere.[97]

[94] UNCLOS, arts. 91–94
[95] Nautilus Shipping, 'Flag of Convenience: Understanding Vessel Registration and the Flags Commonly Used in Shipping*'* (Nautilus Shipping, 25 November 2024) https://nautilusshipping.com/news-and-insights/flag-of-convenience-understanding-vessel-registration-and-the-flags-commonly-used-in-shipping
[96] Ibid.
[97] Ibid. See also UNCTAD, Review of Maritime Transport *2023* (UNCTAD 2023)

This dynamic has been characterised as a neo-colonial logic: the benefits of control and profit flow to Global North shipowners and corporate actors, while the regulatory burdens and formal responsibilities are outsourced to smaller, often developing states.[98] These FOC states typically do not control ship operations, do not receive the economic returns associated with maritime trade, and also frequently lack the administrative capacity to enforce international standards. From a climate change perspective, many of these FOC states are among the most climate-vulnerable globally—including small island developing states that face existential risks from sea-level rise such Vanuatu, Tuvalu and Marshall Islands.[99] Requiring them to assume responsibility for GHG emissions they did not cause and from which they derived little benefit drastically contradicts the purposed of CBDR-RC principle.

3.3.2 Ownership and Control Opacity

The difficulties of attributing maritime emissions to states extend beyond the legal fiction of the flag. Modern shipping operates through multi-layered and deliberately opaque corporate structures, in which the registered owner, beneficial owner, commercial manager/disponent owner, and the technical manager of a vessel can all be different and geographically dispersed across different jurisdictions,[100] making it almost impossible to identify which state should responsible for the emissions of any given ship.

Although the "one-ship company" or "single-ship company" structure is a well-established practice in the maritime industry designed to limit the shipowners liability to the value of the vessel and simplified finance, this entity exists largely as a legal shell. [101] And these entities are typically incorporated in tax-neutral or offshore jurisdictions to reduce overall tax exposure and regulatory burdens.[102] The beneficial owner, by contrast, is the entity that exercises real control over the vessel and receives the economic returns from its operation, which may be a parent group, a private

[98] A V Fossen, 'Flags of Convenience and Global Capitalism' (2016) 6 *International Critical Thought* 359, 361–365.
[99] IPCC, Sixth Assessment Report: Impacts, Adaptation and Vulnerability (2022), Ch 15 (Small Islands) https://www.ipcc.ch/report/ar6/wg2/chapter/chapter-15/
[100] Vasilis Kontas, '*Vessel Ownership'* (MarineTraffic Support, updated 2024) https://support.marinetraffic.com/en/articles/9552748-vessel-ownership
[101] S P Hathi and B Hathi, Ship Arrest in India and Admiralty Laws of India, Fifteenth Edition (Brus Chambers, 2024) ch 80 'One Ship Company' https://www.admiraltypractice.com/chapters/80.htm
[102] Ibid.

equity structure, or a financial lessor located in another state entirely.[103] Day-to-day operation and maintenance are then delegated to technical managers, while the commercial deployment of the vessel (chartering decisions, routes, cargoes, freight negotiations) may be handled by yet another party serving as commercial manager or charterer.[104]

Admittingly, the arrangement of fragmented ownership layers is a deliberate and entrenched feature of maritime commercial practice. The separation of legal title, economic control, and operational decision-making across multiple jurisdictions makes it difficult to identify which state could be held responsible for any given vessel's GHG emissions in a way that is consistent with the state-based attribution logic under the climate regime.

Therefore, due to the current maritime commercial structure characterised by flags of convenience and fragmented ownership, there is no easy pathway to translate the ship-based emissions to state-based responsibility under climate regime to allow operationalisation of CBDR-RC principle in the IMO regime.

4. Potential Legal Pathways towards Fairer Shipping Decarbonisation Measures

As established in the preceding sections, the IMO's conception of fairness has so far been limited to procedural legitimacy, primarily by ensuring equality of treatment among ships. When the IMO set out to regulate an issue that is traditionally governed by climate regime, the interaction between the two regimes shifted the normative foundation of its rule-making towards achieving a balance between their respective conception of fairness. There is no fix formula to predetermine to what extent the balance should be tilted towards climate justice. It really depends on how the notion of fairness is understood by the Parties, how the fairness claims are contested and negotiated amongst the Parties, and whether the proposed measures or the negotiations outcome aligns with the Parties' normative expectation of fairness. As Frank convincingly argued, "Fairness is the rubric under which this tension is discursively managed."[105]

[103] V Kontas, '*Vessel Ownership'* (MarineTraffic Support, updated 2024) https://support.marinetraffic.com/en/articles/9552748-vessel-ownership
[104] Ibid.
[105] T M. Franck, *Supra* note 17, at 7.

When the IMO sought to translate the mid-term measures outlined in its 2023 Strategy into binding legal obligations through the amendment of MARPOL Annex VI in April 2025,[106] the stakes for the Parties to the Convention became extremely high. Ships would face binding obligations under MARPOL if the amendments are adopted. According to Article 16 of the MARPOL, amendments can be adopted if a two-thirds of Parties "present and voting" are in favour. [107] The Parties' prior consent to the convention made it an accelerated path compared with negotiating a new treaty. Even when its adoption did not happen as planned in October, and the discussion is postponed for a year,[108] the current pathway is still the most promising one to achieve the IMO sectorial emission target.

It is unsurprising that the broad political consensus witnessed at MEPC83 in April 2025 to 'approve' the Net-Zero Framework did not reappear at MEPC/ES.2 in October 2025, when Parties were asked to consider its adoption. In fact, the 'approval' given at MEPC83 merely concerned the circulation of the draft document required under MARPOL.[109] It was a procedural matter that only requires a simple majority of the Parties "present and voting."[110] The fact that 63 out of 79 Member States voted in favour does not therefore, indicate a broad consensus on the substance of the Framework.[111] On the contrary, significant political divergence amongst the Parties was already prominent at MEPC83. Many states expressed the view that the proposed measures would be detrimental to developing countries, and that the content of the measures had not been adequately discussed.[112] This demonstrates that unresolved fairness concerns and ambiguities

[106] IMO Approves Net-Zero Regulations for Global Shipping' (Press Release, 11 April 2025), https://www.imo.org/en/mediacentre/pressbriefings/pages/imo-approves-netzero-regulations.aspx
[107] MARPOL, art 16.
[108] J. Messenger, 'Momentum on landmark IMO net-zero deal "fading" after talks postponed', *Global Trade Review,* 22 October 2025, https://www.gtreview.com/news/sustainability/momentum-on-landmark-imo-net-zero-deal-fading-after-talks-postponed/ .
[109] MARPOL requires any draft amendments to be circulated for at least six months prior to adoption. See MARPOL, art 16. See also IBIA, 'Voting on the IMO Net-Zero Framework at MEPC/ES.2' (30 September 2025), www.ibia.net/voting-on-the-imo-net-zero-framework-at-mepc-es-2
[110] MARPOL, art 16. See also IBIA, 'Voting on the IMO Net-Zero Framework at MEPC/ES.2' (30 September 2025), www.ibia.net/voting-on-the-imo-net-zero-framework-at-mepc-es-2
[111] Ibid.
[112] IMO, Statement of Kingdom of Saudi Arabia, MEPC 83/17/Add.1 Annex 22, at 20. (Kingdom of Saudi Arabia raised objection to the proposed measure together with Kuwait, the State of Qatar, Malaysia, Thailand, Islamic Republic of Iran, Bolivarian Republic of Venezuela, Sultanate of Oman, United Arab Emirates, The Hashemite Kingdom of Jordan, The Arab Republic of Iraq, Kingdom of Bahrain, The Russian Federation, Islamic Republic of Pakistan, the Republic of Yemen and Lebanon)

regarding the nature of the obligations are likely to influence Parties' decisions at the stage of adoption.

Parties are more likely to comply voluntarily only when they perceive the rules to be fair and reflective of their circumstances. To address the fairness concern arising from the current maritime decarbonisation measures, the distributive and corrective justice embodied in differentiation must also be given practical effect.

4.1 Current Role of Differentiation in 2025 Net-Zero Framework

The IMO's 2025 Net-Zero Framework represents so far the most significant institutional effort to integrate climate objectives into the maritime regulatory order.[113] The draft amendment include both a global fuel standard that requires ships to reduce their annual greenhouse gas fuel intensity (GFI) and a global economic measure that functions as a the a tiered carbon pricing mechanism which functions on two levels of compliance logic: the two levels are Base Target and Direct Compliance Target. [114] When a ship emits lower than both target, it can bank or trade "surplus units". When a ship emits higher than the Direct Compliance Target, lower than the Base Target, it has to purchase "remedial units" priced at the Tier 1 benchmark rate. When a ship emits higher than the Base Target, it can use "surplus units" banked previously or transferred from other ship, or it has to purchase "remedial units" priced at Tier 2 benchmark rate.[115] The Framework also establishes an IMO Net-Zero Fund to collect revenue generated by the pricing mechanism and to disburse financial assistance to rewards for the use of ZNZs[116] and to support a just and equitable transition in states with particular emphasis on Small Island Developing States (SIDS) and Least Developed Countries (LDCs).[117]

[113] 'IMO Approves Net-Zero Regulations for Global Shipping' (Press Release, 11 April 2025), https://www.imo.org/en/mediacentre/pressbriefings/pages/imo-approves-netzero-regulations.aspx
[114] IMO, Draft revised MARPOL Annex VI (Circular Letter No 5005, 11 April 2025), at 55-8.
[115] Ibid.
[116] ZNZ s refers to zero or near-zero greenhouse gas (GHG) emission technologies, fuels, or energy sources
[117] IMO, Draft revised MARPOL Annex VI (Circular Letter No 5005, 11 April 2025), at 62-4.

As discussed in the previous section, though the Framework ostensively acknowledges the principle of CBDR-RC as one of its guiding principles in the 2023 Strategy, [118] and introduced a Net-Zero Fund through which the revenue collected through the tiered carbon pricing mechanise would be relocated to supposedly ease the burden of compliance for developing states. [119] However, the framework does not differentiate legal commitment of the ships at the stage of the determination of compliance obligations. In the new MARPOL Annex VI Chapter 5, the tiered carbon pricing mechanism applies uniformly to all ships above 5,000 gross tonnage, irrespective of their flag, ownership structure, or the developmental status or historical emissions of the state with which they are associated. In this respect, the Framework preserves the procedural fairness logic of the IMO regime: ship-level uniformity is maintained in accordance with the principle of NMFT. The regulatory burden is therefore equalised at the point of compliance. As a result, vessels associated with developing states are subject to the same carbon cost exposure as vessels associated with industrialised states, notwithstanding the disparities in historical contribution to climate harm or the differential fiscal capacity of states to absorb transition costs.

However, as raised by the delegation of Vietnam to the MEPC, there is a structural inequality between different groups of ships:

> "Large shipping groups have enough finances to convert their fleets to green fuel. But small and medium-sized enterprises do not have enough resources to invest and risk being eliminated from the market if they do not meet Net-Zero standards. This will lead to the concentration of power in the hands of a few large companies, reducing competitiveness in the maritime industry."[120]

Vietnam also raised that uniform standards may seem excessively stringent for some developing countries that lack the resources to upgrade their technological capacities to comply with the green technology requirements of the Framework.[121] Argentina and Chili both pointed out that the same pricing and stringency may appear to be a form of "punitive measures against the trade of

[118] Resolution MEPC.377(80) , '2023 IMO Strategy on Reduction of GHG Emissions from Ships' (7 July 2023) Annex 15 to MEPC 80/17/Add.1.
[119] IMO, Draft revised MARPOL Annex VI (Circular Letter No 5005, 11 April 2025), at 62-4.
[120] IMO, Statement by the delegation of Vietnam. MEPC 83/17/Add.1 Annex 22, at 29.
[121] Ibid.

developing countries located far from their markets",[122]Argentina, Saudi Arabia and many other countries further noted the Framework's possible negative impact on the developing economies largely dependent on international shipping.[123]

In the current draft amendment, differentiation manifests only at the stage of revenue redistribution in the Net-Zero Fund.[124] The Fund's design channels a proportion of carbon pricing revenue toward capacity-building and decarbonisation support for developing states, including infrastructure for alternative fuels and technical training.[125] This modality of differentiation frames CBDR-RC as financial solidarity, rather than as a principle shaping responsibility for emissions or mitigation effort. The distributive dimension of fairness is thus externalised from the obligation-design stage and re-introduced only after uniform obligations have been imposed.

Importantly, the Fund itself is not earmarked. There is only a rough guideline, no specific distribution plan for the fund. The eligibility and criteria for accessing the Fund remains unclear. Vietnam proposed that Vietnam and Southeast Asian countries' should be "given priority in accessing to the capital from the Fund to upgrade their fleets, build infrastructure, and acquire green technology," and developed countries and major shipping groups should provide financial contributions to the Fund in order to ensure a fairer transition.[126] Thailand supports fair and accessible ZNZ technology transfer, as this is what the Fund is intended to achieve.[127]

Under IMO's current decarbonisation approach, compliance burdens are uniformly applied to all ships, disadvantaging not only developing states in general, but also group of states that are far from global markets, less advanced in green technology and highly dependent on global shipping for their development. Differentiation operates only at the stage of revenue redistribution, and the distributive effects of this mechanism remain unclear.

[122] IMO, Statement by the delegation of Argentina MEPC 83/17/Add.1 Annex 22, page 6. Statement by the delegation of Chili. MEPC 83/17/Add.1 Annex 22, at 9.
[123] IMO, Statement by the delegation of Argentina MEPC 83/17/Add.1 Annex 22, page 6. Statement of Kingdom of Saudi Arabia, MEPC 83/17/Add.1 Annex 22, at 20.
[124] IMO, Draft revised MARPOL Annex VI (Circular Letter No 5005, 11 April 2025), at 62-4.
[125] Ibid.
[126] IMO, Statement by the delegation of Vietnam. MEPC 83/17/Add.1 Annex 22, at 29-30.
[127] IMO, Statement by the delegation of Thailand. MEPC 83/17/Add.1 Annex 22, at 24.

As a result, the corrective and distributive justice dimensions embedded in the climate regime's fairness logic are not fully translated into the IMO regime. Therefore, the 2025 Net-Zero Framework represents a partial and selective translation of fairness across regimes: procedural fairness remains structurally constitutive and intact, while substantive fairness is acknowledged rhetorically but not fully operationalised.

4.2 Reimagine Differentiation in Shipping Decarbonisation

Differentiation in shipping decarbonisation can operate at multiple levels, for example, through differential obligations, distinct roles for different groups of states, and differentiated forms of financial and technological transfer, etc.

Under the current Net-Zero Framework model, the most radical proposition of differentiation would require different groups of state to take on different obligations based on their respective historical contributions to climate harm and their capacities to address it, in this way, differentiation would be enshrined in state obligations,[128] like the 1997 Kyoto Protocol where only Annex I countries (industrialised countries and economies in transition) took on binding emission reduction commitments during the first commitment period.[129] However, as analysed in Section 3, the structural mismatch between the IMO's ship-based regulatory model and the UNFCCC's state-based framework, combined with the complex layers of ship ownership, makes it nearly impossible to attribute emissions effectively to the states that are ultimately responsible.[130] Such an approach would, in practice, invite liability evasion through the creation of additional ownership layers in different jurisdictions, and would generate significant disputes over the proper method of attribution.

Even within the UNFCCC regime itself, CBDR-RC no longer operates with the full force envisioned under the Kyoto Protocol. In the Paris Agreement, the principle is reflected through nationally determined contributions (NDCs), which function as a self-determined, largely

[128] L Rajamani and J Peel (eds), *The Oxford Handbook of International Environmental Law* (2nd edn, Oxford University Press 2021), at 326.
[129] Ibid. Kyoto Protocol, art 3
[130] See Section 3.

voluntary mechanism that depends heavily on state willingness to comply.[131] In the recent ICJ Advisory Opinion on Obligations of States in Respect of Climate Change, the CBDR-RC principle was emphasised as a core guiding principle in the climate regime[132] but it was also regarded as a mere manifestation of the principle of equity that does not establish any new obligation.[133] As Judge Xue pointed out in her separate opinion, it lacked substantive content.[134] The Opinion refers only to spectrums of states without requiring any formal classification, and the climate regime has never concretely specified what CBDR-RC means for states within each spectrum.[135]

However, this indeterminacy is much less problematic in the law-making process under climate change regime than in that of the proposed amendments to MARPOL Annex VI. In the Paris Agreement, for instance, strategic ambiguity was employed as a diplomatic tool during negotiations to encourage broad participation and to secure state consent. [136] States' willingness to join a treaty would significantly diminish if they were subjected to stringent, particularly compensatory, obligations.[137] Because no prior consent to such burdens existed, fresh consent was required, and no parallel incentive structures were established to encourage acceptance of more prescriptive obligations.

As it stands, the Paris Agreement's binding obligations of result set out in Article 4 as "the obligation to prepare, communicate, and maintain successive NDCs", "to communicate a NDC every five year," "to account for" it "and "to register" it are in nature procedural. As reiterated in the 2025 Advisory Opinion, these obligations must indeed be observed by the State Parties, [138] but

[131] Paris Agreement, art 4, art 14. See also L. Rajamani, 'Ambition and Differentiation in the 2015 Paris Agreement: Interpretative Possibilities and Underlying Politics', (2016) 65(2) ICLQ 493.L Rajamani and J Peel (eds), *The Oxford Handbook of International Environmental Law* (2nd edn, Oxford University Press 2021), at 326.
[132] Obligations of States in Respect of Climate Change (Advisory Opinion), Advisory Opinion of 23 July 2025, [2025] ICJ 1, paras 147-151.
[133] Advisory Opinion of 23 July 2025, [2025] ICJ 1, para 151.
[134] Advisory Opinion of 23 July 2025, [2025] ICJ 1 (Judge Xue, Separate Opinion), para 3.
[135] Advisory Opinion of 23 July 2025, [2025] ICJ 1, para 150.
[136] D. Bodansky and S. Biniaz, 'The ICJ's Advisory Opinion on Climate Change: Does It Throw a Wrench into the Negotiator's Toolbox of Diplomatic Problem-Solving Techniques?', 23 September 2025,*EJIL:Talk!* www.ejiltalk.org/the-icjs-advisory-opinion-on-climate-change-does-it-throw-a-wrench-into-the-negotiators-toolbox-of-diplomatic-problem-solving-techniques/
[137] Ibid.
[138] Advisory Opinion of 23 July 2025, [2025] ICJ 1, para 234-6. Paris Agreement, art.4 paras. 2,9,12-3.

CBDR-RC here merely operates to inform the content of NDCs as voluntary, bottom-up measures.[139]

By contrast, the current shipping decarbonisation proposal was introduced as an amendment to MARPOL –an existing legal mechanism that has been functioning for decades. The procedure for amendment is set out in Article 16 of the Convention, and prior consent has already been granted by the contracting parties.[140] As long as two-thirds of the parties present and voting in favour of an amendment and the required procedures are followed, the measures will become binding on all parties. Even the objecting parties, if they wish to retain the benefits of membership, must also comply. Moreover, the economic measures contemplated in the amendments would create substantive obligations, requiring ships to contribute financially and to accept redistributive outcomes. These obligations, which entail uneven distributive effects, would ultimately affect states. All of these factors may deter states from voting in favour of such amendments.

While strategic vagueness in treaty negotiations can bridge differences and attract participation,[141] under MARPOL the vagueness surrounding distributive effects of the economic measures would have the opposite effect. In the MARPOL context, states are likely to consent to binding economic measures only when the ambiguity surrounding burden-sharing and distributive impacts is reduced, and when they are perceived as fair.

Rule-making at the intersection of the climate regime and the maritime regime thus requires that both the operationalisation of CBDR-RC principle to ensure substantive justice as fairness and the respect and for the existing institutional feature of the maritime regime. A balance must be struck, or the contracting states are either left in a state of vagueness, or are significantly divided, with some states perceiving the rules as insufficiently fair.[142]

An important guideline is that differentiation measures must be finely calibrated, enabling states to understand clearly what their obligations and entitlements are. The core effect of any economic

[139] Advisory Opinion of 23 July 2025, [2025] ICJ 1, para 234-6.
[140] MARPOL, art 16.
[141] D. Bodansky and S. Biniaz, 'The ICJ's Advisory Opinion on Climate Change: Does It Throw a Wrench into the Negotiator's Toolbox of Diplomatic Problem-Solving Techniques?', 23 September 2025,*EJIL:Talk!*
[142] IMO, Statement of Kingdom of Saudi Arabia, MEPC 83/17/Add.1 Annex 22, at 20.

measure is distributive. Under the current proposal, the distributive mechanism is the Net-Zero Fund. Importantly, the distributive plan cannot be treated evasively. The fund must be earmarked and designed with a set of clear revenue-reallocation rules that reflect both the corrective justice and distributive justice dimensions of climate justice, so that the mechanism is perceived as fair and capable of generating the political willingness necessary for participation.

Revenue reallocation is the most practical mechanism for operationalising CBDR-RC in a quantifiable manner. Different states should be entitled to different amounts under different purposes or accounts. Ideally, these differences should be quantified and assessed using existing statistical methodologies.

Importantly, with regard to the differentiation of the states, a simple binary classification between developed and developing countries, or between broad classifications by groups of states, such as the OECD countries, LDCs and SIDSs cannot fully reflect the heterogeneous economic and structural circumstances of states engaged in global shipping, especially those whose economies are heavily dependent on maritime transport and would be disproportionately affected by the proposed economic measures. A refined model should therefore take into account various factors such as the varying degrees of economic dependence of states on maritime transport and the uneven levels of green technological development, etc.

This article does not seek to develop or endorse any specific quantitative model or method of calculation, rather, it merely aims to identify the most viable legal pathway to resolve the present conundrum. If such quantification could be operationalised, it could provide both clarity and fairness to sustain necessary political consensus in the law-making at the IMO.

5. Conclusion

This article argues that the difficulty in incorporating the climate regime's principle of CBDR-RC into the maritime regime reflects a deep tension between the fairness grammars of the two regimes. While the climate regime's grammar of fairness is grounded in a substantive conception of justice—embodying both corrective and distributive justice by linking states' responsibility to their historical contribution and capacity. The IMO regime, by contrast, has historically grounded its

legitimacy in procedural equality, expressed fairness through uniform treatment of ships. The challenge is therefore better understood as the broader task of integrating climate justice into the normative foundation of maritime regulation, rather than as a doctrinal conflict over whether CBDR-RC applies. Reframing the issue as one of translation between fairness grammars shifts the analytical terrain. The central question becomes now how the climate regime's substantive fairness can be incorporated into the normative basis of maritime decarbonisation, and how the CBDR-RC principle can be interpreted and operationalised within a regulatory architecture built on uniform, ship-based obligations.

This reframing also reveals a broader shift in the conceptualisation of fairness across international legal regimes when they interact with one another. Once climate governance enters the maritime domain, the latter can no longer remain insulated from distributive justice claims as if they were external or supplementary. As climate imperatives extend into regulatory spaces historically structured around procedural equality, the concept of fairness itself becomes contested terrain. The question is not merely whether the norms of these regimes can be aligned, but how the normative foundations of fairness are being reconfigured through their interaction, and how the basis of legitimacy in one regime is recalibrated by the normative expectations of another when they interact.

Nothing in the structure of IMO regulation categorically precludes the coexistence of uniform compliance obligations for ships and differentiated responsibility among states. What is absent is the institutional design capable of mediating the structural gap between these two regimes, such as a mechanism for attributing ships' emissions to the states that own, operate, or benefit from. However, due to practical difficulties of identify the real beneficial owners and the risk of strategic restructuring to avoid attribution, such a mechanism to attribution may not be ideal in a market-based mechanism functioning through MARPOL. Other potential legal pathways to operationalise differential treatment in maritime decarbonisation measures remains possible, for example, differentiation embedded in revenue allocation, capacity-building modalities, or technology-transfer mechanisms.

The broader implication for international law is that when a regime turns to regulate an issue whose normative meaning has been shaped elsewhere, its own fairness grammar can no longer be taken

as static. Translation of fairness grammar is needed when regimes interact with one another. As this article shows, the IMO cannot regulate climate-related harms as though they were normatively neutral technical matters. To strengthen the legitimacy and compliance pull of the new GHG-emission rules, the fairness grammar of the climate regime must be translated into the normative foundations of the maritime rule-making institution, reshaping the regime's understanding of fairness through the rule-making process. In this sense, the interaction between these two regimes has the capacity to recalibrate the basis of legitimacy in the climate related rule-making process in a maritime institution and to redefine what fairness requires in the decarbonisation of international shipping.