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SHRIDATH RAMPHAL CENTRE
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CARIBBEAN SHIPPING LANES

UNITED NATIONS FOUNDATION

Legal Guide for the Caribbean on the **IMO Greenhouse Gas (GHG) Strategy**

Prepared For :
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LEGAL GUIDE FOR THE CARIBBEAN ON THE IMO GREENHOUSE GAS (GHG) STRATEGY

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EXECUTIVE SUMMARY

Objectives and Goals

The current document is intended as a concise **legal brief** summarising the current legal context of the IMO GHG reduction measures, including advice for Caribbean negotiators on key legal considerations and strategies for engagement.

The brief undertakes the above in the main body of the paper, and attaches Appendixes for supplementary material.

Paper Structure

Format

The paper liberally uses headings and sub-headings to help the reader understand topics and quickly find relevant sections. The paper also provides a Table of Contents.

Two headings are added at various locations to signal editorial comment by the author:

- The heading 'Comments' is used to apply the text being discussed to the particular Caribbean negotiating context.
- The heading 'Assessment' is used to identify whether a particular paper should be supported by the Caribbean.

Contents

Following the Executive Summary, in its **first section** the paper provides a list of key acronyms used in the literature. Such a list, although at present skeletal, is essential for anyone new to the IMO or the IMO GHG Strategy.

The **second section** of the paper examines the IMO Convention and the structure of the IMO. This was necessary because in several of the proposals related to the IMO GHG Fund, questions were raised about which organ would have the competence to create the Fund and approve its Governing Instrument.

The **third section** of the paper examines applicable principles and rules of international law, namely, the polluter pays principle, common but differentiated responsibilities, specific needs and special circumstances of developing countries, the precautionary principle, and the law of the sea related to marine pollution. For the latter, the 2024 Advisory Opinion of the International Tribunal on the Law of the Sea was used as a guide to the current status of *United Nations Convention on the Law of the Sea* norms. These rules and principles, collectively, constitute the background or foundational rules underpinning many of the ISWG and MEPC proposals. They can be used to support

and strengthen Caribbean negotiating positions. They are discussed for those working in the IMO who do not have strong background in public international law, law of the sea, or international environmental law.

Appendix 1 analyses select issues for the upcoming ISWG. It starts by providing a comprehensive, if skeletal, summary of the 2023 IMO GHG Strategy. Most ISWG and MEPC papers will refer to it, at least in passing, given its foundational status. Caribbean negotiators may wish to anchor our positions in the Strategy text.

Some preliminary thoughts are provided on current midterm measure proposals, technical measures, and issues related to the GHG Strategy Implementation Fund and its disbursement categories. This section of the report seeks to highlight issues that Caribbean states have been discussing recently and reproduces and collates Caribbean positions taken in earlier discussions.

Appendix 2 offers brief summaries and comments on all of the papers listed for the upcoming ISWG-GHG 18. These summaries are skeletal but are interspersed with comments and where possible, assessments about whether the Caribbean should support them.

Appendix 3 starts the task of indexing precedents for *MARPOL* Annex VI amendments and related regulations and guidelines. Given time constraints, only the Report of the Seventeenth Meeting of the Intersessional Working Group on Reduction of GHG Emissions from Ships (ISWG-GHG 17) MEPC 82/WP.5 (27 September 2024) was indexed. Other compilations and consolidates of drafts exist and, time permitting, similar indexing would be helpful to the working draft of the Governing Instrument for the Fund being developed in coordination with 6 PAC.

List of Key Acronyms

IMO related decisions and literature use a large number of acronyms. The following summary list can be used as a quick reference point for delegates.

Abbreviation	Description[1]
Active Fund	An approach to fund management involving active decision-making on how and when to distribute funds, based on evolving goals and opportunities. Contrasts with a Passive Fund.
AER	annual efficiency ratio
AFS	Absolute Fuel Standard: A regulatory measure that sets a fixed and unchanging limit on the greenhouse gas (GHG) emissions produced by a specific amount of fuel used in a ship. Encourages cleaner fuels and technologies to meet strict emissions caps. Related to Greenhouse Gas Fuel Standard (GFS).
Banking	The practice of saving surplus emission reduction credits for future compliance periods. Related to Surplus Units (SUs) and Surplus Compliance Units (SCUs).
CCS	Carbon Capture and Storage: A technology that captures carbon dioxide emissions from ships and stores it to prevent its release into the atmosphere. Related to Zero/Near-Zero Emissions (ZNZ).
CIF	cost, insurance and freight
CII	Carbon Intensity Indicator: a short-term measure, along with the Energy Efficiency Existing Ship Index, to regulate shipping emissions. Both these measures are legally binding. The EEXI relates to the technical design of the ship and looks at the ship's overall energy efficiency, including the vessel's engine and auxiliary engine power, transport capacity, and given reference speed. The CII measures the energy efficiency of ships and provides them a ranking from an A scale; it links the GHG emissions to the amount of cargo carried over the distance travelled.
CMPH	container moves per hour
CO_2	carbon dioxide

[1] The descriptions are taken from a range of sources, including Caribbean Shipping Lanes, "Guide For CARICOM IMO Negotiators For ISWG 17 and MEPC 82 Meetings (September 23 - October 4, 2O24)" produced by the Shridath Ramphal Centre, UWI Cave Hill, UCL Bartlett Energy Institute, UN Foundation and Belize Port Authority (2024).

Abbreviation	Description[1]
DNI	Disproportionate Negative Impact: Refers to adverse economic, social, or environmental effects on certain countries or groups due to climate regulations. Compensation or special provision may be made, particularly for vulnerable nations. Related to the Levy/Emissions Pricing Mechanism.
DWT	Deadweight tonnage – how much weight a ship can carry, in total.
Economic Measures	Market-based measures (MBMs) adopted under *MARPOL* Annex VI, including levies, surcharges, and other mechanisms for revenue generation.
e-fuels	Fuels that are produced from renewable electricity
EEPI	Energy Efficiency Performance Indicator
EEXI	Energy Efficiency Existing Ship Index: one of two short-term measures to regulate shipping emissions (the other being the Carbon Intensity Indicator (CII)). Both these measures are legally binding. The EEXI relates to the technical design of the ship and looks at the ship's overall energy efficiency, including the vessel's engine and auxiliary engine power, transport capacity, and given reference speed. The CII measures the energy efficiency of ships and provides them a ranking from an A scale; it links the GHG emissions to the amount of cargo carried over the distance travelled.
ETS	emissions trading system
Feebate	A system that imposes fees on higher-emitting vessels and provides rebates or financial rewards to vessels that outperform the required emissions standards. Related to Levy/Emissions Pricing Mechanism.
FONAR	Fuel Oil Non-Availability Report: A report allowing ship operators to declare that compliant fuel was not available at a port, enabling them to operate without facing penalties for non-compliance with emissions standards.
Fund	International Maritime Organization Greenhouse Gas (GHG) Strategy Implementation Fund
GFI	Greenhouse Gas Fuel Intensity: A measure of the amount of greenhouse gas emissions produced per unit of energy consumed by a ship. Related to Greenhouse Gas Fuel Standard (GFS).
GFI Registry	GHG fuel intensity registry

Abbreviation	Description[1]
GFS	GHG Fuel Standard: A regulatory measure that limits the amount of GHG emitted per unit of fuel energy used by ships, aimed at reducing the carbon intensity of maritime fuels. Related to the Absolute Fuel Standard and GFI.
GHG	greenhouse gas
GISIS	Global Integrated Shipping Information System
GT	Gross Tonnage: A measure of a ship's overall internal volume, used to classify ship size for regulatory purposes
ICD	inland container depot
ILO	International Labour Organization
IMO	International Maritime Organization
LCA guidelines	Lifecyle Assessment (LCA) Guidelines – IMO guidelines on lifecycle GHG intensity of marine fuels
LDC	least developed country
Levy/ Emissions Pricing Mechanism	A system that applies a fee or levy based on the amount of GHGs emitted by a ship, designed to make polluters pay and encourage the reduction of emissions. Related to Feebate and Marginal GHG Price.
Lifecycle Scope (WTW and TTW)	Refers to how emissions are calculated. Well-to-Wake (WTW) includes emissions from fuel production to consumption, while Tank-to-Wake (TTW) only includes emissions during fuel use on board ships.
LNG	liquefied natural gas
LPG	liquefied petroleum gas
Marginal GHG Price	The cost incurred for reducing or offsetting additional GHG emissions beyond a certain baseline. Related to Levy/Emissions Pricing Mechanism
MARPOL	International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, and as amended

Abbreviation	Description[1]
***MARPOL* Annex VI**	Annex VI of *MARPOL*, titled "Regulations for the Prevention of Air Pollution from Ships," including its amendments and associated guidelines
Member State	Member of the IMO
MEPC	Marine Environment Protection Committee
MTM	Mid-term measure: mid-term measures to regulated shipping emissions include economic measures (GHG pricing mechanism) and technical measures (fuel standard)
Passive Fund	A hands-off fund management approach where funds are distributed based on pre-determined rules, without active oversight. Contrasts with an Active Fund.
Pooling	A compliance mechanism that allows ships that outperform GHG reduction standards to share surplus credits with ships that underperform. Related to SUs/SCUs
PPS	port performance scorecard
RD&D	research, development, and deployment
RUs/RCUs	Remedial Units/Remedial Compliance Units: Credits or offsets purchased by ships that fail to meet emission standards, allowing them to compensate for excess emissions and maintain compliance.
SDGs	United Nations Sustainable Development Goals
Secretary General	Secretary General of the IMO
SIDS	Small Island Developing States
SSS	Short sea shipping
STM	Short term measure: short-term measures to regulate shipping emissions, including the Energy Efficiency Existing Ship Index (EEXI) and the Carbon Intensity Indicator (CII).
SUs/SCUs	Surplus Units/Surplus Compliance Units: Emission credits earned by ships that outperform required GHG standards. These units can be sold or saved for future compliance. Related to Banking and Pooling.
tCO_2e	Tonne of CO_2 equivalent: A unit of measurement that expresses the amount of other GHGs in terms of the equivalent amount of CO_2,

Abbreviation	Description[1]
	based on their global warming potential. Related to GFI (Greenhouse Gas Fuel Intensity).
TFA	Agreement on Trade Facilitation
TTW	Tank-to-Wake: Refers to emissions produced during the operation of a ship, from the combustion of fuel on board. Solely includes emissions from on-board fuel combustion; excludes upstream emissions from the fuel production cycle. Part of the Lifecycle Scope.
WTO	World Trade Organization
WTW	Well-to-Wake: Refers to the full lifecycle of GHG emissions, from fuel production to consumption. In other words, WTW constitutes the sum of upstream (well-to-tank) and downstream (tank-to-wake) emissions. Includes emissions from the full production cycle and use of fuels. Part of the Lifecycle Scope.
ZNZ Emissions	Zero/Near-Zero Emissions: Fuels or technologies that produce little to no GHG emissions throughout their lifecycle (Well-to-Wake). Incentivized under various regulatory frameworks to promote greener shipping technologies.

1. International Maritime Organization (IMO) Structure

The structure of the IMO is relevant to questions regarding which organ can adopt the *MARPOL* Chapter VI amendments related to the 2023 IMO GHG Strategy, as well as which organ can create new entities (such as the IMO GHG Fund). Some states have already signalled that such developments require approval by both the Assembly and Council, or require the creation of a new treaty arrangement. China, for example, in para 7.2 of ISWG-GHG 18/2/11, invites the Working Group to:

> .2 note the view that while MARPOL Annex VI is a suitable instrument for incorporating the IMSF&F mechanism, supplementary elements like ZNZ incentive contributions should be addressed through a separate Convention rather than MARPOL. Furthermore, any fund establishment under IMO must be approved by the Assembly and Council, following proper legal framework evaluation and approval procedures, rather than being decided at the committee level;[2]

Such comments require a brief analysis of the IMO Convention, which establishes the framework within which IMO organs operate.

1.1. Convention

The International Maritime Organization (IMO) was established by the *Convention on the International Maritime Organization*, in Geneva, on 6 March 1948 (and as amended).[3] The IMO is governed by the Assembly, a Council, and five main Committees: the Maritime Safety Committee (MSC); the Marine Environment Protection Committee (MEPC); the Legal Committee; the Technical Cooperation Committee; and the Facilitation Committee. A number of Sub-Committees support the work of the main technical committees. The IMO is also serviced by a Secretariat.

The purposes of the IMO include under Article 1(a):

> "(a) To provide machinery for co-operation among Governments in the field of governmental regulation and practices relating to technical matters of all kinds affecting shipping engaged in international trade; to encourage and facilitate the general adoption of the highest practicable standards in matters concerning

[2] China et al, Modifications to the draft amendments to MARPOL Annex VI on the net-zero framework as set out in annex 1 to document MEPC 82/WP.9, ISWG-GHG 18/2/11 (3 January 2025).

[3] *Convention on the International Maritime Organization* (signed 6 Mar 1948, in force 17 Mar 1958) 289 UNTS 3 and 1520 UNTS 297 (*IMO Convention*). As noted on the UNTS website, the original name '*Convention of the Intergovernmental Maritime Consultative Organization*', was changed to the above through amendments: "As a result of the entry into force of the amendments adopted by the IMCO Assembly by its resolutions A.358 (IX) of 14 November 1975 and A.371 (X) of 9 November 1977 [rectification of resolution A.358 (IX) (see chapter XII.1(d)]], the name of the Intergovernmental Maritime Consultative Organization (IMCO) has been changed to "International Maritime Organization (IMO)" and the title of the Convention modified accordingly."

maritime safety, efficiency of navigation and prevention and control of marine pollution from ships; and to deal with administrative and legal matters related to the purposes set out in this Article."

1.2. Main Organs: Assembly and Council

The **Assembly** is comprised of all Member States (Art 13). Its regular meetings are held once every two years; extraordinary sessions may also be held (Art 14). The Assembly has a President and two Vice Presidents, who are elected by it (Art 15(a)). The functions of the Assembly include:

- (c) To establish any temporary or, upon recommendation of the Council, permanent subsidiary bodies it may consider to be necessary;
- (g) To vote the budget and determine the financial arrangements of the Organization, in accordance with Part XII;
- (j) To recommend to Members for adoption regulations and guidelines concerning maritime safety, the prevention and control of marine pollution from ships and other matters concerning the effect of shipping on the marine environment assigned to the Organization by or under international instruments, or amendments to such regulations and guidelines which have been referred to it;
- (l) To take decisions in regard to convening any international conference or following any other appropriate procedure for the adoption of international conventions or of amendments to any international conventions which have been developed by the Maritime Safety Committee, the Legal Committee, the Maritime Environment Protection Committee, the Technical Co-operation Committee, the Facilitation Committee, or other organs of the Organization. (Art 15(c), (g), (j) and (l)).[4]

Comments: These functions are relevant to the establishment of an International Maritime Organization Greenhouse Gas (GHG) Strategy Implementation Fund under *MARPOL* Annex VI, as described below. They show that the Assembly has power to establish temporary subsidiary bodies, but requires a recommendation by the Council to establish permanent ones. The Assembly also has competence to deal with financial matters (i.e., like the GHG Fund), as well as to recommend to the Members for adoption new regulations and guidelines and make decisions related to the adoption of new conventions or to existing conventions developed by the IMO Committees. Interestingly, as provided in Article 27, the Assembly is given power to act under Article 15(j), and not the Council.

[4] As reproduced in No. 4214, Convention on the International Maritime Organization, Amendments to the Convention on the Inter-Governmental Maritime Consultative Organization, 1380 UNTS 268, A-4214.

The **Council**, elected by the Assembly, is currently comprised of forty members[5] selected to ensure global representation of Members who have the largest interest in international shipping services, international seaborne trade and "special interests in maritime transport or navigation … whose election to the Council will ensure the representation of all major geographic areas of the world" (Arts 17-18).[6] The Council elects its own Chairman and may meet frequently (with a month's notice) (Art 20). The Council, with the approval of the Assembly, appoints the Secretary-General (Art 23). The Council is the executive organ of the IMO and, between sessions of the Assembly, performs the functions of the Assembly (except the two functions reserved to the Assembly under Art 15(j), related to maritime safety and pollution prevention).[7]

Comments: The Council can undertake the majority of tasks of the IMO between sessions of the Assembly. However it cannot 'recommend to Members for adoption regulations and guidelines concerning … the prevention and control of marine pollution from ships and other matters concerning the effect of shipping on the marine environment assigned to the Organization by or under international instruments, or amendments to such regulations and guidelines which have been referred to it.' As a result, such matters have to go through the Assembly, unless the Council is otherwise authorised to undertake them.

1.3. Additional Organs

The **Legal Committee** has the function of considering any legal matters within the scope of the IMO (Article 33), and under Article 35(a) it is required to submit to the Council 'Drafts of international conventions and of amendments to international conventions which the Committee has developed'.

Comment: these provisions suggest that the Legal Committee will be responsible for any final drafts of new treaties or amendments to existing international conventions, and that these will be submitted to the Council.

In addition to its several committees, subcommittees and working groups, the *IMO Convention* creates a **Secretariat**, headed by the Secretary-General. The Secretary General is described as the "chief administrative officer of the Organization" (Art 43) and he may be delegated additional tasks under the *Convention*.[8]

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[5] See Structure of IMO (and note the proposal to expand Council membership to 52).
[6] Structure of IMO
[7] Art 27 of the IMO Convention, as amended by IMO Assembly Resolution A.358(IX), adopted on 14 Nov 1975, *supra*, provides: "Between sessions of the Assembly, the Council shall perform all the functions of the Organization, except the function of making recommendations under Article 16(j). In particular, the Council shall co-ordinate the activities of the organs of the Organization and may make such adjustments in the work programme as are strictly necessary to ensure the functioning of the Organization."
[8] Art 43 of the IMO Convention, as renumbered by IMO Assembly Resolution A.358(IX), adopted on 14 Nov 1975. Art 48 of the IMO Convention, again as renumbered by the latter Resolution, provides: "The Secretary-General shall assume any other functions which may be assigned to him by the Convention, the Assembly or the Council."

Comment: unless the Secretary-General has been conferred specific authority to adopt new treaties, regulations or guidelines on behalf of the IMO, such matters would require a recommendation of the Council and/or decision of the Assembly.

1.4. Marine Environment Protection Committee (MEPC)

The Marine Environment Protection Committee, like the Legal Committee, was established under IMO Assembly Resolution A.358(IX), adopted on 14 Nov 1975.[9] It is comprised of all Members (Art 38), is required to meet at least once a year (Art 41), and is concerned with the prevention and control of marine pollution from ships (Art 39). The Committee is mandated to, inter alia:

- "(a) Perform such functions as are or may be conferred upon the Organization by or under international conventions for the prevention and control of marine pollution from ships, particularly with respect to the adoption and amendment of regulations or other provisions, as provided in such conventions",
- "(b) Consider appropriate measures to facilitate the enforcement of the conventions referred to in para (a) above" (Art 39(a)-(b)).

Comments: These provisions explain why the GHG Strategy Implementation Fund and associated GHG levy are described as "measures" in IMO documentation.

The MEPC's powers of adoption or amendment of regulations may be provided in conventions other than the *IMO Convention* itself (i.e., if expressly provided in the *MARPOL Convention*).

Importantly, the MEPC also is mandated to "Consider and take appropriate action with respect to any other matters falling within the scope of the Organization which would contribute to the prevention and control of marine pollution from ships including co-operation on environmental matters with other international organizations, having regard to the provisions of Article 26" (Art 39(e).

Comments: The mandate is far-reaching and provides a rationale for strong interactions between the IMO and international environmental organizations. It could be used to justify use of international environmental funds for disbursements from the IMO GHG fund.

The MEPC is required to submit to the Council, inter alia,

- "Proposals for regulations for the prevention and control of marine pollution from ships and for amendments to such regulations which the Committee has developed" and

[9] See A_358_IX-E.pdf, reproduced in Annex A, No. 4214. Convention on the International Maritime Organization, Amendments to the Convention on the Inter-Governmental Maritime Consultative Organization 1276 UNTS 468..

- "Recommendations and guidelines which the Committee has developed" (Art 40(a)-(b)).

Comments: The latter text demonstrates the close relationship between the MEPC and Council and suggests that the Council's approval is required for certain legal actions.

1.5. Voting in IMO Organs

Voting in IMO Organs is governing by Article 57:

> Except as otherwise provided in the Convention or in any international agreement which confers functions on the Assembly, the Council, the Maritime Safety Committee, the Legal Committee, the Marine Environment Protection Committee, or the Technical Co-operation Committee, the following provisions shall apply to voting in these organs:
>
> (a) Each Member shall have one vote.
>
> (b) Decisions shall be by a majority vote of the Members present and voting and, for decisions where a two-thirds majority vote is required, by a two-thirds majority vote of those present.
>
> (c) For the purpose of the Convention, the phrase 'Members present and voting' means 'Members present and casting an affirmative or negative vote'. Members which abstain from voting shall be considered as not voting.[10]

Comment: An interesting consequence of this provision is that for simple majority votes only those who vote are counted in the calculation of the majority. For votes which require a two-thirds majority, on the other hand, all states which are present are calculated in achieving the two-thirds majority (making it necessary to calculate majorities from a larger number of states).

[10] Text reproduced from No. 4214, Convention on the International Maritime Organization, Amendments to the Convention on the Inter-Governmental Maritime Consultative Organization, 1380 UNTS 268, A-4214.

2. Applicable Principles and Rules of International Law

The IMO's GHG Strategy is being created within the global context of preexisting binding international legal rules and guiding international legal principles and approaches. The following are some of the more important rules and principles that Caribbean states may wish to rely upon to guide their GHG Strategy negotiations.

2.1. Polluter Pays Principle

As succinctly stated by one scholar, the 'polluter pays principle stipulates that the costs of pollution should be borne by the polluter.'[11] It embodies corrective justice and disincentivizes pollution:

> The polluter pays principle reflects the notion of corrective justice, which corrects the injustice that results from polluters who injure others by assigning liability on the polluter. The rationale behind the principle is that requiring polluters to pay for their pollution would disincentivize pollution production generally.[12]

It is set out in Principle 16 of the Rio Declaration:

> Principle 16
>
> National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.[13]

The Secretary General's Report on the Rio Declaration provides the context for Principle 16:

> 87. Principle 16 on internalization of costs includes what has become known as the "polluter pays" principle. According to it, it is important for the environmental costs of economic activities, including the cost of preventing potential harm, to be internalized rather than imposed upon society at large. It was developed by the Organisation for Economic Cooperation and Development (OECD) in the 1970s in an effort to ensure that companies paid the full costs of controlling pollution and were not subsidized by the State. It was meant to apply within a State, and not between States. As a goal of domestic policy, it has been realized only partially in practice. Principle 16 brings the polluter pays approach outside of a

[11] Justin Lee, 'Rooting the Concept of Common but Differentiated Responsibilities in Established Principles of International Environmental Law' (2015) 17 *Vermont Journal of Environmental Law* 27-50, at p 46.
[12] Justin Lee, ibid.
[13] Rio Declaration on Environment and Development, Annex I to the Report of the United Nations Conference on Environment and Development (Rio de Janeiro, 3-14 June 1992), UN Doc A/CONF.151/26 (Vol. I) (12 Aug 1992), at A/CONF.151/26/Vol.I: Rio Declaration on Environment and Development.

> strictly developed country context. Further, it is closely related to the international trade regime.
>
> 88. Since 1972, the polluter pays principle has gained increasing acceptance. Some recent international instruments that include it are: the Pan-European Biological and Landscape Diversity Strategy (1995), which avers that the cost of measures to prevent, control and reduce damage shall be borne by the responsible party, as far as possible and appropriate; and the 1996 Protocol to the London Dumping Convention, which states that the polluter should, in principle, bear the cost of pollution. The principle has also been reiterated by the Commission on several occasions.[14]

The polluter pays principle also was expressly endorsed by the IMO in Article 3(2) of the 1996 *Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972*, otherwise known as the 'London Convention':

> 2. Taking into account the approach that the polluter should, in principle, bear the cost of pollution, each Contracting Party shall endeavour to promote practices whereby those it has authorized to engage in dumping or incineration at sea bear the cost of meeting the pollution prevention and control requirements for the authorized activities, having due regard to the public interest.[15]

Comment: the use of the polluter pays principle in the *London Convention* is significant. The principle already is well established under international law. As a result of its express adoption by the IMO in the *London Convention*, Caribbean delegates can actively and effectively use the principle to support their arguments in the GHG Strategy negotiations.

2.2. Common but Differentiated Responsibilities (CBDR)

The concept of common but differentiated responsibilities (CBDR) has been argued to have arisen in the *Treaty of Versailles* (1919) concluded at the end of WWI, and was initially developed in the field of World Trade Law.[16] However the concept has become most prominent in international environmental law, where it has been described as follows:

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[14] Report of the Secretary-General, 'Rio Declaration on Environment and Development: application and implementation,' Commission on Sustainable Development, Fifth session, 7-25 April 1997, UN Doc No E/CN.17/1997/8 (10 Feb 1997), at E/CN.17/1997/8 Rio Declaration on Environment and Development: application and implementation [emphasis added and citations omitted].

[15] 1996 *Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972* (as amended in 2006) (signed 7 Nov 1996, in force 24 Mar 2006), at Microsoft Word - PROTOCOLAmended2006 (*London Convention*).

[16] Ellen Hey and Sophia Paulini, 'Common but Differentiated Responsibilities', Max Planck Encyclopedia of Public International Law (Oct 2021) (OUP, Oxford Public International Law (http://opil.ouplaw.com), 2023), at Oxford Public International Law: Common but Differentiated Responsibilities, para 2.

> The concept of common but differentiated responsibilities in international environmental law entails that while pursuing a common goal, States take on different obligations, depending on their socio-economic situation and their historical contribution to the environmental problem at stake.[17]

Phrased in another way, CBDR has been described as recognizing: 'that climate change is a global phenomenon that warrants a global resolution, but that the allocation of responsibilities should differ depending on the capacity and historical contribution of each state.'[18]

CBDR on the basis of historical contributions is fully supported by current climate change science. The Intergovernmental Panel on Climate Change (IPCC) has conclusively demonstrated that GHG emissions historically have been caused by developed countries, with developing countries (including SIDS), producing negligible GHG emissions (i.e., 0.5% in the case of SIDS).[19]

The concept of CBDR is set out in the Preamble and Article 3(1) of the *United Nations Framework Convention on Climate Change* (*UNFCCC*):

> **Acknowledging** that the global nature of climate change calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response, in accordance with their common but differentiated responsibilities and respective capabilities and their social and economic conditions,
>
> 3.1. The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities.

[17] Ellen Hey and Sophia Paulini, 'Common but Differentiated Responsibilities', Max Planck Encyclopedia of Public International Law (Oct 2021) (OUP, Oxford Public International Law (http://opil.ouplaw.com), 2023), at Oxford Public International Law: Common but Differentiated Responsibilities [citations and cross references omitted].

[18] Justin Lee, 'Rooting the Concept of Common but Differentiated Responsibilities in Established Principles of International Environmental Law' (2015) 17 *Vermont Journal of Environmental Law* 27-50, at p 28 [emphasis added].

[19] See, e.g., IPCC, 'Climate Change 2022: Mitigation of Climate Change - Summary for Policymakers', Working Group III Contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, ed Priyadarshi R. Shukla et al (Geneva: IPCC, 2022), at IPCC_AR6_WGIII_SummaryForPolicymakers.pdf, para B.3.2:

> B.3.2 Historical contributions to cumulative net anthropogenic CO2 emissions between 1850 and 2019 vary substantially across regions in terms of total magnitude, but also in terms of contributions to CO2-FFI (1650 ± 73 GtCO2-eq) and net CO2-LULUCF (760 ± 220 GtCO2-eq) emissions.10 Globally, the major share of cumulative CO2-FFI emissions is concentrated in a few regions, while cumulative CO2-LULUCF9 emissions are concentrated in other regions. LDCs contributed less than 0.4% of historical cumulative CO2-FFI emissions between 1850 and 2019, while SIDS contributed 0.5%. (high confidence) (Figure SPM.2) {Figure 2.10, 2.2, TS.3, Figure 2.7}. [emphasis added]

> Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof.[20]

Similarly, it is found in Principle 7 of the Rio Declaration:

> Principle 7
>
> States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The 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.[21]

The Secretary General's Report on the Rio Declaration provides the context for Principle 7:

> 44. Principle 7 can be divided into two parts: the duty to cooperate in a spirit of global partnership; and common but differentiated responsibilities. The first is well-established, as exemplified in chapter IX of the Charter of the United Nations, and applies on the global, regional and bilateral levels. The goal of the Rio Declaration is, according to its preamble, the establishment of a "new and equitable global partnership". The principle of global partnership can be seen as a more recent reformulation of the obligation to cooperate, and is becoming increasingly important. Principle 7 refers to States, but the principle of global partnership may also be extended to non-State entities. The notion of common concern of humankind recognizes the legitimate interest of the international community to concern itself with certain issues and values which, by their nature, affect the community as a whole.
>
> 45. Principle 7 also speaks of common but differentiated responsibilities. This element is intended to promote a sense of partnership between industrialized and developing countries in dealing with environmental issues. There is the need to take account of differing circumstances, particularly in each State's contribution to the creation of environmental problems and its ability to prevent, reduce and control them. Because of these different contributions, States have common but differentiated responsibilities. States whose societies impose a disproportionate pressure on the global environment and which command high

[20] *United Nations Framework Convention on Climate Change* (signed 9 May 1992, in force 21 Mar 1994) 1771 UNTS 107 (UNFCCC).

[21] Rio Declaration on Environment and Development, Annex I to the Report of the United Nations Conference on Environment and Development (Rio de Janeiro, 3-14 June 1992), UN Doc A/CONF.151/26 (Vol. I) (12 Aug 1992), at A/CONF.151/26/Vol.I: Rio Declaration on Environment and Development.

> levels of technological and financial resources bear a proportionally higher degree of responsibility in the international pursuit of sustainable development.
>
> 46. Differentiated responsibilities may result in different legal obligations. In practical terms, the principle of common but differentiated responsibilities is translated into the explicit recognition that different standards, delayed compliance timetables or less stringent commitments may be appropriate for different groups of countries, to encourage universal participation. The developed countries acknowledge their responsibility because of the pressure on the global environment, and because of the technologies and financial resources they command. A number of international agreements recognize a duty on the part of industrialized countries to contribute to the efforts of developing countries to pursue sustainable development and to assist developing countries in protecting the global environment. Such assistance may entail, apart from consultation and negotiation, financial aid, transfer of environmentally sound technology and cooperation through international organizations.[22]

Comment: The last paragraph quoted above from the Secretary General's gives examples of practical application of the CBDR principle. Such tools should be contemplated for use by Caribbean states in the GHG Strategy negotiations: different standards, delayed compliance timetables or less stringent commitments may be appropriate.

Since common but differentiated responsibilities is linked to both Principles 6 of 7 of the Rio Declaration (see below on Principle 6), it has been argued to contain two components, one related to responsibility, and the other related to capacity:

> These terms point to the core of what constitutes the concept of common but differentiated responsibilities in international environmental law: a global partnership, linked to the duty to cooperate, in which States are to take on different obligations based on their situation, as determined by, in particular, their present (and future) developmental needs, historical contribution to environmental degradation, present contribution to the problem and their access to technological and financial resources. The basis of differentiation in the application of the concept has two components: it consists of a responsibility component which takes account of historical, current, and future contributions to

[22] Report of the Secretary-General, 'Rio Declaration on Environment and Development: application and implementation,' Commission on Sustainable Development, Fifth session, 7-25 April 1997, UN Doc No E/CN.17/1997/8 (10 Feb 1997), at E/CN.17/1997/8 Rio Declaration on Environment and Development: application and implementation [emphasis added and citations omitted].

> environmental degradation; and a capabilities component, which reflects economic capacities to contribute to environmental protection.[23]

Comment: both components apply to Caribbean states. Historically and at present our level of responsibility for climate change is insignificant. However, in many cases we also have the most limited capacity to address the causes and consequences of climate change.

It should be noted, however, that the concept of CDBR has been criticized by some, based upon its earlier 'binary' application – where developing states were assigned responsibilities, but developing states were not. This was particularly problematic in the case of developing states which historically have had small levels of GHG contributions, but which today have very significant economies and are in fact substantial GHG emitters. Writing in 2015 one commentator argued about the current effect of the CBDR principle:

> the current climate regime allows emerging mega-economies such as China to continue polluting GHGs without legally binding reduction commitments. […] Despite now being the world's largest GHG emitter, China justifies its unrestricted actions by pointing to the historical responsibility of the developed world in causing the current climate crisis. Accordingly, China and other large emerging economies remain steadfast in arguing that the developed nations should shoulder the burden of mitigating climate change.'[24]

As will be seen below, this binary application is not supported in the area of the law of the sea. In its most recent *Advisory Opinion* the International Tribunal on the Law of the Sea (ITLOS), has supported the application of CBDR to measures for reduction of marine pollution, but at the same time indicated that all states (developed and developing), have obligations in this area.

Comment: Caribbean states should strongly support the application of CBDR as part of their arguments in favour of a just and equitable transition in the IMO's GHG Strategy. However, it may be useful to fully acknowledge that all states, and ships of all states, fall under the ambit of the Strategy.

[23] Ellen Hey and Sophia Paulini, 'Common but Differentiated Responsibilities', Max Planck Encyclopedia of Public International Law (Oct 2021) (OUP, Oxford Public International Law (http://opil.ouplaw.com), 2023), at Oxford Public International Law: Common but Differentiated Responsibilities, para 5 [emphasis added].
[24] Justin Lee, 'Rooting the Concept of Common but Differentiated Responsibilities in Established Principles of International Environmental Law' (2015) 17 *Vermont Journal of Environmental Law* 27-50, at pp 28-29 [citations omitted].

2.3. Specific Needs and Special Circumstances / Special Situation and Needs of Developing Countries

The concept of 'specific needs and special circumstances' for developing countries is closely linked to CBDR. The two may be distinguished because CBDR is more focused on lessening responsibilities and obligations, whereas 'specific needs and special circumstances' is more focused on providing reparation, technology, and capacity building.

The concept is set out in Article 3(2) of the *United Nations Framework Convention on Climate Change* (*UNFCCC*):

> 2. The specific needs and special circumstances of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change, and of those Parties, especially developing country Parties, that would have to bear a disproportionate or abnormal burden under the Convention, should be given full consideration.[25]

Similarly, Principle 6 of the Rio Declaration provides:

> Principle 6
>
> The special situation and needs of developing countries, particularly the least developed and those most environmentally vulnerable, shall be given special priority. International actions in the field of environment and development should also address the interests and needs of all countries.[26]

The Secretary General's Report on the Rio Declaration provides the context for Principle 6:

> 40. The special situation and needs of developing countries are in some respects elaborated in other principles of the Rio Declaration, since the special situation and needs of developing countries may lead to differentiated responsibilities (principle 7) and to financial and technical assistance (principles 9 and 11). The principle of the special treatment of developing countries finds its elaboration in the idea of global partnership and in the recognition of differentiated responsibilities among countries. Their distinct position necessitates the transfer of technology and financial resources to them and the strengthening of capacity-building within them. There is a trend in treaties in the field of sustainable development to make provision for a flow of financial

[25] *United Nations Framework Convention on Climate Change* (signed 9 May 1992, in force 21 Mar 1994) 1771 UNTS 107 (UNFCCC).

[26] Rio Declaration on Environment and Development, Annex I to the Report of the United Nations Conference on Environment and Development (Rio de Janeiro, 3-14 June 1992), UN Doc A/CONF.151/26 (Vol. I) (12 Aug 1992), at A/CONF.151/26/Vol.I: Rio Declaration on Environment and Development.

> resources from industrialized countries to developing countries with a view to enabling them to fulfil their obligations under such agreements.
>
> 41. The Convention on Climate Change refers in article 3.2 to the "specific needs and special circumstances" of developing countries, and article 3.4 states that "policies and measures ... should be appropriate for the specific conditions of each Party and should be integrated with national development programmes". The Convention on Biological Diversity, in article 20.5, states that "(t)he Parties shall take full account of the specific needs and special situation of least developed countries in their actions with regard to funding and transfer of technology". Under both the Conventions, implementation in developing countries is contingent upon the fulfilment on the part of industrialized countries of their obligations relating to financial resources and technology transfer.
>
> 42. UNCLOS recognizes in its preamble the special interests and needs of developing countries. …[27]

Comment: Caribbean states should support language in the 2023 IMO GHG Strategy and the various proposals submitted to develop it, which identify and protect the 'specific needs and special circumstances' or 'special situation and needs' of developing countries.

2.4. Precautionary Principle / Approach

As an introductory comment, it should be highlighted that two terms are used to describe the duty of precaution: the precautionary principle and the precautionary approach. The former is stronger because international law recognizes 'principles' as having normative force.[28] Although not binding per se, international legal principles may be applied to shape and guide state behaviour or influence the application of rules. 'Approaches', however, do not have this normative status.

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[27] Report of the Secretary-General, 'Rio Declaration on Environment and Development: application and implementation,' Commission on Sustainable Development, Fifth session, 7-25 April 1997, UN Doc No E/CN.17/1997/8 (10 Feb 1997), at E/CN.17/1997/8 Rio Declaration on Environment and Development: application and implementation [emphasis added and citations omitted].

[28] See Article 38(1)(c) of the *Statute of the International Court of Justice* (1945), Annex to the Charter of the United Nations, 26 June 1945, 1 UNTS xvi, which authorizes the International Court of Justice to apply the following in resolving disputes:

> 1. The Court, whose function is to decide in accordance with international law such disputes as are submitted to it, shall apply:
> a. international conventions, whether general or particular, establishing rules expressly recognized by the contesting states;
> b. international custom, as evidence of a general practice accepted as law;
> c. the general principles of law recognized by civilized nations;
> d. subject to the provisions of Article 59, judicial decisions and the teachings of the most highly qualified publicists of the various nations, as subsidiary means for the determination of rules of law. [emphasis added]

Comment: Caribbean states should support the use of the phrase 'precautionary principle' when possible, as it is a stronger version of the two terms.

The precautionary principle is set out in Article 3(3) of the *United Nations Framework Convention on Climate Change* (*UNFCCC*), which applies it specifically to GHG emissions:

> 3. The Parties should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost. *. To achieve this, such policies and measures should take into account different socio-economic contexts, be comprehensive, cover all relevant sources, sinks and reservoirs of greenhouse gases and adaptation, and comprise all economic sectors. Efforts to address climate change may be carried out cooperatively by interested Parties.[29]

As seen in the underlined text, above, Article 3(3) not only prevents inaction based upon lack of full scientific certainty, it also requires positive action in terms of 'measures' and 'policies' to address climate change.

Similarly, the precautionary approach is set out in the Rio Declaration, Principle 15, as follows:

> Principle 15
>
> In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation. [30]

The Secretary General's Report on the Rio Declaration provides the context for Principle 15:

> 80. Principle 15 codified for the first time at the global level the precautionary approach, which indicates that lack of scientific certainty is no reason to postpone action to avoid potentially serious or irreversible harm to the environment. Central to principle 15 is the element of anticipation, reflecting a

[29] *United Nations Framework Convention on Climate Change* (signed 9 May 1992, in force 21 Mar 1994) 1771 UNTS 107 (UNFCCC) [emphasis added].

[30] Rio Declaration on Environment and Development, Annex I to the Report of the United Nations Conference on Environment and Development (Rio de Janeiro, 3-14 June 1992), UN Doc A/CONF.151/26 (Vol. I) (12 Aug 1992), at A/CONF.151/26/Vol.I: Rio Declaration on Environment and Development.

> requirement that effective environmental measures need to be based upon actions which take a long-term approach and which might anticipate changes on the basis of scientific knowledge.
>
> 81. Incorporation of the precautionary approach can be found in various international legal instruments. For example, the 1995 Agreement on Fish Stocks adopts the precautionary approach in article 6, and its article 5 (c) states that the application of the precautionary approach is one of the general principles of the Agreement; see also annex II to the Agreement, "Guidelines for the application of precautionary reference points in conservation and management of straddling fish stocks and highly migratory fish stocks". The precautionary approach is also included in the ninth preambular paragraph of the Convention on Biological Diversity; in article 3.3 of the Convention on Climate Change; and in annex II, article 3 (3) (c), of the Convention for the Protection of the Marine Environment of the North-East Atlantic. The 1996 Protocol to the London Dumping Convention states, in article 3.1: "In implementing this protocol, Contracting Parties shall apply a precautionary approach to environmental protection ... when there is reason to believe that wastes or other matter introduced in the marine environment are likely to cause harm even when there is no conclusive evidence to prove a causal relation between inputs and their effects". In its second preambular paragraph, the evolution within the London Convention towards approaches based on precaution and prevention is noted. The precautionary principle is one of the bases for community policy on the environment of the European Union.[31]

As noted above, the precautionary approach was expressly endorsed by the IMO in Article 3(1) of the 1996 *Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972*, otherwise known as the '*London Convention*':

> 1. In implementing this Protocol, Contracting Parties shall apply a precautionary approach to environmental protection from dumping of wastes or other matter whereby appropriate preventative measures are taken when there is reason to believe that wastes or other matter introduced into the marine environment are likely to cause harm even when there is no conclusive evidence to prove a causal relation between inputs and their effects.[32]

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[31] Report of the Secretary-General, 'Rio Declaration on Environment and Development: application and implementation,' Commission on Sustainable Development, Fifth session, 7-25 April 1997, UN Doc No E/CN.17/1997/8 (10 Feb 1997), at E/CN.17/1997/8 Rio Declaration on Environment and Development: application and implementation [emphasis added and citations omitted].

[32] 1996 *Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972* (as amended in 2006) (signed 7 Nov 1996, in force 24 Mar 2006), at Microsoft Word - PROTOCOLAmended2006 (*London Convention*) [emphasis added].

Comment: the precautionary principle/approach is well established under international law. Since it has been expressly adopted by the IMO in the *London Convention*, Caribbean delegates can effectively use it to support their positions in the GHG Strategy negotiations. For example, we could propose stronger emissions controls to prevent future climate change even though some scientific uncertainty still exists.

2.5. Applicable provisions of UNCLOS as applied in the ITLOS Advisory Opinion

The 1982 *United Nations Convention on the Law of the Sea (UNCLOS)*, or *Montego Bay Convention* (from its place of signature), is the modern foundation for law of the sea.[33] A total of 170 states, representing the vast majority of states globally, have become parties to *UNCLOS*.[34] Even those which have not yet done so apply its provisions in their national ocean governance laws and policies (i.e., the USA, which is not a party, claims a 200 n.m. exclusive economic zone (EEZ)), and many scholars and international tribunals have recognised the customary international legal status of provisions of *UNCLOS*.

UNCLOS sets out obligations to prevent pollution in its Part XII, entitled 'Protection and Preservation of the Marine Environment.'

The International Tribunal on the Law of the Sea (ITLOS), recently issued an *Advisory Opinion* on obligations under *UNCLOS* related to climate change, which extensively discussed *UNCLOS*. I will use the opinion to explain the laws in this area.[35]

Several important points come out in the *Advisory Opinion* that will be helpful to support Caribbean states in their IMO GHG Strategy negotiations.

1. The Tribunal recognised the authoritative status of the IPCC science on climate change [see lengthy discussion of IPCC Reports in paras 46-66, and application at paras 208ff],
2. It recognised that climate change 'represents an existential threat' to states and our planet [para 66],
3. The Tribunal rejected arguments that existing climate change treaties (UNFCCC, Paris Agreement, etc) are the only laws applicable to climate change obligations (as lex specialis) [para 224],

[33] *United Nations Convention on the Law of the Sea* (signed 10 Dec 1982, in force 16 Nov 1994), 1833 UNTS 3 (*UNCLOS*).
[34] On the number of parties, see https://treaties.un.org/Pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XXI-6&chapter=21&Temp=mtdsg3&clang=_en.
[35] ITLOS, *Request for Advisory Opinion submitted by the Commission of Small Island States on Climate Change and International Law, Advisory Opinion*, Case No 31, 21 May 2024, at C31_Adv_Op_21.05.2024_orig.pdf.

4. The Tribunal held that in its Advisory proceedings it was required to address primarily obligations (duties on states to prevent pollution and climate change) rather than secondary obligations (such as the responsibility of states for their breaches of these obligations) [para 148],
5. The Tribunal decided that anthropogenic GHG emissions constitute marine pollution under *UNCLOS* [para 179]. This is a critical point because the *UNCLOS* definition in Article 1(1)(4) does not expressly refer to GHG emissions per se:

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

   The Tribunal noted that this definition sets out three cumulative 'criteria to determine what constitutes such pollution: (1) there must be a substance or energy; (2) this substance or energy must be introduced by humans, directly or indirectly, into the marine environment; and (3) such introduction must result or be likely to result in deleterious effects' [para 161]. The Tribunal held that greenhouse gases are 'substances' [para 164], that as anthropogenic emissions they are produced by 'man' [para 165], that they are absorbed by the ocean [para 172], and produce 'deleterious effects' [paras 175-178].

6. The Tribunal held that anthropogenic greenhouse gas emissions violated a number of provisions in Part XII. The key provisions are:
   a. Article 192 – this sets out the general rule. It states that 'States have the obligation to protect and preserve the marine environment'. This obligation is 'open-ended [in] that it can be invoked to combat any form of degradation of the marine environment, including climate change impacts, such as ocean warming and sea level rise, and ocean acidification' [para 388]. Article 192 has two distinct elements – to protect and to preserve. See paras 385-388. In this context the word 'preserve' can also include restoration of marine systems and habitats [para 386], and Article 192 can include adaptation and resilience building [paras 391-394]. The obligation under Article 192 is of 'stringent' 'due diligence' [para 400], and it applies in the Exclusive Economic Zone (Article 61) and on the high seas (Article 117, for your nationals, and Article 119, more generally) [paras 414-418].
   b. Article 194. This is the most important provision and hence I will set it out in full here (underlining critical text), and provide notes in the column to the right:

Table 1: Full Text and Analysis of Article 194

UNCLOS Provision	Comments
Article 194 *Measures to prevent, reduce and control pollution of the marine environment*	Measures are to deal with most aspects of marine pollution: prevention, reduction and control
1. States shall take, individually or jointly as appropriate, all measures consistent with this Convention that are necessary to prevent, reduce and control pollution of the marine environment from any source, using for this purpose the best practicable means at their disposal and in accordance with their capabilities, and they shall endeavour to harmonize their policies in this connection.	All measures are to be taken individually (single state) or jointly (as a group – i.e., through the IMO) Pollution may come from ANY source Capabilities may limit response (i.e., CBDR)
2. States shall take all measures necessary to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other States and their environment, and that pollution arising from incidents or activities under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights in accordance with this Convention.	Duty to other states Duty not to create transboundary harms Activities under 'jurisdiction or control' includes activities in state's ocean zones (i.e., EEZ), and activities done on vessels registered with the state (flag ships)
3. The measures taken pursuant to this Part shall deal with all sources of pollution of the marine environment. These measures shall include, inter alia, those designed to minimize to the fullest possible extent:	Measures are to deal with ALL sources of pollution
(a) the release of toxic, harmful or noxious substances, especially those which are persistent, from land-based sources, from or through the atmosphere or by dumping;	Land, air and sea (dumping) sources must be governed by measures. This supports the holistic WtW approach in the GHG strategy in considering emissions.
(b) pollution from vessels, in particular measures for preventing accidents and dealing with emergencies, ensuring the safety of operations at sea, preventing intentional and unintentional discharges, and regulating the design, construction, equipment, operation and manning of vessels;	Vessel pollution may arise from unintentional discharges Measures must regulate the design, construction, equipment, operation and manning of vessels. This clearly supports the **technical measures** already having been, and being, adopted by the IMO in its GHG Strategy.
(c) pollution from installations and devices used in exploration or exploitation of the natural resources of the seabed and subsoil, in particular measures for	Natural resource extraction installations and devices are also governed.

UNCLOS Provision	Comments
preventing accidents and dealing with emergencies, ensuring the safety of operations at sea, and regulating the design, construction, equipment, operation and manning of such installations or devices;	Raises the question as to whether oil installations should be exempted from any part of the GHG Strategy?
(d) pollution from other installations and devices operating in the marine environment, in particular measures for preventing accidents and dealing with emergencies, ensuring the safety of operations at sea, and regulating the design, construction, equipment, operation and manning of such installations or devices.	All other installations and devices are governed. Raises the question as to whether any installation or device should be exempted from any part of the GHG Strategy?

The tribunal held that Article 194, subsection (1)

- applies to all forms of pollution [para 197]
- applies to past, present and future pollution [para 198]
- encourages joint measures, which are especially appropriate for climate change [paras 201-202]
- requires application of the precautionary approach for measures [para 213]
- and the measures required by it, can be interpreted in light of the UNFCCC and Paris Agreement; however Tribunal expressly states that these treaties are not sufficient for compliance with Article 194: 'The Tribunal does not consider that the obligation under article 194, paragraph 1, of the Convention would be satisfied simply by complying with the obligations and commitments under the Paris Agreement.' [para 223]
- is not limited by the UNFCCC or Paris Agreement, neither of which is lex specialis in relation to *UNCLOS* [para 224]
- allows for the application of the principle of common but differentiated responsibilities and respective capabilities in relation to the measures [para 227]
- applies to all states [para 229][36]
- creates an obligation of 'stringent' 'due diligence,' not result [paras 233-243]

The tribunal held that in Article 194 subsection (2)

[36] The Tribunal states in para 229 about Article 194 that 'the scope of the measures under this provision, in particular those measures to reduce anthropogenic GHG emissions causing marine pollution, may differ between developed States and developing States. At the same time, it is not only for developed States to take action, even if they should "continue taking the lead". All States must make mitigation efforts.' [emphasis added]

- 'jurisdiction and control' can refer to activities done by both public and private actors, in ocean areas controlled by the state (e.g., EEZ) and on flag ships [para 247].

The next part of the Advisory Opinion deals with all of the different sources of pollution covered in Part XII, namely,

- pollution from land-based sources (article 207),
- pollution from seabed activities subject to national jurisdiction (article 208),
- pollution from activities in the Area (article 209),
- pollution by dumping (article 201),
- pollution from vessels (article 211), and
- pollution from or through the atmosphere (article 212) [para 260].

Although a range of sources could cause GHG-based marine pollution, the Tribunal confined itself primarily to 'marine pollution caused by anthropogenic GHG emissions into the atmosphere from land-based sources, vessels and aircraft' [para 264]. All three forms of pollution are relevant. In terms of enforcement, the Tribunal noted that in assessing whether there had been a breach of these obligations, that the rules and standards of other international legal instruments, including climate change treaties, could be relevant. Interestingly, failure to take measures required in one of these instruments could, in the words of the Tribunal, place a state in a position where its 'international responsibility would be engaged for breach of the obligations under article 213 or 222 of the Convention' [para 286]. As a result, a breach of another treaty may lead to a breach of *UNCLOS*.

In relation to vessel-based pollution, the Tribunal quotes Article 217(1) as setting the relevant standards for enforcement:

> *Article 217*
>
> *Enforcement by flag States*
>
> 1. States shall ensure compliance by vessels flying their flag or of their registry with applicable international rules and standards, established through the competent international organization or general diplomatic conference, and with their laws and regulations adopted in accordance with this Convention for the prevention, reduction and control of pollution of the marine environment from vessels and shall accordingly adopt laws and regulations and take other measures necessary for their implementation. Flag States shall provide for the effective enforcement of such rules, standards, laws and regulations, irrespective of where a violation occurs. [emphasis added]

The key passages underlined above show that states have a duty to ensure compliance by their flag ships, including a duty to conform to international rules and standards of

international organisations. States must 'adopt laws and regulations and take other measures necessary to implement such international rules and standards as well as their national laws and regulations' [para 288]. Enforcement must take place regardless of where the violation occurs.

Interestingly, the Tribunal specifically refers to the IMO GHG rules in relation to enforcement of Article 217:

> 291. In the context of marine pollution from anthropogenic GHG emissions from vessels, applicable international rules and standards may be found, *inter alia*, in Annex VI to MARPOL, as amended in 2011 and 2021.[para 291]

Comment: this is an important point. The Tribunal has effectively highlighted that the *MARPOL* Annex VI rules, potentially including the amendments currently being worked on, are enforceable not only through the *MARPOL* framework, but also through *UNCLOS*.

The Tribunal also establishes a duty to cooperate under 'articles 197, 200 and 201, read together with articles 194 and 192 of the Convention' [para 321]. These provisions 'impose specific obligations on States Parties to cooperate, directly or through competent international organizations, continuously, meaningfully and in good faith in order to prevent, reduce and control marine pollution from anthropogenic GHG emissions' [para 321].

In relation to Articles 202 and 203 of *UNCLOS*, which impose requirements in relation to scientific and technical assistance and preferential treatment for developing States, respectively, the Tribunal assesses the particular context of developing states:

> 327. In the view of the Tribunal, scientific, technical, educational and other assistance to developing States that are particularly vulnerable to the adverse effects of climate change is a means of addressing an inequitable situation. Although they contribute less to anthropogenic GHG emissions, such States suffer more severely from their effects on the marine environment. In this regard, the Tribunal notes the relevance of the UNFCCC and the Paris Agreement, which expressly recognize and take into account the specific needs and special circumstances of developing countries, "especially those that are particularly vulnerable to the adverse effects of climate change." [para 327]

The Tribunal later indicates that 'other assistance' in Article 202 may include financial assistance, and Article 203 requires preferential treatment for developing states.

Comment: these passages may allow Caribbean states to argue in relation to the just and equitable transition required of the GHG Strategy that particular forms of assistance may be required under UNCLOS, as supported by the ITLOS Advisory Opinion.

Monitoring and reporting obligations related to pollution of the marine environment are highlighted by the Tribunal, as well as the requirement to conduct environmental impact assessments (EIAs), as found in Article 206. Regarding the latter, the Tribunal highlighted the crucial importance of EIAs and stated that the obligation to hold EIAs is part of customary international law [paras 354-355].

Summary: in sum, the ITLOS *Advisory Opinion* on climate change is wide-ranging. It conclusively establishes that GHG emissions are covered under *UNCLOS*. It also addresses in some detail the obligations of states under *UNCLOS* in relation to anthropogenic GHG emissions. The Opinion clearly supports and gives further force to the 2023 IMO GHG Strategy. Caribbean states should rely upon the *Advisory Opinion* as clarifying and providing an authoritative statement of the law. Even though advisory opinions per se are not binding in international law (since they do not finally resolve an active dispute between parties), they set out the law in a clear and rigorous manner, and are very unlikely to be diverged from in future cases.

3. Preliminary Conclusions

The analysis undertaken in the present paper answers a number of questions that have been raised in Caribbean and 6 PAC discussions. The IMO Convention and structure of the IMO provides a solid foundation for the 2023 IMO GHG Strategy and would allow amendments to the *MARPOL Convention* and *MARPOL* Annex VI. Related regulations and guidelines also can be legally developed within the IMO framework, which is broad enough to support innovative developments including a GHG levy and GHG fund.

Several of the international legal principles and rules directly or indirectly referenced in papers submitted to the ISWG-GHG or the MEPC are well established in international law. The description of these rules and principles in the present document aims to provide a firm basis for Caribbean negotiators to rely upon them in discussions at IMO meetings. Guidance is provided on how to avoid some of the negative associations related to the common but differentiated responsibilities principle, including highlights of the balanced and nuanced approach taken by ITLOS in its Advisory Opinion. The latter opinion offers rich analysis of the ways in which climate change caused by anthropogenic GHG emissions is regulated by *UNCLOS* as a form of marine pollution. The legal positions taken in the Advisory Opinion can be used to further anchor Caribbean negotiations.

The Appendices set out below offer insights on specific issues related to the 2023 IMO GHG Strategy, including a succinct analysis of ISWG-GHG 18 papers, and an index of precedents for future midterm measures.

4. Appendix 1: Select Issues for Upcoming Intersessional Working Group on Greenhouse Gas Emissions

The document underpinning all of the proposed measures to be considered by ISWG 18 and MEPC 83 is the 2023 IMO GHG Strategy. The proposed measures for these meetings rely upon and link back to the Strategy for support. As a result, it is helpful to provide a brief overview of the Strategy.

4.1. Summary of 2023 IMO GHG Strategy

Leading up to and during MEPC 80, the majority of states appeared to be moving towards a combination of the goal-based fuel standard (GFS) with a levy or per tonne pricing system.[37]

At MEPC 80 the Committee issued Resolution MEPC.377(80) (adopted on 7 July 2023), entitled "2023 IMO Strategy on Reduction of GHG Emissions From Ships" (the 2023 IMO GHG Strategy).

4.1.1. Objectives

The **Objectives** of the GHG Strategy are:

1. enhancing IMO's contribution to global efforts by addressing GHG emissions from international shipping. International efforts in addressing GHG emissions include the Paris Agreement and its goals and the United Nations 2030 Agenda for Sustainable Development and its SDG 13: "Take urgent action to combat climate change and its impacts";
2. identifying actions to be implemented by the international shipping sector, as appropriate, while addressing impacts on States and recognizing the critical role of international shipping in supporting the continued development of global trade and maritime transport services; and
3. identifying actions and measures, as appropriate, to help achieve the above objectives, including incentives for research and development and monitoring of GHG emissions from international shipping.[38]

4.1.2. Vision

This **Vision** of the 2023 IMO GHG Strategy specifically addresses the need for a just and equitable transition: "IMO remains committed to reducing GHG emissions from international shipping and, as a matter of urgency, aims to phase them out as soon as

[37] Dr Alison Shaw and Dr Tristan Smith, 'An overview of the discussions from IMO ISWG-GHG 15', UMAS Report (30.06.2023), at pp 9-10. Dr Alison Shaw and Dr Tristan Smith, 'An overview of the discussions from IMO MEPC 80 and Frequently Asked Questions', UMAS Report (07.07.2023), at p 9.

[38] "2023 IMO Strategy on Reduction of GHG Emissions From Ships," Resolution MEPC.377(80), MEPC 80/17/Add.1, Annex 15 (adopted on 7 July 2023), p 5.

possible, while promoting, in the context of this Strategy, a just and equitable transition."[39]

4.1.3. Levels of Ambition and Indicative Checkpoints

The **Levels of Ambition** on well-to-wake GHG emissions of marine fuels are stated as:

> .1 carbon intensity of the ship to decline through further improvement of the energy efficiency for new ships
>
> > to review with the aim of strengthening the energy efficiency design requirements for ships;
>
> .2 carbon intensity of international shipping to decline
>
> > to reduce CO2 emissions per transport work, as an average across international shipping, by at least 40% by 2030, compared to 2008;
>
> .3 uptake of zero or near-zero GHG emission technologies, fuels and/or energy sources to increase
>
> > uptake of zero or near-zero GHG emission technologies, fuels and/or energy sources to represent at least 5%, striving for 10%, of the energy used by international shipping by 2030; and
>
> .4 GHG emissions from international shipping to reach net zero
>
> > to peak GHG emissions from international shipping as soon as possible and to reach net-zero GHG emissions by or around, i.e. close to, 2050, taking into account different national circumstances, whilst pursuing efforts towards phasing them out as called for in the Vision consistent with the long-term temperature goal set out in Article 2 of the Paris Agreement.

Indicative checkpoints are stated as:

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[39] "2023 IMO Strategy on Reduction of GHG Emissions From Ships," Resolution MEPC.377(80), MEPC 80/17/Add.1, Annex 15 (adopted on 7 July 2023), p 5. Note that Dr Alison Shaw and Dr Tristan Smith, in 'An overview of the discussions from IMO ISWG-GHG 15', UMAS Report (30.06.2023), at p 7, explain the meaning of the three related terms just, equitable and fair:

> Though still sometimes still conflated, these terms have largely amassed the following understanding:
> • A just transition relates to the safety, training and skilling of workers in the transition and the provision of dignified work, which within the negotiations focuses on seafarers.
> • An equitable transition acknowledges that countries, in particular climate vulnerable countries, are going to bear a burden of both climate impacts and the impacts from mitigation measures and policy should be designed to minimise and address these impacts while also supporting access to sustainable development opportunities and
> benefits provided by the coming energy transition for ships.
> • A fair transition relates to decision-making and governance processes and requires all members to be able to access these pivotal processes and represent their interests.

.1 to reduce the total annual GHG emissions from international shipping by at least 20%, striving for 30%, by 2030, compared to 2008; and

.2 to reduce the total annual GHG emissions from international shipping by at least 70%, striving for 80%, by 2040, compared to 2008.

4.1.4. Principles

The 2023 IMO GHG Strategy is guided by several **principles**:

- the principle of non-discrimination
- the principle of no more favourable treatment
- the principle of common but differentiated responsibilities and respective capabilities[40]
- the requirement for all ships to give full and complete effect, regardless of flag, to implementing mandatory measures to ensure the effective implementation of this Strategy
- the need to consider the impacts of measures on States, including developing countries, in particular on LDCs and SIDS, and their specific emerging needs[41]
- the need for evidence-based decision-making balanced with the precautionary approach.[42]

4.1.5. Timelines

Timelines for GHG reduction measures are divided into three categories:

1. short-term measures (mandatory goal-based technical and operational measures which were agreed by 2023 and are to be reviewed by January 1, 2026);
2. mid-term measures (basket to be finalised by 2025, but dates for entry into force to be decided for basket or individually; other candidate mid-term measures to be finalised and agreed between 2023 and 2030, with entry into force defined individually). The basket should include both:
   - a technical element, namely a goal-based marine fuel standard regulating the phased reduction of the marine fuel's GHG intensity; and
   - an economic element, on the basis of a maritime GHG emissions pricing mechanism;
3. long-term measures (finalised and agreed beyond 2030; developed as part of 2028 review of IMO GHG Strategy)[43]

[40] See the discussion of CBDRs above, at p .
[41] See the discussion of specific needs and special circumstances of developing countries at p , above.
[42] "2023 IMO Strategy on Reduction of GHG Emissions From Ships," Resolution MEPC.377(80), MEPC 80/17/Add.1, Annex 15 (adopted on 7 July 2023), pp 6-7. See also the discussion of the precautionary principle at p , above.
[43] "2023 IMO Strategy on Reduction of GHG Emissions From Ships," Resolution MEPC.377(80), MEPC 80/17/Add.1, Annex 15 (adopted on 7 July 2023), p 7 [emphasis added].

4.1.6. Mid-Term Measures

In relation to the **mid-term measures**, emphasis is placed on ensuring a just and equitable transition in promoting the energy transition: "The mid-term GHG reduction measures should effectively promote the energy transition of shipping and provide the world fleet with a needed incentive while contributing to a level playing field and a just and equitable transition."[44] This is emphasized by the requirement of assessing the "impact of the measures upon States" when developing and adopting the measures.[45]

The 2023 IMO GHG Strategy also sets out **other candidate mid-term measures**, namely, those directed to:

- Informed policymaking – data analysis, studies, a feedback mechanism,
- Supporting ZNZ GHG emission and fuel technologies – develop LCA guidelines, safety assessments, measures to address particular types of emissions, first mover incentives, port developments and infrastructure.[46]

The strategy also focuses on assessing its impacts upon states, including through the comprehensive impact assessment, and indicates that "[p]articular attention should be paid to the needs of developing countries, in particular LDCs and SIDS." Impacts are to be assessed in terms of the following:

> .1 geographic remoteness of and connectivity to main markets;
>
> .2 cargo value and type;
>
> .3 transport dependency;
>
> .4 transport costs;
>
> .5 food security;
>
> .6 disaster response;
>
> .7 cost-effectiveness; and
>
> .8 socio-economic progress and development.[47]

In terms of barriers and supportive actions, the strategy again focuses on the special needs of developing countries, including LDCs and SIDS, in regard to capacity-building

[44] "2023 IMO Strategy on Reduction of GHG Emissions From Ships," Resolution MEPC.377(80), MEPC 80/17/Add.1, Annex 15 (adopted on 7 July 2023), p 7.
[45] "2023 IMO Strategy on Reduction of GHG Emissions From Ships," Resolution MEPC.377(80), MEPC 80/17/Add.1, Annex 15 (adopted on 7 July 2023), p 7.
[46] "2023 IMO Strategy on Reduction of GHG Emissions From Ships," Resolution MEPC.377(80), MEPC 80/17/Add.1, Annex 15 (adopted on 7 July 2023), pp 8-9.
[47] "2023 IMO Strategy on Reduction of GHG Emissions From Ships," Resolution MEPC.377(80), MEPC 80/17/Add.1, Annex 15 (adopted on 7 July 2023), p 9.

and technical cooperation. Broad statements expressing the special needs of, inter alia, SIDS are set out in the strategy:

> "5.1 The Committee recognizes the challenges that some delegations of developing countries, in particular LDCs and SIDS, may face in participating in the work of the Organization, in particular on GHG-related matters. …
>
> "5.3 When developing candidate mid- and long-term GHG reduction measures, due account should be taken to ensure a just and equitable transition that leaves no country behind, including supportive measures."

Comments: These statements should be relied upon by Caribbean delegations in making arguments at the ISWG-GHG and MEPC.

Other passages highlight port infrastructure and the need to address the human element in relation to the GHG strategy.

However, it should be noted that the text of these passages of the 2023 IMO GHG Strategy is limited in aspiration. For example, the second sentence in para 5.2, only mentions assistance from the Voluntary Multi-Donor Trust Fund.[48]

In terms of capacity building, the 2023 IMO GHG Strategy identifies the potential of public-private partnerships, information sharing, technology transfer, capacity-building and technical cooperation. The strategy also stresses the need to "assess periodically the provision of financial and technological resources and capacity-building to implement the Revised Strategy through the Integrated Technical Cooperation Programme (ITCP), the IMO GHG TC-Trust Fund and other initiatives, including both IMO and Member States-sponsored programmes, as listed in appendix 2."[49] Other areas of focus include seafarers training, R&D activities, financial and technical support for enhanced cooperation and exploration of renewable fuel production opportunities.[50]

The 2023 IMO GHG Strategy also sets out a timeline for implementation and notes the need for periodic review.[51]

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[48] Paragraph 5.2 reads: '5.2 The Committee recognizes the challenges that some delegations of developing countries, in particular LDCs and SIDS, may face in participating in the work of the Organization, in particular on GHG-related matters. In this regard, the Organization should periodically assess the provision of financial resources through the Voluntary Multi-Donor Trust Fund established by the Organization for the purpose of assisting developing countries, in particular LDCs and SIDS, in attending the meetings of MEPC and the Intersessional Working Group on Reduction of GHG Emissions (ISWG-GHG).'

[49] "2023 IMO Strategy on Reduction of GHG Emissions From Ships," Resolution MEPC.377(80), MEPC 80/17/Add.1, Annex 15 (adopted on 7 July 2023), p 10.

[50] "2023 IMO Strategy on Reduction of GHG Emissions From Ships," Resolution MEPC.377(80), MEPC 80/17/Add.1, Annex 15 (adopted on 7 July 2023), p 10-11.

[51] "2023 IMO Strategy on Reduction of GHG Emissions From Ships," Resolution MEPC.377(80), MEPC 80/17/Add.1, Annex 15 (adopted on 7 July 2023), p 11-12.

4.1.7. Appendices I-II

Appendix I to the Strategy lists previous actions by the IMO to regulate GHG emissions. The following are particularly notable and so I draw them to the attention of Caribbean delegates:

> .1 MEPC 62 (July 2011) adopted resolution MEPC.203(62) on *Inclusion of regulations on energy efficiency for ships in MARPOL Annex VI* introducing mandatory technical (EEDI) and operational (SEEMP) measures for the energy efficiency of ships;
>
> .3 MEPC 67 (October 2014) approved the Third IMO GHG Study 2014, estimating that GHG emissions from international shipping in 2012 accounted for some 2.2% of anthropogenic CO2 emissions and that such emissions could grow by between 50% and 250% by 2050;
>
> .4 MEPC 70 (October 2016) adopted, by resolution MEPC.278(70), amendments to MARPOL Annex VI to introduce the data collection system for fuel oil consumption of ships, containing mandatory requirements for ships to record and report their fuel oil consumption, and also adopted the *Road map for developing a comprehensive IMO strategy on reduction of GHG emissions from ships* (the Road Map). Ships of 5,000 gross tonnage and above (representing approximately 85% of the total GHG emissions from international shipping) are required to collect consumption data for each type of fuel oil they use, as well as other, additional, specified data including proxies for “transport work”;
>
> .9 MEPC 76 (June 2021) adopted, by resolution MEPC. 328(76), amendments to MARPOL Annex VI introducing the short-term GHG reduction measure containing a technical Energy Efficiency Existing Ship Index (EEXI), an operational Carbon Intensity Indicator (CII) and an enhanced Ship Energy Efficiency Management Plan (SEEMP); adopted a series of seven technical guidelines supporting the EEXI and CII frameworks; approved a *Work plan to progress development of mid- and long-term GHG reduction measures in line with the Initial IMO Strategy on Reduction of GHG Emissions from Ships and its Programme of follow-up actions*;
>
> .11 MEPC 78 (June 2022) adopted a series of 10 technical guidelines to support the implementation of the short-term GHG reduction measure;
>
> .12 Council 128 (November 2022) endorsed the finalized terms of reference of a Voluntary Multi-Donor Trust Fund to Facilitate the Participation of Developing Countries, Especially Small Island Developing States (SIDS) and Least Developed Countries (LDCs) in IMO GHG Meetings, and agreed to review the

terms of reference, based on the experience of the first full year of operations of the Fund, no later than at the 130th session of the Council;

.13 MEPC 79 (December 2022) adopted amendments to MARPOL Annex VI to revise the data collection system for fuel oil consumption for the implementation of the EEXI and the CII framework, approved a *Revised procedure for assessing the impacts on States of candidate measures* (MEPC.1/Circ.885/Rev.1) and adopted resolutions MEPC.366(79) and MEPC.367(79) on *Invitation to Member States to encourage voluntary cooperation between the port and the shipping sectors to contribute to reducing GHG emissions from ships* and *Encouragement of Member States to develop and submit voluntary National Action Plans (NAPs) to address GHG emissions from ships*, respectively; and

.14 MEPC 80 (July 2023) adopted resolution MEPC.376(80) on *Guidelines on life cycle GHG intensity of marine fuels* (LCA guidelines); initiated the comprehensive impact assessment of the basket of candidate mid-term measures; and adopted resolution MEPC.377(80) on *2023 IMO Strategy on Reduction of GHG Emissions from Ships* (2023 IMO GHG Strategy).

Appendix 2 describes initiatives undertaken by the IMO to reduce GHG emissions, including:

- Integrated Technical Cooperation Programme
- GHG TC-Trust Fund
- Global Maritime Technologies Cooperation Centres Network
- Green Voyage 2050 project
- GHG-SMART Programme
- GloFouling Partnerships
- TEST Biofouling project
- IMO CARES project
- FFT project (Future Fuels and Technology for Low- and Zero-carbon Shipping Project)
- IMO-UNEP-Norway Innovation Forum
- Financing Sustainable Maritime Transport (FIN-SMART) Roundtable and
- NextGEN portal

Summary: in sum the 2023 IMO GHG Strategy sets out the basic structure which the IMO will use to reduce GHG emissions. The Strategy requires fleshing out through ‘measures’ and will require further amendments to *MARPOL* Annex VI. Caribbean states should support their positions with express references to the text of the Strategy.

4.2. Midterm Measures (General)

4.2.1. Effect of Short Sea Shipping in the Caribbean

The position paper by Antigua et al, ISWG-GHG 17/2/18,[52] discusses several challenges to Caribbean states that may arise as a result of midterm measure proposals. When discussing the nature of Caribbean shipping the paper notes that: it primarily involves short sea shipping (SSS), is critical to Caribbean economies, and our fleets tend to be composed of smaller, older ships.[53] Moreover the Caribbean is severely impacted by climate change, with hurricanes and climate disasters affecting coastal infrastructure leading to long term and significant economic setbacks.[54]

The paper suggests that both ports and vessels will have to be upgraded in the near future, and some of the mid term measures (such as the conversion to low GHG fuels), will entail significant expense.[55]

Comments: the paper sets out the Caribbean perspective and may be used to support Caribbean arguments related to CBDR and special circumstances.

4.2.2. Caribbean support for universal mandatory levy

Midterm measures that have Caribbean support, as set out in the paper by Antigua et al, ISWG-GHG 17/2/18, include a "Universal mandatory levy with just and equitable transition." In other words,

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[52] Antigua and Barbuda et al, "Position paper on the mid-term measures and impacts on the Caribbean region" ISWG-GHG 17/2/18 (9 August 2024).

[53] In Antigua and Barbuda et al ISWG-GHG 17/2/18 (9 August 2024), at p 3, the authors note:

> 7 Consistent with many other SIDS and LDCs, the fleet servicing Caribbean economies predominantly consists of older ships. According to the UNCTAD Review of Maritime Transport 2023 report, the average age of the global commercial fleet is around 21.9 years by the number of ships and 11.5 years by cargo capacity,9 but Caribbean ships often exceed these averages. Many ships in the Caribbean, in particular cargo ships, are 20 to 30 years old, and a significant fraction of smaller ships under 500 GT, used for inter-island trade, average just over 35 years old.10 New ships require significant capital investment, which is prohibitive for many regional operators due to the high cost and poor access to capital, common with circumstances in many SIDS, LDCs, and low-income countries. Additionally, regional operators often rely on leased or second-hand ships, which are generally older and less efficient. This situation limits the region's ability to upgrade its maritime fleet and contributes to higher operational costs and reduced competitiveness. Unless these circumstances are considered in the design of mid-term measures, they will lead to additional GHG policy risks, rapidly increase transport costs in the region, and lead to further diminution of Caribbean economies′ ownership, operation and control of their shipping services.

[54] In Antigua and Barbuda et al ISWG-GHG 17/2/18 (9 August 2024), at p 4 it is noted:

> 9 By 2050, climate damages in the Caribbean are projected to increase significantly, with climate-related disruptions potentially costing the region $22 billion annually.11 The impacts of climate disasters extend beyond immediate physical damage, leading to long-term economic setbacks, increased debt, and hindered growth. Adaptation needs include investing in more robust infrastructure, improving early warning systems, and adopting sustainable practices to mitigate, adapt to, and recover from loss and damage caused by climate change impacts. This underscores the need for investment in the region's maritime sector to ensure a resilient, sustainable shipping transition, as well as investment in broader (out of sector) climate mitigation and adaptation strategies.

[55] See Antigua and Barbuda et al ISWG-GHG 17/2/18 (9 August 2024), p 5.

1. proposals that combine a GFS (e.g., a WtW approach for GHG Fuel Intensity (GFI) standards, applying them to all ships of 400 GT and above), with
2. an emissions pricing mechanism (e.g., a $150/tCO2e or higher levy) – a universal levy on shipping emissions to be distributed both in sector and out of sector, and
3. revenue distribution to support reward for low/zero GHG fuels (D4) and other needs, such as infrastructure investment and capacity-building (including seafarer training, bunkering facilities for alternative fuels, retrofitting existing ships, and enhancement of port infrastructure for new types of ships and technologies); revenue distribution must be able to address a range of considerations, including vulnerability to climate impacts, readiness for transition, and the particular needs of SIDS and LDCs, and
4. revenue use to address disproportionately negative impacts (DNI).[56]

These measures "have the least GDP impact on developing economies generally, and particularly on SIDS and LDCs including Caribbean economies."[57]

The global fuel standard supports adoption of cleaner fuels and technologies in shipping. However, it must be combined with a levy that can generate revenue which can be disbursed to counteract higher transport costs and other negative impacts for SIDS.

Assessment: this approach of a high GHG levy with broad revenue distribution (including out of sector) should be supported by the Caribbean.

4.2.3. Measures not supported by the Caribbean

In contrast, SIDS are less supportive of

- Complex compliance mechanisms – including a GFS with a trading system for surplus and deficit units. Trading and pooling systems can lead to market distortions benefiting powerful companies which are able to buy surplus units, with smaller shipping companies not being able to compete.
- Fuel standard with limited or untargeted revenue disbursement for developing countries – systems that prioritize in sector mechanisms such as the feebate incentivize the green transition but do not address its harmful impacts upon SIDS.[58]

[56] See further Antigua and Barbuda et al ISWG-GHG 17/2/18 (9 August 2024), pp. 5 and 7-8.
[57] Antigua and Barbuda et al ISWG-GHG 17/2/18 (9 August 2024), p 5.
[58] Antigua and Barbuda et al ISWG-GHG 17/2/18 (9 August 2024), p 6.

4.3. Technical Measures

4.3.1. Effect of the CII rating on the Caribbean region (short sea shipping)

The paper by Antigua et al, MEPC 82/INF.48[59], makes clear that current CII calculations are likely to negatively impact vessels in the Caribbean, given our States' small size, remoteness, and insularity. As SIDS we are heavily reliant on maritime transport for imports and exports, and we face challenges in transport and trade logistics. These challenges will hinder our ability to achieve decarbonization and sustainable development goals.

As summarized in the paper, the IMO's 2018 initial strategy on reduction of GHG started with technical and operational measures, which required measurement of energy efficiency:

> Initial Strategy contained short-term GHG reduction targets, and technical and operational measures, requiring ships to improve their energy efficiency in the short term and thereby reduce their GHG emissions. These technical and operational amendments make it mandatory from 1 January 2023 for ships to measure their energy efficiency and to initiate the collection of data for the reporting of their annual operational CII and CII rating (for ships of 5,000 GT and above), as outlined in chapter 4 – regulation 28 – operational carbon intensity of the amendments to MARPOL Annex VI.2 IMO has allowed for adjustment and correction factors to be used by certain ship types, and during some operations and voyages, where ships under certain conditions can have corrections to their CII calculation by removing certain periods of their operation or by reducing the CII value based on specific criteria.
>
> Carbon intensity links the GHG emissions to the amount of cargo carried over distance travelled (transport work). [Annex, p 1]

GHG emissions are measured against transport work, which includes distance travelled. As a result, any fuel consumed for non-propulsion purposes will negatively impact CII ratings. In the Caribbean, two factors will negatively affect our CII ratings:

- ships generally travel on trading routes which involve short voyages (short sea shipping or SSS), involving frequent starting and stopping of ships, and

[59]Antigua and Barbuda, Jamaica, Saint Kitts and Nevis, Saint Vincent and the Grenadines, and Trinidad and Tobago, "Position paper on the use of the CII rating to measure the energy efficiency of ships trading in the Caribbean region," MEPC 82/INF.48 (26 July 2024). This paper was commissioned by the Inter-American Development Bank (IDB) and conducted by MTCC Caribbean and its host institution, the University of Trinidad and Tobago (UTT).

- ships serve small ports which lack modern infrastructure, entailing more time in port consuming fuel for non-propulsion purposes (i.e., hoteling services while at anchorage).[60] [Annex, p 4]

The combination of these two factors means that the shorter distance travelled, the higher percentage of time on a voyage will be spent in port, and therefore the higher percentage of fuel will be used for non-propulsion purposes. This is true even where port turnaround times are comparative to those in top jurisdictions around the world – since the short voyage durations would still mean a larger percentage of fuel was used for non-propulsion purposes.

In addition, the smaller vessels used in our region have a lower DWT (deadweight tonnage), meaning they can carry less cargo. Since CII calculations include the amount of cargo carried, the limited cargo carried by smaller ships will have a greater impact on their energy efficiency performance indicator (EEPI) [cf Annex, p 5].

The study suggested that excluding certain short sea shipping (SSS) voyages from CII calculations would create significant improvements in CII ratings [Annex, p 6]

In conclusion the study noted the

> major limitations of the Caribbean ports: the size of ships that can be accommodated, the non-existence of green shore power, cruise ships' priority berthing and inadequate cargo handling equipment. It further reflects on the possible implications on the region of inferior CII ratings of the ships as a result of facilitating the much-needed container feeder service within the Caribbean region. The ships stand a risk of becoming "underperforming ships" and the options to meet compliance with the CII regulations are costly and/or may involve limiting operations in the region, undoubtedly leading to economic and social consequences for the region. [Annex, p 7]

Several recommendations emerge from the report including the need for:

> review of the current CII framework to consider factors such as short voyage distances and the application of an associated correction factor, the implementation of port operational measures to improve energy efficiency of ships while in port, stronger regional cooperation for a more cohesive maritime network, and prioritizing Caribbean ports infrastructure developments. [Annex, p 7]

[60] Note that overnighting is a feature of the cruise ship industry, an industry that contributes significantly to the economies of several Caribbean states. See, e.g., Antigua and Barbuda, Belize, Dominica, Grenada, Jamaica and Saint Lucia, "Position paper on the mid-term measures and impacts on the Caribbean region" ISWG-GHG 17/2/18 (9 August 2024), at p 3:

> Approximately 42 cruise lines offered itineraries in the Caribbean in 2024, representing a significant portion of the global cruise market. Caribbean economies are expected to capture almost 40% of the world's cruise market, reflecting its strong and growing capacity post-pandemic. [citations omitted]

9 Recommendations emerging from the study include:

.1 the review of the current CII framework to consider factors such as short voyage distances and the application of an associated correction factor during the review of the CII regulations and associated guidelines;

.2 support future studies focusing on the varying impacts on different types of ships operating in the region;

.3 support future studies on the energy efficiency assessment and ports' performance indicators for ports of the Caribbean region;

.4 support the implementation of port operational measures to improve the energy efficiency of ships while in port in the Caribbean region; and

.5 support Caribbean ports' infrastructure developments towards more carbon-efficient operations.

Comments: The report is clear that

- Caribbean shipping does not benefit from current CII calculations due to the smaller size of our vessels, the short term shipping nature of the voyages, and the older port facilities.
- We need to correct CII calculations.
- One possible beneficial use of the Fund in the Caribbean would be to update port facilities.

4.4. GHG Strategy Implementation Fund

4.4.1. Possibility Within *MARPOL* framework?

In responding to the question of whether *MARPOL* Annex VI can be used to create a fund, Bahamas et al in ISWG-GHG 16/2/3, at p 15 (para 70), quote with approval the analysis provided by Belgium in MEPC 76/7/11 (Belgium et al.) which concludes as follows:

"21 Nowhere in the Convention is a limit placed upon the types of measures that can be agreed by the members of IMO. Therefore, the only legal limit upon what measures can be agreed at IMO is the agreement of the members themselves. States came together to form the Organization in order to gain the benefits of working together across the international maritime sector. If the members of the Organization now agree that in order to reduce the impact of the maritime sector on the climate, IMO should implement a mid-term measure, of whatever form, there is nothing in the Convention preventing this. The tacit amendment procedure to MARPOL allows for a speedy adoption and entry into force of any

measure which is necessary in order to achieve the goals of the Initial Strategy and halt the climate crisis."[61]

Comment: this conclusion may be supported by the Caribbean. In the absence of an express limitation in the Convention, Members are free to interpret the term "measures."

4.4.2. Elements of a Fund

In the document entitled "Caribbean Ideas on the IMO Facility/Fund & Caribbean Concerns" several points were made about the potential nature and structure of the Fund. It was suggested that our submissions should include:

- A proposed governance structure:
    - An overall board of governance: a 32-member Board (Category A (8), B (8), C (16) formed using current IMO rules related to the election of Council Members)
    - Two committees of the Board:
        - (1) Mitigation – committee of 16 to be formed using current IMO rules related to the election of Council Members.
        - (2) Adaptation – committee of 15 to be formed with SIDs/LDC as a majority
- The establishment of a transitional committee
    - To refine the proposed governance structure
    - Develop rules and procedures
    - Refinement of pathways for interface with existing funds/IFIs, etc
    - Develop ideas about where bank accounts are to be held (not just in developed countries)
    - Develop ideas about levy collection systems and accounting

Comments: discussions between the Caribbean and 6 PAC, including those on the draft Governing Instrument, are considering these and other points. A paper from RMI et al, entitled 'Specifying the economic measure – Justification, structure and operation of a/the IMO GHG Strategy Implementation Fund,' which further fleshes out the proposed fund structure, will be submitted to MEPC 83.[62]

[61] Bahamas, Liberia and ICS, Possible draft amendments to MARPOL Annex VI to establish a Fund and Reward (Feebate) mechanism as a maritime GHG emissions pricing mechanism, ISWG-GHG 16/2/3 (25 January 2024) [emphasis added].
[62] See Belize et al, MEPC 83/7/46 (14 February 2025).

4.5. GHG Fund Disbursement Priorities

The following disbursement priorities were listed in the document entitled “Caribbean Ideas on the IMO Facility/Fund & Caribbean Concerns”:

- A proposed revenue use and disbursement framework (we can use the World Bank’s framework as a starting point)
- Revenue use should include (these are the “out of sector uses”):
    - Port infrastructure (not sure if we should include only “additionality”)
    - Improving port efficiencies
    - Greening of supply chains related to maritime logistics
    - Improvement of existing, and introduction of new, bunkering infrastructure in SIDs/LDCs
    - Production and supply of ZNZ by SIDs/LDCs
    - Shoreline defences in port areas
    - Public health (installation of air quality monitoring equipment and the conduct of studies/assessments)
    - Building capacity for emergency response related to new fuels
    - Improvement to comprehensive disaster management related to emerging ZNZs and technologies (spills, fires, airborne contaminants, etc)
    - Mitigation of negative impacts on livelihoods due to the energy transition
- The use of existing Funds (GCF, Adaptation, GEF, etc.) and regional development Banks as disbursement vehicles only (the IMO Fund/Facility Board makes the rules related to the use of revenues and these bodies disburse funds). We may need to give some thought on where project approval takes place in such a scenario.
- The need for an effective economic pricing mechanism with adequate revenue distribution that can support our countries in the transition and incentivize the use of green fuels and technologies, and address climate challenges in SIDs and LDCs. (not development funding)
- General maritime training – seafarer training, including port and maritime administration, training and safety in the use of new fuels
- Technology transfer
- Port resilience - replace port infrastructure and fortify infrastructure
- Bunkering facilities resilience – replace and fortify

- Retrofitting vessels, green infrastructure for ports
- Short sea shipping profile of the Caribbean
- Climate needs and goals (i.e. port and coastal resilience, addressing impacts of emissions from shipping on coastal communities)
- Economic vulnerabilities and shocks as a result of the transition
- Impacts on GDP to Caribbean countries as outlined by the CIA
- Impacts on food security for our region
- GNI/GDP per capita is not the sole criteria for accessing funding
- Tapping into new opportunities that arise for our region in the transition (i.e. green energy production)
- Avoiding complex compliance mechanisms that add undue burden on our administrations
- Emissions trading mechanism that allow for market distortions, and systems that would make us credit buyers (funding the transition for the global north)
- Supporting the transition to greener fuels (i.e. green ammonia, green hydrogen), ending energy dependency on fossil fuels

Suggestions from Grenada

1. **Governance and Representation**: The transitional committee structure is a step in the right direction. However, we should ensure that SIDS/LDC representation isn't just included and prioritized across mitigation and adaptation committees. This safeguards our interests and ensures fairness in decision-making.
2. **Revenue Allocation Focus**: I recommend explicitly highlighting areas that directly address our vulnerabilities:
    - Strengthening **port infrastructure** with specific reference to climate resilience.
    - Supporting the development of **bunkering infrastructure** for sustainable fuels like green ammonia and hydrogen, which aligns with long-term goals for regional energy independence.
    - Investment in **shoreline defences** near ports to address rising sea levels and severe weather events.
3. **Capacity Building**: Emphasize the need for ongoing training in maritime safety, particularly as we transition to new fuels. This includes:
    - Seafarer training programs on the safe handling of green fuels.

- Expanding technical expertise for retrofitting vessels and fortifying port operations.

4. **Simplified Compliance Mechanisms**: A critical point is ensuring the fund avoids burdensome compliance systems that overwhelm smaller administrations. Instead, we need clear, straightforward processes that are accessible to our region.
5. **Leveraging Renewable Energy**: Incorporating the growth of renewable energy, such as geothermal initiatives in Dominica and solar PV projects across the region, is critical. These projects can power the transition and support shore power systems while reducing dependency on imported fuels.
6. **Aligning with Economic Goals**: The submission should reinforce the idea that energy transition projects shouldn't exacerbate economic vulnerabilities. Instead, they should create new opportunities benefiting our economies, such as sustainable energy production and short-sea shipping enhancements.

4.6. Double Fund Structure (in sector / out of sector)

Bahamas et al, in ISWG-GHG 16/2/3 (25 January 2024) propose a system combining (1) a rebate and (2) separate fund to aid developing countries.[63]

In terms of legal structure, the model argues that the contribution and reward rate per tonne of CO2 should be set out in the *MARPOL* Annex VI Regulations, but that the exact contribution and reward for different fuel types be set out in guidelines.[64] It also submits draft regulations and guidelines in Annexes 1-3, which are very detailed. These may be useful as models for Caribbean drafters.

Comment: this double structure, with part of the proposal embedded in *MARPOL* Regulations (which are more difficult to amend), and other parts in more flexible guidelines, may be a helpful model to consider.

The fund is described as follows:

> Overview of the modified Fund and Reward (Feebate) mechanism
>
> 27 A ship will be required to make a mandatory contribution per tonne of CO2e emitted by the ship in a calendar year to what is now called the Zero Emission

[63] Bahamas, Liberia and ICS, Possible draft amendments to MARPOL Annex VI to establish a Fund and Reward (Feebate) mechanism as a maritime GHG emissions pricing mechanism, ISWG-GHG 16/2/3 (25 January 2024).

[64] In Bahamas et al, supra, ISWG-GHG 16/2/3 (25 January 2024), at p 11 (para 58), it is stated: "58 However, whilst the contribution and reward rate per tonne of CO2e emitted or prevented would be set out in MARPOL Annex VI, it is still suggested that details concerning the contribution and reward rates of different fuel types (per tonne of fuel consumed) should be set out in separate guidelines to be adopted by the MEPC (draft guidelines are set out in annex 3 of this document) which will take account of the latest version of the LCA Guidelines and the agreed CO2e conversion factors and energy densities of different fuels."

Shipping Fund (ZESF), via an automated Fund and Reward (Feebate) mechanism to be administered by the Organization.

28 The substantial funds collected annually by the ZESF will have two main purposes:

.1 a Fund and Reward (Feebate) programme, to accelerate shipping's transition to zero and near-zero GHG fuels to reach a "take off" point on a pathway to net zero by narrowing the cost gap between zero/near-zero GHG fuels and conventional fuels; and

.2 to support, inter alia, via what will now be established as a separate IMO (GHG) Maritime Sustainability Fund (IMSF), the maritime GHG reduction efforts of developing countries, in particular LDCs and SIDS, to ensure that the transition to net zero by international shipping is equitable and global, for example, by providing support for the production of zero/near-zero GHG marine fuels and the provision of necessary bunkering infrastructure in ports in developing countries.

29 The following zero and near-zero GHG fuels, energy sources and technologies, would, among others, be eligible for rewards from the ZESF per tonne of CO2e prevented by their use: sustainable biofuels (including blends), ammonia, hydrogen, synthetic methanol and synthetic LNG; and GHG reduction technologies such as onboard carbon capture. Alternative energy sources could also be considered as eligible for rewards subject to further development of the LCA Guidelines. The reward rate per tonne of CO2e prevented would be the same for all zero/near-zero GHG fuels and technologies, with rewards per tonne of fuel consumed based on the CO2e conversion factors and energy densities of fuels as determined by the LCA Guidelines (resolution MEPC.376(80), as may be amended).

Comments: This proposal is in some ways attractive because it provides funding specifically to developing countries, including SIDS. However, the paper does not make clear what proportion of the ZESF will go to the developing country fund (IMSF) and what proportion to the Feebate.[65] Further, the examples provided of disbursement categories are 'in sector' only, and therefore too limited: (1) assisted developing

[65] In Bahamas et al, supra, ISWG-GHG 16/2/3 (25 January 2024), at p 8 (para 34) it is suggested that the majority of the funds will go to the feebate: "34 To achieve the goals set by the 2023 IMO GHG Strategy, including the level of ambition for 5% to 10% of energy used by international shipping to be generated from zero/near-zero sources, and accelerate the production and uptake of zero and near-zero GHG fuels, it is suggested that the majority of the funds collected from ships, during the initial five years of implementation, will be used to reward those ships which use zero/near-zero GHG fuels, energy sources and technologies which are eligible for rewards, per tonne of CO2e emissions prevented by their use compared to combusting conventional liquid fuel oil." See also ibid, p 19 (draft Regulation 33, para 2.5).

countries with the production of zero/near-zero GHG marine fuels and (2) aiding them with the provision of necessary bunkering infrastructure in ports.[66]

The proposal suggests that it would entail minimal administrative burdens since it could be fully automated. This is attractive but once again suggests that the primary purpose is to provide a feebate: e.g., "Once operational, no "policy" decisions by the Secretariat would be needed with respect to how funds that are collected should be used, as this would be set out clearly in the regulations."[67]

Comment: an automatic model may be useful for some disbursements from a GHG Fund, but are unlikely to work for the wider range of disbursements contemplated by the Caribbean, such as climate adaptation funding. The latter would likely require complex assessments.

[66] For a slight expansion, see Bahamas et al, supra, ISWG-GHG 16/2/3 (25 January 2024), p 11 (para 55) where it is suggested that the IMSF could be used for "funding for seafarer training in developing countries and promotion of a just transition." See also p 19, for the potentially broader wording of the proposed Draft Regulation 33, which lists areas of disbursement including "funding, inter alia, for the IMO GHG-TC Trust Fund to support other maritime GHG reduction projects in developing countries, especially SIDS and LDCs."

[67] Bahamas et al, supra, ISWG-GHG 16/2/3 (25 January 2024), at p 10 (para 48)

5. Appendix 2: Comments on Papers for ISWG-GHG 18

The following list includes all of the documents which have been uploaded to the IMODOCS database for ISWG-GHG 18 as of February 3, 2025. Some documents may not be of particular interest to the Caribbean and so only the briefest overview is provided below. Some documents are highly technical and will require assessment by our scientific and economic experts.

5.1. Japan, Considerations for the level of the reduction factor of the GHG fuel intensity regulatory value, ISWG-GHG 18/2/1 (20 December 2025)

Summary: The reduction factor (Z factor) will be one of the key elements of the GFS mechanism and this document provides possible Z factor reduction trajectories, which will meet the goals set by the 2023 IMO GHG Strategy, as results of simulations. The simulations considered only the effects of GFS.

Assessment: this paper is highly technical and will benefit from assessment by scientific and technical advisors.

5.2. Japan, Considerations on the equation of attained GHG Fuel Intensity, ISWG-GHG 18/2/2 (20 December 2025)

Summary: At MEPC 82, there was a general convergence of views on the equation dedicated to the calculation methodology for the attained annual GHG Fuel Intensity (GFI) which is a key component of the GHG Fuel Standard (GFS) mechanism. This document provides comments on several of the remaining issues regarding the equation for the development of a more streamlined text.

Comment: One issue of relevance to the Caribbean, given our primarily short shipping routes, is whether there should be a 'correction factor' to balance the higher costs of short shipping. Japan suggests that a correction factor should not be used:

> 8 Regarding the inclusion of a correction factor that would relax the application of the regulations on some shipping routes, Japan is opposed to this proposal. As zero-emission fuel is expensive, Japan is concerned that the transport costs will be greater on long-distance shipping routes, and that the difference in transport costs between short-distance and long-distance shipping routes will increase. [p 2, para 8]

Assessment: It is suggested that we not embrace this approach and instead keep options open. See, in contrast, the section on CII rating and short sea shipping, above, at p 45.

5.3. Korea, Mid-term measures under the 2023 IMO Strategy on Reduction of GHG Emissions from Ships: key Issues and further considerations on technical and economic elements, ISWG-GHG 18/2/3 (3 January 2025)

Summary: This paper identifies key issues related to the technical and economic elements of the mid-term measures under the 2023 IMO GHG Strategy and provides additional considerations for their resolution.

Technical elements

- ***Starting date of reporting GFI*** - the Republic of Korea deems it most appropriate to complete the development of SEEMP Part IV by the end of 2027, initiate data collection for GFI calculation in 2028, and submit the first annual attained GFI report in early 2029. [p 3, para 10]
- ***Calculation of attained GFI*** – Korea expresses concern about the introduction of a correction factor 'to address the negative impacts of increased freight costs on ports in developing countries due to the introduction of mid-term measures.' Concerns include: time required to establish correction factor, effort to establish criteria, hinders development of (developing country) ports. [p 3]
- ***WtW or TtW emissions basis*** – Korea appears to favour WtW but indicates need to develop "a calculation method that addresses both technical and economic elements" [since both are relevant] [p 4]
- ***Required GFI values and reduction target scenarios (base/strive*) –** given uncertainties related to transport forecasts and energy efficiency improvements, suggests that WtW GFI targets should be established for shorter periods (5 years or even annually), and reviewed [p 5].

Economic elements of the mid-term measures and proposed levy level

- ***Technical elements v levy –*** Korea suggests that treating Remedial Compliance Unit (RCU) purchases as part of the technical measures while introducing an additional levy as an economic element could generate substantial funds [p 6].
- ***Levy levels*** – Korea discusses the proposed amounts for the GHG levy and calculates the following:

  If the target for annual GHG emissions from international shipping is a 20% reduction in total emissions by 2030 compared to 2008 levels, and assuming that ships of 5,000 GT and above account for 85% of total emissions, the projected WtW GHG emissions for 2030 would be approximately 635 MtCO2eq. Imposing a levy of US$ 18.75 per tonne of GHG emissions would generate an estimated fund of approximately US$ 11.90 billion. A levy of US$ 100 per tonne would generate approximately US$ 63.5 billion, while a levy of US$ 150 per tonne

would result in approximately US$ 95.25 billion. This would represent the largest single international environmental fund ever proposed [p 7, para 34].

Further calculations are provided on pp 7-8. Uncertainties lead Korea to suggest that we should take a cautious approach in relation to imposition of levies, and suggests minimum initial levies as a 'pilot operation' [p 9].

Assessment: it is suggested that Caribbean states not overtly support this paper and instead keep our options open. Some aspects do not align with views expressed by the Caribbean (i.e., the cautious, minimalist approach to the levy).

5.4. Austria et al, Proposal on the further development of the operational and governance aspects of a fund to be adopted by the entry into force of the basket of mid-term measures, ISWG-GHG 18/2/4 (20 December 2024)

Summary: At MEPC 82 there was broad support to establish a new fund or facility under the remit of IMO that would carry out collection, management and disbursement of collected revenues as essential functions for the basket of candidate mid-term measures. This document sets out priorities, timelines and recommendations for the effective and timely development of provisions for the fund. Core provisions for the fund should be adopted in *MARPOL* Annex VI in order for the fund to be legally established and for the Board of Governors to be appointed in 2027. Complementing Terms of reference (ToRs) for the fund should be adopted by the time of entry into force of the measures. It is suggested to develop the ToRs in guidelines in order to ensure the timely functioning of the fund.

Three contributions are made by the document:

- **Core provisions for the fund should be set out in MARPOL Annex VI –** provisions should establish the fund, with the MEPC as the overseeing IMO body and a governing body (a Board of Governors) to be balanced in terms of geographical and gender-related representation. Should also set out succinctly its core functions and clarify that the draft fund regulation is developed with the aim of collecting transfers from any stream of revenue received within the IMO net zero framework under the new chapter 5, irrespective of whether such revenue is a consequence of the technical or economic element of the basket of mid-term measures [p 2].
- **Complementing operational provisions should be developed as a priority** - detailed operational provisions are needed and the paper suggests these could be set out in Terms of Reference (ToRs). These should be developed as priority after approval of Annex VI amendments.

- **Suggested timelines** – set out at p 3 – with the fund becoming operational by the second half of 2027.

Table 2: Milestones towards the adoption of the measures and a fund

Target dates	Development of candidate mid-term measures	Development of a fund
MEPC 83 (Spring 2025)	Approval of measures	Approval of core provisions
Extraordinary MEPC session MEPC/ES.2 (Autumn 2025)	Adoption of measures	Adoption of core provisions
MEPC 84 (Spring 2026)		Discussion on ToRs
MEPC 85 (Autumn 2026)		Adoption of ToRs
16 months after adoption (2027)	Entry into force of measures	Entry into force of core provisions Appointment of the Board of Governors
Second half of 2027		Start of operations

Assessment: Caribbean states should assess whether these timelines are suitable or whether more expeditious timelines should be proposed.

5.5. Austria et al, Consolidation of the proposals for an economic element of the mid-term measures based on a GHG levy/contribution, ISWG-GHG 18/2/5 (20 December 2025)

Summary: The paper consolidates previous proposals (see Annex) and supports the GHG levy/contribution:

> The co-sponsors strongly believe that the economic element of the basket of mid-term GHG reduction measures should have at its heart a levy/contribution on the GHG emissions from ships. Such a GHG levy/contribution will stimulate energy efficiency, reduce the price gap between fossil fuels and zero or near-zero (ZNZ) GHG fuels, as well as generate revenues to support uptake of ZNZ fuels, technologies and energy sources and a just and equitable transition (JET), implementing the goals and objectives of *the 2023 IMO Strategy on Reduction of GHG Emissions from Ships*. [p 2, para 3]

Comments: This paper was discussed at the Caribbean meeting of December 6, 2024, and a subsequent meeting with 6 PAC on January 10, 2025. I had recommended

support, but emphasised the need to support particular options presented in the paper, and reject others.

Comments: the following are notes on the proposal text in the Annex, identified under the Annex headings, with page numbers in square brackets. These notes provide an outline of the structure of each proposal, with comments where appropriate.

1. Proposed new option in replacement of options 1, 2 and 4 set out in annex 1 to document MEPC 82/WP.9 under the regulation on *Economic mechanism(s) to incentivize the transition to net-zero* [p 5]

1. Establishes the fund and names it the "IMO GHG Strategy Implementation Fund" [p 5].

Comments: This name is recommended because it is broad and therefore could include disbursements under the 'just and equitable' parts of the strategy.

2. Establishes start date of 2028 for fund [p 5].

3. Discusses levy calculation [p 5]

4. Provides alternative levy rates.

Comments: Based upon the literature and the need for the Fund to generate significant income in order to disburse to out of sector areas, it is recommended that one of the higher rates be supported (i.e., "[USD 150] per tonne of CO2e emitted on a life cycle basis.") [p 5]

5. Levy invoice and timing [p 5]

6. Provision for levy if ship transferred [p 6]

7. Requirement for payment of levy [p 6]

8. Mode of payment (by instalment, lump sum) [p 6]

9. Issuance of receipt (Electronic Account Statement) [p 6]

10. Tracking – access to and inspection of Electronic Account Statement [p 6]

11. Issuance of Statement of Compliance [p 6]

12. Responsibility for compliance = company with control over ship [p 6]

2 Proposed new option in replacement of options 1 and 3 set out in annex 1 to document MEPC 82/WP.9 under the regulation on *Central management/oversight of [collected revenue] [the IMO [XX] Fund/Facility]* [p 7]

The draft regulation describes the functions of the Fund, which are stated as follows:

> .1 receive and manage transfers from ships made pursuant to regulations [X, Y, Z8] and disburse revenue thereby collected in accordance with the provisions set out in this regulation and regulation X (*Distribution of revenue*);
>
> .2 maintain a database of transfers made under paragraph [1.1] of this regulation and an account for each ship9, accessible to each ship making a transfer, its Administration and to any organization duly authorized by that Administration [and to the officers duly authorized by a Party to this Annex to perform a port State inspection under regulation 10, for the purposes of that inspection]; and
>
> .3 take any actions necessary to implement the functions under paragraphs [1.1 and 1.2] above, in accordance with guidelines adopted by the Organization10. [p 7, emphasis added]

2. MEPC to oversee operations of the fund [p 7].

Comments: This is important because it retains control by an organ of the IMO itself. Supported.

3. Creates Board of Governors to manage fund, appointed by MEPC with membership "balanced in terms of geographical and gender-related representation, and with dedicated seats for SIDS and dedicated seats for LDCs".

Comments: Suggest that in discussions about the composition of the Board that Caribbean states should provide that it must include persons with the necessary qualifications / competence[68] [p 7].

4. Terms of reference (instrument that creates the fund) to be decided by the IMO itself.

Comments: This is good because it means that the governing instrument will be created within, and be governed by, the IMO regime. No need for a new treaty (or complicated drafting process). [pp 7-8]

5. Provides for self-sufficiency of fund – all expenses borne by fund itself from revenues received.

Comments: This is important to dispel anxiety about any financial burden related to the running of the fund [p 8].

[68] This was done in relation to organs created in the *BBNJ Agreement*. For example, the following is specified in relation to the Access and Benefit Sharing Committee in Article 15.2: "The access and benefit-sharing committee shall be composed of 15 members possessing appropriate qualifications in related fields, so as to ensure the effective exercise of the functions of the committee."

3 Proposed new options in replacement of options 1, 2 and 4 set out in annex 1 to document MEPC 82/WP.9 under the regulation on *Distribution of revenue* [p 8]

Regulation provides for disbursement of fund revenue, and suggests priorities (order):

1. Fund revenue to be disbursed in accordance with this regulation [p 8]

2. Disbursement of 'annual financial reward' (called feebate in other proposals), upon request of ships. Timing of reward is complicated but depends upon the level of uptake of ZNZ fuels:

> 2 From [August] 2028 and within [eight] months after the end of each subsequent calendar year until the uptake of eligible [ZNZ fuels] [ZNZs]12 in international shipping reaches [30%] and, at the latest, by 2040, each ship using eligible [ZNZ fuels] [ZNZs], considered on a lifecycle basis, shall receive, upon request, an annual financial reward ("annual reward"). [p 8]

3. Describes purpose of reward, namely, "to bridge the price gap of eligible [ZNZ fuels] [ZNZs] with other fuels, to incentivize the uptake of eligible [ZNZ fuels] [ZNZs] in line with the 2023 IMO Strategy on Reduction of GHG Emissions from Ships, as it may be revised." Modalities and amount to be determined by future guidelines [p 8].

4. Outlines process for obtaining reward (request to Fund) [p 8]

5. Calculation of reward [p 8]

6. Provision in case of transfers of ships [pp 8-9]

7. Purpose and categories for distribution of fund. Two options are provided.

Comments: Suggest we support Option 2 since Option 1 focuses more on in-sector distribution. Option 2 provides:

> [Option 2:
>
> The Research, Development and Deployment Sub-Committee of the IMO GHG Strategy Implementation Fund shall support the research, development and deployment (RD&D) of mitigation projects and initiatives in developing countries, especially SIDS and LDCs, including:
>
> .1 projects directly related to the activities of the shipping sector, including the use of ZNZ fuels and other energy;

.2 applied R&D programmes of alternative fuels and innovative technologies; and

.3 related out-of-sector activities, including those relating to ports and coastal infrastructure needed to expedite reduction of GHG emissions.] [emphasis added]

Comments: Note that this list is not complete. See below.

8. Proposes two options related to the scope for disbursements.

Comments: The first option is too limited, speaking primarily to in-sector distribution. Recommend support for Option 2, which says nothing:

[**Option 2**: no text.]

9. Sets out categories for fund disbursement.

Comments: Recommend that Option 1 be supported since Option 2 is too limited. Option 1 provides:

9 The IMO GHG Strategy Implementation Fund shall disburse revenues towards:

[Option 1:

.1 supporting the energy transition in developing countries, in particular SIDS and LDCs, including through deployment of zero or near-zero GHG maritime fuel production facilities and new infrastructure that may be required in ports to expedite the energy transition and adaptation to climate change;

.2 promoting a just transition for the maritime workforce in developing countries, including training for seafarers;

.3 supporting capacity-building in developing countries, especially SIDS and LDCs;

.4 addressing disproportionately negative impacts (DNI) on States, of this chapter, on the basis of regular monitoring and evaluation of DNI, taking into account the results of wider revenue distribution and taking account of guidelines adopted by the Organization. DNI shall be defined as [text to be developed]; and

.5 addressing environmental protection, adaptation and resilience building, and climate response to the impacts of pollution from international shipping, with differentiated priority to climate vulnerable developing states.] [pp 9-10, emphasis added]

10. Provides for "competent international funding entities" to be used in the disbursement of funds.

Comments: This is supported and we should ensure that Caribbean regional entities can be accredited if we wish to use them. [p 10] Caribbean states may wish to argue that the disbursement processes must be 'simplified and expeditious', since our experience with international funding has been clouded by restrictions, bureaucracy and delays. Suggest that we recommend the addition of the following after this sentence to ensure minimal hurdles for developing states: "The IMO GHG Strategy Implementation Fund shall be aimed at ensuring efficient access to funding through simplified application and approval procedures and enhanced readiness of support for SIDS and LDCs."

4 Proposed new option to be added above the placeholder [text to be developed] set out in annex 1 to document MEPC 82/WP.9 under the regulation *on Review of the chapter* [p 10]

1. Process and timing of review of regulations [pp 10-11].

2. Process and timing of review of GHG levy rate per tonne of CO2e emitted.

Comments: First sentence sets timing with two options: 'Every [five] [two] years'. It is suggested that additional wording could be added to shorten the review period as necessary (i.e., if the levy is not working): i.e., 'No later than every [five] [two] years'. [p 11]

5.6. Belize et al, Proposed draft amendments to MARPOL Annex VI on revenue disbursement purposes to ensure a just and equitable transition (JET) that leaves no country, and no seafarer, behind ISWG-GHG 18/2/6 (3 January 2025)

Summary: Supports previous document (ISWG-GHG 18/2/5 (Austria et al.). Elaborates on the rationale in support of Option 1 in paragraph 9, [Distribution of revenue], and explains how revenue disbursement purposes, as set out in this option, are required to achieve the goals and objectives of the 2023 IMO GHG Strategy, including ensuring a just and equitable transition (JET) that leaves no Member State, and no seafarer behind. These purposes are vitally necessary and must also be determined by their ability to ensure a JET which recognizes and addresses disproportionate negative impacts, as well as climate impacts on the most climate vulnerable Member States, and that the maritime workforce, including seafarers, receives the support required so that the transition to phase out GHG emissions is truly global in nature.

Comments: This paper supports our position on distribution and should be supported.

Relevant points:

- Purpose of the paper is set out in para 5:

  > 5 The co-sponsors consider that a mandatory GHG levy/contribution per tonne of CO2e emitted is the only solution that will both rapidly decarbonize international shipping and provide essential resourcing to promote the energy transition, incentivize the uptake by ships of zero or near-zero (ZNZ) GHG fuels, energy sources and technologies and contribute to a JET including addressing DNI as necessary. [p 3]

- GHG levy is the simplest approach and provides long term certainty [p 3].
- Need to specify revenue distribution in order to vote on fund package: 'it is imperative that the package of regulations approved at MEPC 83 includes as much detail as necessary, including with respect to revenue distribution, so that the Committee, including the poorest and most climate vulnerable member States, can make these assessments.' [p 4]
- The following revenue distribution purposes are 'the minimum required to achieve the goals and objectives of the 2023 IMO GHG Strategy, and to receive broad support from IMO Member States' [p 4, para 13]:

  > 14. Fund should provide incentive through rewards [p 5]. Reward system 'not only fosters the development of ZNZ fuels and technologies but also helps bridge the cost gap between the lowest cost compliance solutions and ZNZ solutions.' [p 5, para 15]

- Distribution should provide targeted and differentiated assistance to developing countries in particular SIDS and LDCs [paras 16-18]. Types of support:

  > 18 Such support could include prioritizing capacity-building initiatives, enhancing access to sustainable shipping technologies, and providing funding for infrastructure development tailored to their unique needs (including overcoming barriers, such as access and cost of capital). This should also include transitioning their domestic maritime sectors. Ensuring that these countries can integrate into the global shipping transition will not only foster inclusivity but also strengthen the overall resilience of the shipping sector and is therefore a crucial step in realizing the full potential of a JET. [p 5]

- Provide 'targeted investments in education and training programmes' for maritime workforce as well as potentially 'providing financial assistance, re-employment programmes, and pathways for career advancement.' [p 6, para 20] ILO could collaborate and be funded to assist [p 6]

- Address climate impacts – 'revenues generated from the proposed GHG levy/contribution should support broader climate adaptation and mitigation efforts, especially in the most climate vulnerable SIDS and LDCs.' [p 6, para 22] Use existing funding entities for such purposes (i.e., GCF and GEF) [p 6].
- Address disproportionately negative impacts (DNI) [para 24]. Suggests DNI should be defined taking into account the following:

> 26 "Disproportionate" means "large in comparison with something else". Taking into account the 2023 IMO GHG Strategy, listening to the discussions and concerns raised on this subject to date, and considering the CIA evidence, the co-sponsors suggest that this "something" should refer to both the magnitude of their impacts relative to the impacts on other States, and the capacity of an impacted State to manage their impact. For example, in the context of impacts on States of IMO mid-term measures, DNI should be interpreted as an impact on a State which is large in comparison to the impacts on other States, and in comparison to the capacity of that State to manage that impact. [p 7, emphasis added]

Comment: This is a good start and is vague enough to have the potential for adoption. However additional language will be needed in the future. For example, what does 'large' refer to? The large impact on the GDP? The large impact on natural resources?

- Need DNI as separate category (stand alone revenue distribution purpose) because distribution to other purposes may not address DNI [p 7, paras 28-29]

5.7. ICS, Updated prototype for web-based, automated GHG levy/contribution and reward mechanism, to be administered by the proposed IMO GHG Strategy Implementation Fund, ISWG-GHG 18/2/7 (20 December 2025)

Summary: Describes and creates a prototype (with web link Combined Sets – IMO GHG Strategy Implementation Fund Prototype 2025 [V3.1] - Combined sets), for 'a web-based and fully automated maritime GHG emissions pricing mechanism, to be administered by the proposed IMO GHG Strategy Implementation Fund, for calculating and collecting annual GHG levy/contributions from ships per tonne of CO2e emitted and for calculating and disbursing rewards to ships for CO2e emissions prevented by the use of eligible zero or near-zero GHG emission technologies, fuels and/or energy sources (ZNZs).'

Comments: One of the benefits highlighted by this system is that it would ensure that 'no monies would be handled by governments.' [p 3] Estimated cost of the system: 1.5 Million [p 4, para 15]

Assessment: this proposal requires further review by the scientific and economic experts.

5.8. CSC, Analysis of the proposed *fvoy* correction factor in the GFI-attained equation and adjusted tank-to-wake (TtW) emissions accounting methodology in document ISWG-GHG 17/2/7 and analysis of the required Remedial Unit prices ISWG-GHG 18/2/8 (3 January 2025)

Summary: Technical document that argues in favour of WtW calculations and against adjusted TtW accounting methodologies (i.e., using correction factors). Argues in favour of using remedial units.

Comments: The CARICOM study in Antigua et al, ISWG-GHG 17/2/18,[69] shows that our region's short sea shipping (SSS) will disadvantage us under the CI system. Current paper suggests not allowing correction factors:

> 2 Annex 1 of document ISWG-GHG 17/2/7 suggests the inclusion of a *fvoy* factor in the GFI-attained equation that could be used by ships serving a list of ports expected to be negatively impacted by the GFS. This correction factor proposes to effectively exempt 50% of GHG emissions on certain voyages, "serving eligible ports of developing countries", from the calculation of a ship's attained GHG Fuel Intensity (GFI) in a given year. It is unclear whether 100% of emissions would be discounted on voyages between two eligible ports. Simply put, this could allow emissions from a significant share of international shipping voyages to be exempt from meeting the emission reduction targets agreed by the Organization, potentially indefinitely, as no sunset clause is included in the suggested correction factor. [p 2, emphasis added]

Assessment: Scientific or economic experts should evaluate this paper. A question to ask our technical experts is whether the Caribbean was going to recommend such 'correction factors' for our SSS situation. If so, we would not be able to support this paper.

5.9. Korea, Considerations on the establishment of the IMO Net-Zero Fund: Structure of Fund and revenue stream ISWG-GHG 18/2/9 (3 January 2025)

Summary: updates and expands upon the previous Korean proposal (ISWG-GHG 17/2/3); proposes organisational structure and revenue stream for operation of fund.

[69] See the discussion under the title Midterm Measures, starting at p , above.

Comments: The document proposes to rename the fund as the "International Maritime Climate Fund", to allow both active and passive disbursements (passive being automatic), and to allow for use of Remedial Compliance Units [p 2]. It maps out the organisational structure of the proposed fund (see p 3), with a Board and a Secretariat. Three units fall under the Secretariat: the Reward Management Division (passive use), the R&D and Project Division (active use) and the Ethics and Audit Division [p 3 and p 4].

Comments: These units would not include disbursements of the forms sought by the Caribbean, such as for climate change adaptation and the proposal expressly indicates that "direct compensation is not permitted." [p 2] To the extent that the proposal supports only in-sector disbursements, it will not align with Caribbean interests.[70]

The proposal argues for the fund as being a legally independent entity but falling under the IMO umbrella, under the responsibility of the MEPC. Korea justifies this position on the grounds of the size of the fund:

> 9 The independent legal status of the Fund should not be misinterpreted as weakening its connection to IMO or removing it from its oversight and governance. It is worth emphasizing that the significant size of the Fund's revenue, far exceeding that of other funds directly managed by IMO, necessitates the Fund being considered a separate legal entity. As a reference, the International Oil Pollution Compensation (IOPC) Funds, while functioning as an independent legal entity, remain part of the IMO umbrella and serve as a financial mechanism to compensate for damages caused by oil pollution. [p 3].

Comments: A legally independent fund within the IMO system aligns with Caribbean views.

In terms of active disbursement of funds, the proposal suggests the use of 'accredited entities':

> .2 … the Fund will approve accredited entities that meet the criteria provided by IMO. These approved entities will develop project proposals, which will then be submitted for review by the Fund. It will also evaluate the appropriateness of the proposals submitted by accredited entities and present them to the Board for

[70] See the draft Regulation in the Annex to the proposal, at p 7, which provides for the following disbursements from the fund:

> The Fund will provide financial resources to compensate for the price gap for eligible fuels as defined in Regulation X, as well as for the decarbonization R&D in international shipping, and to support GHG reduction projects, programs, policies, and other activities within the shipping sector of developing countries, including Small Island Developing States (SIDS) and Least Developed Countries (LDCs).
> […]
> These activities shall include compensation for the price gap for eligible fuels, decarbonization R&D in international shipping, and the implementation of GHG reduction projects within the shipping sector of developing countries, in particular LDCs and SIDS. [emphasis added]

> deliberation. Final approval of the project proposals will be granted through the Board's resolution, and the Fund will disburse the project budget to the accredited entities. [p 4]

Comments: Use of accredited entities has been favoured in discussions with 6 PAC. The Caribbean may wish to support this kind of structure.

The Ethics and Audit Division appears to be envisaged as a kind of competition regulator, since the proposal suggests that the "Division will oversee any market-disrupting or illegal activities, such as deliberate fuel price manipulation or collusion, in the reward disbursement process." [p 4].

Comments: This is an interesting approach, and the Caribbean may wish to watch the reactions of other delegations.

In terms of revenue, the fund is to acquire funding from remedial units and the GHG levy [p 4].

The proposal also maps out (1) a process for ships to request remedial units (RCUs) from the GFI Registry to comply with the GFS, and (2) a process for issuing Statement of Compliance under the GHG levy [pp 5-6].

Assessment: Caribbean delegates should review this proposal to see if portions of it can be used. It is not recommended that we adopt it, as is.

5.10. India, Outline of a possible way forward to bridge the different proposals for economic measure(s), ISWG-GHG 18/2/10 (3 January 2025)

Summary: 'suggests a possible way forward to bridge the different proposals for economic measure(s) to ensure availability of adequate funds for incentivizing a swift fuel transition of international shipping at the lowest possible cost and burden.'

Comments: paper supports a fund generated from remedial units and 'other sources, such as donations' [p 2]. Fund disbursements are primarily for rewards, but also can be used for:

- R&D and technology transfer,
- Capacity building and infrastructure – port and bunkering, but also 'facilitating a just and equitable transition in line with the implementation of chapter 5'
- 'mitigating negative impacts: addressing the adverse impacts of these measures on developing countries, including SIDS and LDCs.'

Comments: The latter two categories would be beneficial to SIDS. However, if the fund does not have a levy, it would be hard to see how enough monies are generated for these purposes. India suggests that enough funds would be generated as follows:

> 8 India believes that sufficient revenues can be generated for the SSF through an integrated measure by mandating that under-compliant ships transfer a fixed monetary amount to the SSF for each Surplus Unit (SU) transaction to remedy a Deficit Unit (DU). The quantum of the monetary amount (expressed in US$ per tonne of CO2e) for each DU transaction to be transferred to the SSF should be determined by the Committee before a reporting period begins. [p 2]

Calculations are provided in the following paragraphs, and pooling will be allowed (see p 3, para 14). Draft language is included in the Annex.

Assessment: although economists will have to weigh in on this, the paper does not seem to be consistent with the IMO's CIA. If inconsistent, it should not be supported by the Caribbean.

5.11. China et al, Modifications to the draft amendments to MARPOL Annex VI on the net-zero framework as set out in annex 1 to document MEPC 82/WP.9, ISWG-GHG 18/2/11 (3 January 2025)

Summary: 'document proposes modifications to the draft amendments to *MARPOL* Annex VI regarding the IMO net-zero framework, as set out in annex 1 to document MEPC 82/WP.9, specifically focusing on key elements of the International Maritime Sustainable Fuels and Fund (IMSF&F) mechanism. The proposed changes aim to bridge differences among various positions and explore potential landing zones, contributing to the development of the IMO net-zero framework.'

Comments: The Chinese proposal further develops some of the draft text, but in a particular direction – away from a fund allowing 'out of sector' disbursements. For example, in para 7.2 at p 4 the proposal invites the Working Group to:

> .2 note the view that while MARPOL Annex VI is a suitable instrument for incorporating the IMSF&F mechanism, supplementary elements like ZNZ incentive contributions should be addressed through a separate Convention rather than MARPOL. Furthermore, any fund establishment under IMO must be approved by the Assembly and Council, following proper legal framework evaluation and approval procedures, rather than being decided at the committee level; …

The IMSF&F mechanism is the fund, but the Chinese separate it from ZNZ contributions, suggesting that they are rejecting a GHG levy. This view is supported by the two sources of funds mentioned at p 3, namely, payments for remedial units and handling fees for purchasing and selling 'Surplus Units.'

Assessments:

1. The suggestion that the fund requires approval by the Assembly and Council is worth reflecting on. A double approval would not usually be required in international organisations. Arguments could be made that approval by one, or the other, would be sufficient, and that in fact the MEPC may be so authorized.
2. There is nothing in the IMO framework that mandates the creation of a new Convention to establish the fund.

Subject to the views of the economists in the team, if the above analysis is correct, it is not recommended that Caribbean states support this proposal.

5.12. China et al, Detailed design proposals for key elements of the International Maritime Sustainable Fuels and Fund (IMSF&F) mechanism, ISWG-GHG 18/2/12 (3 January 2025)

Summary: paper suggests that its position on a range of components[71] obviates the need for a GHG levy.

Comments: the paper appears to be in favour of

- TtW rather than WtW [p 2]
- 'TtW GHG intensity value 2: calculated taking into account the carbon source for fuels of biogenic origins or made from captured carbon' [see p 3 for an explanation]
- GFI targets that use the 'at least' ambition levels, rather than the 'strive for' ambition levels (i.e., the lower ones) [p 4, para 14].
- A position that the establishment of any fund under IMO requires decisions of both the Council and the Assembly.
  Comments: This position does not appear to be correct.[72]

Assessment: the paper is highly technical and should be reviewed by the economic team. Based upon the above, and subject to the views of the economic team, it is not recommended that Caribbean states support this position.

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[71] See the executive summary: "This document aims to enhance understanding of key elements of the International Maritime Sustainable Fuels and Fund (IMSF&F) mechanism that supports the development of the IMO net-zero framework. Through comprehensive analysis of tank-to-wake (TtW) GHG fuel intensity (GFI) indicators, GFI targets (Z factors), pricing methods for Surplus Units (SUs) and Remedial Units (RUs), rewards for eligible zero or near-zero GHG emission technologies, fuels and/or energy sources (ZNZs), and potential funding sources beyond RU revenues and donations, this document demonstrates how this integrated mechanism effectively addresses both technical and economic objectives without requiring a separate flat GHG levy." [emphasis added]

[72] See the discussion above. The passage making this statement is found at p 10, in para 38:

> 38 Additionally, the establishment of any form of fund under the remit of IMO is the responsibility and decision of the Assembly and its Council – rather than a committee such as MEPC – as specified in document C 133/10/1 (United Arab Emirates). Therefore, any decision to establish a fund would require careful consideration of the legal framework and approval procedures. The Assembly and its Council would need to evaluate the proposed fund mechanism to ensure it aligns with the Organization's mandate and existing provisions in the IMO financial regulations. This decision-making process is crucial for maintaining the integrity and legitimacy of any new funding mechanism established under IMO's authority.

5.13. China, Perspectives on candidate elements for IMO net-zero framework, ISWG-GHG 18/2/13 (3 January 2025)

Summary: 'This document presents excerpts from a study[73] on candidate mid-term measures led by Shenzhen International Maritime Sustainable Development Center of Dalian Maritime University in China, analysing areas of consensus, points of contention, and potential landing zones for the candidate mid-term measures.'

Comments: paper reproduces parts of the study, which assesses existing proposals. It suggests potential 'landing zones' that could allow agreement between opposing views. However, the 'landing zones' sometimes simply choose one of the two options. For example, in the section on the '*Maritime GHG emissions pricing mechanism*' the two options are to (1) establish an independent universal GHG contribution or (2) integrate GHG pricing mechanisms into alternative compliance approaches (see p 18). The 'compromise' simply rejects the idea of a GHG levy:

> 27 *Potential landing zones*: a potential compromise could involve seeking an alternative to an independent universal GHG contribution (levy/fee/due) mechanism — one that promotes energy transition while ensuring a just and equitable transition. This could be achieved, for instance, through well-designed flexible compliance approaches within the fuel standard framework to meet these objectives.[p 18, emphasis added][74]

On the issue of fund disbursement, the study does not support use for 'broader climate initiatives' or 'aiding developing nations, especially SIDS' (p 21). Instead, it suggests a fund use 'compromise' of:

> .1 dedicating funds solely to energy transition initiatives outlined in the 2023 IMO GHG Strategy;
>
> .2 emphasizing incentives for ZNZs and enhancing R&D&I efforts;
>
> .3 supporting developing countries, especially SIDS and LDCs, through targeted projects like port infrastructure modernization and maritime workforce development; and
>
> .4 designing measures to minimize negative impacts on developing countries, instead of relying primarily on compensatory mechanisms. [p 21, para 42]

Assessment: overall the study does not support most of the positions taken by the Caribbean and hence should not be supported.

[73] The full report can be downloaded at https://imcrl.dlmu.edu.cn/info/1031/3567.htm.
[74] See also pp 20-21, paras 38-39.

5.14. China, Proposal to temporarily suspend the implementation of chapter 5 on "Regulations on the IMO net-zero framework" of MARPOL Annex VI for semi-submersible vessels, ISWG-GHG 18/2/14 (3 January 2025)

Summary: proposes to temporarily suspend the implementation of chapter 5 on "Regulations on the net-zero framework" of *MARPOL* Annex VI for semi-submersible vessels until the review is completed.

Comments: China justifies its position because the Chapter 5 framework does not apply to: "'ships not propelled by mechanical means, and platforms including FPSOs and FSUs and drilling rigs, regardless of their propulsion'. Nonetheless, semi-submersible vessels, a special type, received no similar consideration of exclusion or exemption. In regard of the characteristics and special usage scenarios, China suggests further consideration." [p 2]

The following photo of a semi-submersible vessel is provided on the marine traffic website:[75]

Image 1: A semi-submersible vessel

Such vessels can partly submerge to allow the loading of very large cargoes.

China justifies its proposal in terms of the special uses of the vessels.[76] For example, it:

[75] See https://www.marinetraffic.com/en/photos/of/ships/shipid:4950502/shipname:ZHEN%20HUA%2033?order=date_uploaded

[76] Note: semi-submersible vessels are very large transport ships that could be used in oil operations or to transport very heavy cargos (i.e., a rocket). China produces at least two in this class, the MV Xin Guang Hua and the MS Zhen Hua 33. For a visual, see e.g., https://www.marinetraffic.com/en/photos/of/ships/shipid:4950502/shipname:ZHEN%20HUA%2033?order=date_uploaded

- describes the special characteristics of semi-submersible vessels and their use, and states that they are essential to conversion to clean energy (i.e., for installation of ocean wind turbines), and that developing countries including LDCs and SIDS rely upon them extensively [p 2];
- indicates that because of their operation characteristics they cannot be retrofitted for sails or photovoltaic cells, cannot hold the necessary amounts of alternative fuels (ammonia, methanol, etc.) because of limited below deck space, and would lose vital ballast water capacity since clean energy has a larger storage volume [p 3];
- also concludes that use of biofuel is not practical and that use of any alternative fuel would be difficult in the context of 'developing countries where refuelling alternative fuels (like biofuel, methane, and ammonia) is not ensured due to inadequate infrastructure.' [p 4]

Comments: Note that the paper provides as an example a new, 65,000-ton semi-submersible vessel and after assessing possible conversions, concludes that 'the existing technology is not mature to retrofit the ship with methanol' [p 3]. However, this example assumes the retention of two normal fuel tanks (not alternative fuels), in addition to the new ones needed for methanol.

China also makes the case for suspension because of the limited number of these vessels:

> At present, a total of 60 semi-submersible vessels are reported in service worldwide (all above 5,000 tonnage), accounting for only 0.17% of the vessel numbers from IMO DCS data (35,143 vessels as reported in document MEPC 82/6/38). Therefore, temporarily suspending the implementation of chapter 5 on "Regulations on the IMO net-zero framework" of MARPOL Annex VI for semi-submersible vessels will not offset the overall effectiveness of GHG emission reductions from international shipping

Interestingly, China does not provide a calculation of global GHG emission levels for semi-submersible vessels.

Assessment: if the science is correct, and the emissions of such vessels are negligible, China's arguments may gain some traction. However, if the emissions are very high then this paper should not be supported. Note in this context the position of ITLOS in the *Advisory Opinion* that all vessels must be subject to the *UNCLOS* obligations not to pollute.

5.15. IMarEST,[77] Specifications needed to ensure mid-term measures effectively promote an energy transition ISWG-GHG 18/2/15 (3 January 2025)

Summary: 'looks at the specifications of mid-term measures needed to effectively promote international shipping's energy transition, particularly in the context of the 2023 IMO GHG Strategy objective for 5 to 10% of the energy used by shipping to come from Zero and Near-Zero (ZNZ) GHG emission fuels by 2030' and applies the CIA and other literature 'to identify both *MARPOL* amendment modifications, and specifications of ZNZ and ZNZ reward.'

Comments: this document provides a good overview of the literature and assessments of the pros and cons of different ZNZ strategies.

Interestingly, the paper suggests that carbon capture and storage (CCS) should not be encouraged because of the potential 'lock in' effect of such choices and the way that it does not promote the energy transition:

> 16 Scenarios in document MEPC 82/INF.8/ Add.1 that stimulate the greatest use of CCS (in the short-term and therefore also the mid- and long-term) and evidence of lock-in of this technology, are scenarios that do not explicitly reward ZNZ, e.g. that rely on GFS with a flexibility mechanism to drive the energy transition (e.g. Scenarios 23 and 24). This finding further adds to the evidence that CCS can have a transient role, but that explicit support for CCS (e.g. inclusion as a ZNZ) is not consistent with IMO's objective of "promoting the energy transition". [p 5]

The paper also suggests that **rewards** should be set for each ZNZ production pathway: 'by setting production pathway specific reward price (e.g. a specific level of reward for e-fuels, different to the reward for other ZNZ's), such that different ZNZ's compete in a level playing field and have similar competitiveness during the early-adoption period.' [p 8]

It also describes relevant factors to consider in setting rewards:

> .3 specification of reward should be sufficient and simple - the reward level therefore needs to be set cognisant of the early adopter costs that need to be overcome to incentivize ZNZ investment. Early adoption of a new technology/fuel involves a number of risks and additional costs. One risk is associated with the difference in fuel/energy costs. However, if reward is channelled to the shipowner/operator, the fuel supplier's early adopter business case may also have material capital costs/risks associated with the wider costs in the energy transition: transporting an energy commodity from the point of production to the

[77] Institute of Marine Engineering, Science and Technology: https://www.imarest.org/

> point of bunkering, the bunkering infrastructure as well as representation of costs associated with the modification of a ship to be compatible with ZNZ use. DNV's modelling for IMO's Comprehensive Impact Assessment showed minimal early-adoption of e-fuel, even though this was an explicit reward objective, reflecting the consequence if rewards are not set sufficiently high. If the reward level is too high, it could add unnecessary additional cost to the energy transition. In addition, the specification detail of the mechanism for applying reward to ships/ship owners/operators requires care to ensure it enables ZNZ investment and does so cost-effectively. If the mechanism is too complicated, then this also can deter investment as well as add cost; [p 8]

In looking at reward revenue generated by various scenarios the document suggests that only Scenario 26 (GFS, no flexibility mechanism, levy 150 to 300 USD/tCO2e), from MEPC 82/INF.8/Add.1, would generate sufficient reward revenues: '32 In comparison to the total revenues, the reward revenues associated with promoting the energy transition either significantly exceed total revenues available (Scenario 24), are initially affordable but not able to scale ZNZ to 2030 (Scenario 32), or are affordable in 2030 and through to 2035 (Scenario 26).' [p 10]. Since revenues in Scenario 26 are generated with a levy only, this suggests that flexibility mechanisms are not helpful. This is borne out by analysis that suggests that the flexibility mechanism will more greatly affect ships that are underperforming (since they will pay), and that such underperformance may be caused by lack of access to ZNZ fuel and other factors:

> 41 A "universal" GHG pricing approach spreads the burden of generating ZNZ reward revenues across all ships. Flexibility mechanisms apply the burden of generating ZNZ reward revenues to the subset of ships that are underperforming. The costs will be higher for these ships than if the burden is spread across all ships, and this burden may also have implications for just and equitable transition, depending on the geographical distribution of available fuel/energy options. [p 13]

As a result, the flexibility mechanism not only creates uncertainty in revenues, and thus hinders investments in ZNZ technologies, its application also will be detrimental to developing countries and run counter to the just and equitable transition [see p 12].

Assessment: the paper is clear and logical, and I recommend Caribbean delegates review it for greater knowledge of the issues. It makes practical suggestions about how to set up a ZNZ regime and what would be necessary for effective rewards. It also takes clear positions on the need for a GHG levy, and the problematic nature of flexibility mechanisms. All of these points align with positions advanced in discussions between the Caribbean and 6 PAC.

Nevertheless, I would suggest that further analysis of the economics and science underlying the paper by other members of the team is necessary before Caribbean support can be recommended.

5.16. EDF, Considerations on the development of a GHG pricing mechanism, ISWG-GHG 18/2/16 (3 January 2025)

Summary: recommends that the IMO 'leverage existing climate finance mechanisms alongside any IMO managed disbursement of revenues'. Notes that these 'established Funds have a proven track record in managing large-scale funding for mitigation, adaptation, and capacity-building and are well-equipped to address the disproportionate negative impacts on vulnerable regions, including SIDS and LDCs, contributing to a just and equitable transition (JET).'

Comments: the paper solidly anchors itself in support for the JET in a number of prior proposals (see p 1), and notes that developing countries need effective revenue disbursement mechanisms:

> 4 The adverse impacts of climate change present a disproportionate, immediate, and existential threat to many developing countries, making a robust revenue distribution mechanism essential for addressing these negative effects—particularly on small island developing States (SIDS) and least developed countries (LDCs), as emphasized in MEPC.1/Circ.885/Rev.1 and the 2023 IMO GHG Strategy. [p 2]

The paper explains and provides a summary of current UN climate related funds, highlighting four: Adaptation Fund (AF), the Global Environmental Fund (GEF) and the Green Climate Fund (GCF), which are Operating Entities explicitly part of the institutional framework of the UNFCCC; and the Climate Investment Funds [p 3]. It points out that establishing a new fund is a slow process and that initial disbursements from a new fund (from time of approval to time of receipt by a country) also take some time [p 3].

The paper provides examples of funds that specialise in climate change adaptation, addressing disproportionate negative impacts (i.e., food security), and capacity building [pp 5-7]

The paper proposes that the IMO channel 'the majority of revenues generated from the IMO's GHG pricing mechanism' through established climate Funds while at the same time retaining strategic oversight and ensuring alignment with its specific objectives [p 7]. It discusses this 'hybrid approach' as follows:

> 28 There is a balance to be made between control over exactly how funds are spent, and leveraging existing infrastructure (which has been developed with the

> same questions of equity, efficiency and climate justice in mind) to deliver finance at speed and at scale. A hybrid approach could provide the flexibility needed to balance sector-specific priorities with the strengths of existing funds. The Organization could maintain oversight and control over certain aspects of revenue allocation, such as the direction of finances, setting priorities and monitoring distribution, while channelling revenues for JET-aligned purposes through established one or multiple Funds. This would enable the Organization to retain its leadership role in directing maritime decarbonization efforts while benefiting from the operational expertise and efficiencies of existing Funds. Sharing the burden of distribution would transform the timelines upon which these revenues could reach countries for their energy transition. It is worth noting that ultimately, all decisions about revenue collected by the Organization - including decisions to distribute it through existing channels - will be made by the Member States of IMO, at IMO. [p 8]

Assessment: as a pragmatic matter, it is difficult to see how IMO delegates would accept a proposal where the 'majority' of GHG strategy revenues go to external funds. However the paper's suggestion that funds not directly applied to in-sector purposes should go to existing climate mechanisms is a good one. Whether the Caribbean should support the paper, or simply support some of its positions, may require political decisions.

5.17. Brazil et al, Proposal for an IMO sustainable fuels certification framework in the context of the IMO LCA Guidelines and the IMO net-zero framework, ISWG-GHG 18/2/17 (3 January 2025)

Summary: provides a proposed "IMO Sustainable Fuels Certification Framework" that would establish a clear structure for IMO to recognize sustainable fuels certification schemes/standards (SFCS) consistent with the IMO LCA Guidelines GHG emissions methodology and sustainability criteria. The proposal defines the relationship between the entities involved in the necessary certification process, such as: SFCS recognized by the Organization (IMO SFCS), economic operators, accreditation bodies and certification bodies. [p2]

Comments: The proposal envisages creation of a certification system operating under IMO guidelines. The system also calls for the 'IMO to establish and maintain a public register of recognized schemes: the "IMO Sustainable Fuels Certification Register (IMO SFCR)"' [p 4]. Thus sustainable fuels certification schemes/standards (SFCS) entities would be assessed and then listed under the IMO registry, with subsequent periodic review [pp 4-5]. The results of the review would be reported to the MEPC [p 5].

The proposed draft regulations are set out in Annex 1, definitions in Annex 2, and a list of guidelines in Annex 3. Skeletal guidelines related to the proposal are set out in Annexes 4-6.

Assessment: the proposed system does not appear to provide for robust supervision of the certification process by the IMO. The IMO would certify accreditation or certification bodies, but those entities would engage in all of the analysis related to the certification itself. See e.g., the definitions in Annex 2:

> .35 *Accreditation body* means authoritative bodies recognized by IMO SFCS organizations that perform third-party attestation related to a certification body conveying formal demonstration of its competence to carry out specific conformity assessment tasks.
>
> .36 *Certification body* means third-party conformity assessment bodies recognized or accredited by accreditation bodies, issuing documents to economic operators as proof of compliance with an IMO SFCS. [p 9]

The success of such a system will depend upon the rigor of the selection process and continued supervision of the accreditation and certification bodies. It is difficult to assess the scheme without further details and seeing what types of bodies would be engaged in the process. With the current information, subject to views of the scientific and economic advisers, it is recommended that the Caribbean remain neutral on the proposal, neither supporting nor dismissing it.

5.18. Indonesia et al, Considerations for development of an IMO GFI Registry, ISWG-GHG 18/2/18 (3 January 2025)

Summary: proposes establishment of an IMO GFI Registry, designed and developed on three key principles – integration, interoperability, and integrity.

Comments: the proposal sets out the benefits of a GFI Registry, which it suggests was broadly agreed at MEPC for 2027 or 2028:

> In the view of the co-sponsors, the primary function of the IMO GFI Registry will be to serve as a centralized and trusted repository of GFI data. It will record information such as each ship's attained GFI, compliance surpluses and deficits for each reporting period, the units held by each ship in its account, as well as a transaction log of these units. The Administration of where a ship is flagged to will be able to query into the IMO GFI Registry to check on compliance status, and, in this regard, the IMO GFI Registry will provide a clear, auditable record of all relevant GFI data, and serve as a trusted ledger of each ship's compliance status. Ultimately, a centralized IMO GFI Registry will be critical for reliable compliance monitoring of the GFS across the global fleet. It will also support

> trend analysis and evaluation of the effectiveness of the mid-term measures, to enable data-driven decisions to inform further emission reduction strategies in future regular reviews. [p 2, emphasis added]

The registry is also to 'record the trading and transactions of compliance units if trading is used' [p 2]

The three principles underpinning the IMO GFI Registry are described as follows:

- **Integrity** – the proposal endorses a 'robust system of auditing and accountability must be established to prevent the manipulation or falsification of GFI data collected by the IMO GFI Registry.' [p 2] Robustness includes cybersecurity [p 3]. However, the proposal specifies that the 'responsibility for ensuring the accuracy and authenticity of the data rests with the Member States for data submitted by ships under their jurisdiction' [p 2].
- **Interoperability** – the system must be able 'to receive GFI-related data from national and/or regional registries that record the movement of units and if trading is used, information on units among ships, particularly those engaged in pooling. An interoperable system that allows seamless communication between the IMO GFI Registry and other registries is essential.' [p 3] Interoperability also requires 'data transfer [that is] consistent across common time periods and accurate' [p 3]. The Registry should also assist states in reconciling the IMO's GHG results with the UNFCCC's nationally determined contributions and emissions reported under the ICAO registries (for aircraft) [p 3]
- **Integration** – the 'integration of various types of data, such as those collected from the IMO DCS and Bunker Delivery Notes (BDNs), into the IMO GFI Registry would be useful to ensure that data from various reporting tools is effectively combined, while simultaneously reducing administrative burden. The integration of different data sources would serve to provide a holistic view of each ship's emissions performance.' [p 3] The Registry could also integrate other data, such as BDNs and eBDNs (electronic bunker delivery notes), in the future.

Assessment: a GFI Registry will likely be required and hence this document is useful. It is not clear whether the proposed GFI Registry is to be independent of, or part of, the IMO's GHG fund. The idea of a GFI Registry can be supported. However, Caribbean delegates should evaluate where such a GFI Registry should be located in order to make precise interventions on this topic.

5.19. Antigua and Barbuda et al, Specifying the "Goal" of the basket of measures as specified in the proposed draft amendments to MARPOL Annex VI, ISWG-GHG 18/2/19 (3 January 2025)

Summary: proposes the formal adoption of the "Goal" for the IMO GHG Strategy in *MARPOL* Annex VI, in the following words:

> **Regulation X**
>
> *Goal*
>
> "Effectively promoting the energy transition of shipping and providing the world fleet with a needed incentive while contributing to a level playing field and a just and equitable transition." [emphasis added]

Comments: The paper can be supported because it very clearly identifies several of the factors related to a just and equitable transition for the GHG strategy, including: no country should be left behind, supportive measures should be provided, particular attention should be paid to the needs of developing countries, especially SIDS and LDCs, disproportionately negative impacts should be assessed and addressed (including for landlocked countries) [p 2]. It also cites the recent ITLOS Advisory Opinion as indicating 'the need for support to developing States, in particular those vulnerable to the adverse effects of climate change, by granting them preferential treatment in funding, technical assistance and pertinent specialized services from international organizations.' [p 2]. The following statements also should be supported since they link the needs of SIDS with the goal itself:

> 9 The regulations in the new MARPOL Annex VI chapter must take due account of the challenges faced by developing countries, in particular, the special needs of SIDS and LDCs. These countries will face challenges in the implementation of the measures. They also include those countries which will face the most disproportionately negative impacts from the measures, regardless of which measures are approved and adopted.
>
> 10 In this sense, the "Goal" of the new chapter of MARPOL Annex VI must be clear that the challenges of developing countries must be acknowledged and that the special needs of SIDS and LDCs must be fully taken into account through the regulations. While this should also be reflected in the related guidelines, it is imperative that the "Goal" as proposed below be included in the MARPOL regulations. [p 3, emphasis added]

The final paragraphs of the paper suggest that (1) the basket of mid-term measures must include technical and economic measures, and (2) that all proposals for mid-term measures must be 'adequately assessed against their ability to deliver on all of the 2023 IMO GHG Strategy's objectives, as outlined in the above "Goal" text.' [p 3]. In other

words, such measures must contribute to 'a level playing field and a just and equitable transition'.

Assessment: This paper was discussed at our meeting of January 8, 2025, where I recommended support. However, I also indicated that the actual goal text (above) could be stronger.

- I suggested an expanded text for consideration, which could be used to formulate proposals from the floor at the ISWG.[78]
- Nevertheless, given the controversies about what a 'just and equitable transition' entails, and the express decision of the sponsors to use a goal closely mirroring the text of the 2023 IMO GHG Strategy, it may be wise to leave the goal as is, and work to include further details in other aspects of the Annex VI amendments or related guidelines.

As a result, the recommendation is to support the paper. However, in terms of the way forward, the above two positions should be evaluated by Caribbean states prior to the ISWG.

5.20. Belize et al, Specifying the economic measure – Timeline and working arrangements for the guidelines and charter of the IMO GHG Strategy Implementation Fund, ISWG-GHG 18/2/20 (3 January 2025)

Summary: the document 'comments on the further work that will be needed in order to operationalize the IMO GHG Strategy Implementation Fund (the Fund) through the development of guidelines/charter' and suggests a timeline for such.

Comments: The document makes a strong case for the need for the Fund, including statements noting that

- the 'creation of the Fund is a functional necessity for implementing and operationalizing the 2023 IMO GHG Strategy' and
- 'the necessity and urgency for MEPC to advance the establishment of the Fund as an inextricable part of the amendments to MARPOL Annex VI.' [p 2]

In terms of the creation of the fund, the sponsors suggest that

- the Fund should be legally established in MARPOL Annex VI, [and]
- the detail in the amendment needs to cover both high-level description and core provisions for the establishment and operation of the Fund. [p 2, emphasis added]

[78] The suggested text expands above goal and would read as follows:
Effectively promoting the energy transition of shipping in order to address climate change and to guarantee international shipping does its part in the global effort to end anthropogenic GHG emissions by providing the world fleet with a needed incentive while contributing to a level playing field and a just and equitable transition, one that takes into account the special needs of SIDS and LDCs.

The paper notes that specifying the fund in the *MARPOL* Annex VI amendments is necessary, 'irrespective of the origins of revenues (e.g. whether as a consequence of the technical or economic element of the basket of mid-term measures).'[p 3]

The proposal also suggests that it will be necessary to provide details of all of the potential areas of revenue distribution in the amendments:

> 14 If there are details in chapter 5 of MARPOL Annex VI on only some, but not all, of the potential areas of revenue distribution, it will make it impossible to assess the effectiveness of revenue distribution in relation to impacts modelled in the comprehensive impact assessment. It will also make it impossible to assess, prior to adoption, whether or not the mid-term measures will be likely to achieve the objectives specified in the 2023 IMO GHG Strategy (paragraph 4.5), including how the measures will contribute to JET, and address disproportionately negative impacts (DNI) (see also table 1 below). [p 3, emphasis added]

The sponsors also argue that revenue distribution cannot be limited to 'reward', 'RD&D' and 'in-sector' uses [p 3].

The paper suggests the following revenue disbursement purposes:

Table 3: Revenue Disbursement purposes suggested in ISWG-GHG 18/2/20

	Relevant IMO Strategy Vision and Objectives	MARPOL / guideline specifications required
Reward	Promote the energy transition, provide the fleet with the required incentive	1. High-level description and core provisions to be included in MARPOL Annex VI Chapter 5. 2. Calculation and review process for setting the reward in the accompanying guidelines (e.g. guidelines for ZNZ definition and reward specification and review). 3. Specification in Fund guidelines/charter to include allocation of reward revenues to shipowners.
RD&D	Promote the energy transition, provide the fleet with the required incentive, contribute to [a level playing field and] a just and equitable transition	1. High-level description and core provisions to be included in MARPOL Annex VI Chapter 5. 2. Specification in the Fund guidelines/charter for how an RD&D board/committee will be formed and operate.
Supporting the energy transition in developing countries, in	Promote the energy transition, contribute to just and equitable transition	1. High-level description and core provisions to be included in MARPOL Annex VI Chapter 5. 2. Specification in the Fund guidelines/charter for how these areas

	Relevant IMO Strategy Vision and Objectives	MARPOL / guideline specifications required
particular SIDS and LDCs		of revenue distribution would be disbursed.
Ensuring a just transition for the maritime workforce	Promote the energy transition, contribute to just and equitable transition	
Supporting capacity building	Promote the energy transition, contribute to just and equitable transition	
Addressing DNI	Contribute to just and equitable transition	
Addressing climate impacts	Contribute to just and equitable transition	

Comments: Four of these purposes are particularly relevant to Caribbean SIDS and thus their express inclusion in this paper is helpful:

1. Supporting the energy transition in developing countries, in particular SIDS and LDCs
2. Supporting capacity building
3. Addressing DNI
4. Addressing climate impacts

The sponsors conclude by suggesting that further details be worked out through the IMO's working groups.

Assessment: This proposal was discussed at our meeting of January 8, 2025, at which time I recommended support. The recommendation stands. The paper sets out a timeline (inter-sessional working group activities with Fund adoption as part of *MARPOL* Annex VI amendments), stresses the importance of establishing the fund, and further clarifies areas of disbursement.

5.21. CSC, Overview of the climate and environmental risks of biofuels, ISWG-GHG 18/2/21 (3 January 2025)

Summary: the paper provides analysis of the problems associated with different types of biofuels (including for food security) and suggests policy recommendations for inclusion in *MARPOL* Annex VI including – 'reducing incentives for such biofuels through economic rewards, setting clear and stringent criteria for zero and near zero-emission (ZNZ) fuels directly under the GHG Fuel Standard (GFS), and introducing a cap or exclusion of certain biofuels under the GFS compliance mechanism.'

Comments: Two types of biofuels are discussed - those from food- and feed-based crops (1st generation), and those from biomass wastes (2nd generation):

> First-generation biofuels are produced from crops, including those grown for food and feed, but also for cover and energy purposes. These products include starchy (e.g.: corn, maize, etc.), sugary (e.g.: sugar cane, sugar beet, etc.) or oily (e.g.: palm, soy, sunflower, etc.) crops, which can be grown in agricultural lands, recently cleared forest lands, or degraded lands. They differ from second-generation biofuels that can be produced from biomass waste products, including agricultural waste (e.g.: dairy and non-dairy manures, or stalk), forestry residues (e.g.: tree barks, branches or pulp), and urban wastes (e.g.: sewage sludge) such as household solid and liquid biogenic waste (e.g.: from municipal waste). [p 3]

The paper expresses concerns about first-generation biofuels that are derived from food- and feed-based crops because they

> are linked to direct and indirect greenhouse gas emissions as well as various sustainability challenges. Concerns include food security, biodiversity loss, and significant social issues such as the rights of Indigenous Peoples, food sovereignty, and resource development. The development of water and land resources, in particular, requires precautionary approaches to ensure sustainability. [p 2]

These biofuels are also problematic because indirect land-use change emissions are not considered under the LCA framework.[79] As a result, they may be prioritized for use in the industry:

> 3 Without indirect land-use change (ILUC) emissions being quantitatively incorporated into the LCA framework, or in the absence of bans or caps for the use of crop-based biofuels for GFS compliance, there is a big risk that the new measures will result in a steep uptake of first-generation biofuels by 2030. These biofuels could outpace all other alternatives in this decade, potentially dominating alternative marine fuels mix by 2035 (figure 1). This is especially true given that crop-based biofuels are cheaper to produce despite emitting more than fossil fuels when ILUC emissions are accounted for.1 The risk of this occurring is especially high as biofuels produced from sustainable feedstocks are already being used in other industries or are already part of countries' domestic biofuels

[79] Note the statement at p 5:

> 12 It is essential to note here IMO's LCA framework does not quantify ILUC emissions associated with different marine fuels. At the same time, it is nearly impossible to address it through qualitative themes. For that reason, relying on the LCA process such as the correspondence group on 'other social and economic sustainability themes/aspects of marine fuels' to address this issue will not respect due diligence and precautionary principles in sound policymaking. [emphasis added]

> mandates to meet their Nationally Determined Contributions (NDC). [p 2, emphasis added]

Land-use change emissions are critical to take into account because the crops that are used to produce 1st generation biofuels either require sourcing of additional agricultural land (clearing forests and converting wetlands, thereby removing carbon storage sites), or use of existing lands which would have supplied food for people and animals. [p 3] Land use change also threatens indigenous and customary land rights [p 8]

The paper claims that 'direct or indirect land use change emissions … can exceed the GHG emissions' impact of the fossil fuels to be replaced, even before accounting for these biofuels' direct emissions from fuel production and combustion' [p 4]. This makes most 1st generation biofuel 'more polluting than fossil fuel' [p 4; see also figure 2]

1st generation biofuels will also increase food prices and threaten food security [p 5], especially for SIDS:

> 14 In addition to long-term increases of food costs, global reserves and supply flexibility of staple foods would decrease as remaining farms attempt to meet an increased food demand and traders engage in speculation to maximize revenue. This poses a threat to regions vulnerable to price shocks due to their import dependency and a high risk of extreme weather events – many of which are small islands and developing States (SIDS), least developed countries (LDCs), and developing countries. [p 5]

This situation will become even more grave because of extreme weather events caused by climate change which affect crop production [p 6].

1st generation biofuels would also increase water consumption and fertilizer use. Fertilizers themselves are a significant contributor to GHG emissions (estimates suggest nitrogen-based fertilizers account for 5% of global GHG emission), and can threaten biodiversity [p 6].

2nd generation biofuels are also problematic. These are produced from used cooking oil (UCO), animal fats, biodegradable municipal waste, industrial waste, and sewage sludge [p 9]. However supplies of these materials (such as UCO), will soon be outpaced by demand in other sectors, such as for sustainable aviation fuel [pp 9-10].

A further challenge with biofuels in general relates to certification schemes, which currently suffer from numerous loopholes [pp 10-11]. As noted in the paper, current certification regimes rely upon self-assessments without proper checks at point of origin:

> 'Sustainability assessments are based on reviewing procedures that rely on companies' self-reporting operations, making it difficult to systematically ascertain the origin of the waste/resource and the GHG emission value associated with its source point (known as point of origin or PoO).' [p 11]

The paper includes a chart, at page 11, which shows the very low levels of sampling at point of origin, globally.

The paper makes several suggestions related to certification schemes if they are to be relied upon by the IMO:

> 31 To address these issues, IMO certification rules should ensure that certifiers do not simply rely on paper-trails and carry out on-site checks when certifying (alternative) marine fuels production. In addition, to avoid conflicts of interest, schemes should have mandatory multi-stakeholder governance giving an equal voice to industry, communities, workers and civil society. Audit reports should also be made available in an accessible, transparent manner, and with details (not just a summary) to build trust. [p 12, emphasis added]

The paper makes several recommendations if biofuel is to be part of the IMO's GHG Strategy (summarized):

1. exclude food and feed crop-based biofuels from the eligibility list for compliance with existing and future MARPOL Annex VI regulations, or
2. establish a cap directly under MARPOL Annex VI or through national legislation on the use of biofuels produced from food and feed crop-based feedstocks in complying with GFS
3. ensure that crop-based biofuels do not benefit from economic incentives directed towards promoting ZNZ fuels as part of the technical and economic measures that the Organization is currently developing
4. when defining a ZNZ fuel, add an exclusion clause for fuels derived from food- and feed-based crops [pp 12-13]

The paper also suggests that 'restricting the use of unsustainable biofuels requires clear incentives for alternative energy sources, including wind-propulsion and electrolytic hydrogen-based fuels', and makes recommendations for:

- a reward factor mechanism (multiplier) of two for the use of zero-emission onboard non-fuel energy sources, such as wind and solar
- a reward factor mechanism (multiplier) of two for the use of alternative fuels based on electrolytic hydrogen
- a requirement for use of a minimum amount of alternative fuels based on electrolytic hydrogen on board ships [p 13]

The report concludes with a table in the Annex showing the GHG emissions of first-generation biofuels from feed and food crops (showing Well-to-Wake and direct and indirect land-use change emissions) [p 15].

Assessment: This report is striking. If the science is correct and the CSC's analysis is reliable, the report clearly demonstrates why Caribbean states should be very hesitant to support a strong (or any) role for first-generation biofuels in the IMO GHG Strategy.

5.22. China, Proposal for the structure of the verification framework on marine fuel sustainability within the scope of the IMO net-zero framework, ISWG GHG 18/2/22 (3 January 2025)

Summary: this document provides considerations on the structure of the verification framework on marine fuel sustainability in the context of the verification of the attained annual GHG intensity (the attained GFI) of ships within the scope of the IMO net-zero framework; it also provides suggestions for subsequent development of the verification framework of marine fuel sustainability in the context of verification of attained GFI within the IMO net-zero framework.

Comments: the paper suggests a multi-tiered verification process for attained GFI for a ship, taking into account the attained EEDI and EEXI:

> in order to issue the Statement of Compliance (SoC) for the attained GFI for a ship, verification and certification of the attained GFI by the Administration can refer to the verification procedures of the attained EEDI and the EEXI in the short-term measures and verify or validate specific calculated parameters to ensure the accuracy and reliability of the attained GFI of individual ships. This process needs to include the verification/validation of the sustainability of marine fuel.[p 2]

It lists the content and scope required for the attained GFI verification [p 3], and suggests that multiple actors can play a role in the scheme: from national Administrations, to authorised operators (ROs), to third party verification bodies [p 3]. Third parties are to formulate certification schemes/standards, which are to be evaluated by Member States and the results transmitted to the IMO for review and recognition [p 4]. China also suggests that the IMO should establish a mutual recognition of certification mechanisms/standards [p 4].

Assessment: this document is very complex and technical. It will need to be evaluated by the scientific and economic experts in the team. However, much of the complexity appears to be created by the decentralised nature of the scheme. This may be required by commercial realities. However, perhaps a higher level of centralisation and IMO quality assurance should be sought (especially because of the high economic value of the different certifications)?

5.23. RINA, Advancing environmental sustainability metrics: a pathway to robust fuel certification for maritime decarbonization ISWG-GHG 18/3 (3 January 2024)

Summary: This document aims to support resolution MEPC.391(81) on the *2024 Guidelines on life cycle GHG intensity of marine fuels (2024 LCA Guidelines)*, by proposing metrics and indicators tailored to the operationalization of the Organization's sustainability criteria with a view to improve transparency, consistency, and effectiveness in sustainability assessments. It is based on a study conducted by the Mærsk Mc-Kinney Møller Center for Zero Carbon Shipping (MMMCZCS).

Comments: The paper's suggested additional metrics and indicators for each sustainability criterion are set out at p 3-4 as follows:

Table 4: IMO Sustainability Criteria and Complimentary metrics/indicators suggested in ISWG-GHG 18/3

IMO sustainability criteria	Complementary metric/indicator identified
1. Greenhouse Gases (GHG)	• g NH3/MJ or tonne of fuel consumed for indirect N2O emissions – accounting for ammonia slip and leading to indirect N2O emissions. • Evidence of GHG reduction strategies and documentation of fugitive emission mitigation approach – ensuring transparency and compliance.
2. Carbon source	• Proof-of-origin mechanism (e.g. certificates, audits) – enhancing transparency and traceability.
3. Source of electricity/energy	• kWh/MJ or ton of fuel produced – improve energy efficiency performance in fuel production. • Evidence of renewable energy sourcing (e.g. RECs, EACs, PPAs)3 – tracking renewable energy integration. • Energy source breakdown (renewables vs non-renewables) – tracking renewable energy integration.
4. Carbon stock - direct land use change (DLUC)	• Evidence of DLUC mitigation practices (e.g. use of degraded or marginal lands, carbon stock preservation efforts etc.) – ensuring sustainable land-use practices. • Evidence of adaptive land management practices (e.g. erosion and soil quality management, integrated water management) – ensuring sustainable land-use practices.
5. Carbon stock - indirect land use change (ILUC)	• Indirect land conversion due to displacement (hectares/MJ or tons of fuel produced or yield of feedstock) – assessing potential secondary land use impacts. • Monitoring and documentation of displacement effects – minimizing ILUC risks.

IMO sustainability criteria	Complementary metric/indicator identified
6. Water	• Recycling and reuse rates: % of water recycled/MJ or ton of fuel produced – assessing resource efficiency during production. • Evidence of water recycling programmes – ensuring sustainable water management practices. • Evidence of risk assessment for water availability and quality – ensuring sustainable water management practices.
7. Air	• Air pollutant intensity: mg or g/MJ or tonne of fuel produced for SOx, NOx, and VOC emissions – addressing localized air pollution impacts. • Air quality management plans – ensuring compliance with air quality standards.
8. Soil	• Soil organic carbon content (g or % C/kg of soil), bulk density (g soil/cm3 for soil) and moisture content (g or m3 water/kg of soil) – assessing soil conditions during feedstock production. • Erosion prevention measures and regenerative agricultural practices – promoting sustainable soil management.
9. Waste and chemicals	• Residual waste generation: kg/MJ or tonne of fuel produced – minimizing residual and hazardous waste.
10. Conservation	• Species richness and abundance: number of species and individuals in each area – tracking changes in ecosystem health. • Population viability (probability of survival for species populations over time) – tracking changes in ecosystem health. • Habitat fragmentation index: degree to which habitats are fragmented by fuel production activities – ensuring ecosystem management practices.

The paper notes that the benefit of such indicators:

> By complementing the existing metrics and indicators in the 2024 LCA Guidelines, it would be possible to create a more robust and inclusive approach to fuel certification. This involves creating methodologies for consistent data collection, reporting, and verification, including third-party audits and real-time monitoring, to ensure the credibility and accuracy of the process. [p 5]

The paper proposes pilot testing and a phased implementation strategy for its metrics and indicators in three phases – short, medium and long term – and that ‘specific detailed guidelines on the sustainability criteria’ be developed by the IMO using the paper’s analysis [pp 5-6]

The full report is included in Annex 1.

Assessment: the paper appears to complement and provide further detail in areas covered by the 2024 LCA Guidelines. It is primarily focused on certification processes. The economists and scientists on the team will have to weigh in on whether this should be supported by Caribbean states.

6. Appendix 3: Preliminary Index of Precedents for Draft Text for *MARPOL* Annex VI amendments and related regulations and guidelines

6.1. The Report of the seventeenth meeting of the Intersessional Working Group on Reduction of GHG Emissions from Ships (ISWG-GHG 17) MEPC 82/WP.5 (27 September 2024)

The Working Group's report helpfully summarises the documents it considered (pp 4-8 (paras 8-9)). This summary presents a condensed and helpful overview of each document.

Discussions of the various proposals related to *MARPOL* Annex VI are found at pages 9-24 under the following headings:

Table 4: Headings of Discussions Regarding Proposals Related to MARPOL Annex VI

HEADING	PAGE #
Application, goal and functional requirements	9
Goal-based marine fuel standard (GFS) regulating the phased reduction of a marine fuel's GHG intensity, including alternative compliance approaches	10
Economic mechanism(s) to incentivize the transition to net-zero and basic functions of central management, oversight, collection and distribution of revenue (a "Fund")	13
Definitions, survey, certification and data collection (amendments to chapters 1 to 4 of MARPOL Annex VI)	15
Status of the discussion on the development of possible draft amendments to MARPOL Annex VI on the net-zero framework	16
List of new guidelines to further develop and existing guidelines to amend	16
Further consideration of the development of the LCA framework	17
Consideration of methodological issues in the LCA Guidelines, including update on the establishment of the GESAMP-LCA Working Group	19
Development of a sustainable fuels certification framework	20
Information on various marine fuels and fuel production pathways	21
Development of draft terms of reference for the Fifth IMO GHG Study	21

Annex 1 to the Report provides *Possible Draft Amendments to MARPOL Annex VI on the Net-Zero Framework*, starting at p 27 of the electronic document.

The structure of the Annex is to group various drafts together that deal with a similar topic under the same heading. Thus, as you read it, you will see both duplication

(where different submissions share the same wording) and key differences (where shared values are not found).

Comments: Several important drafts for us to consider and potentially utilise include those on the following topics. Page references are both to the electronic document pages and to the Annex pagination. The bracketed term 'no text' indicates that the title is a place marker only. Regulations dealing with the same general topic have been grouped together and identified with common grey fill.

Table 6: Draft Amendments to MARPOL Annex VI – Net-Zero Framework

***MARPOL* Annex VI Chapter**	**Reg #**	**Topic**	**Page # [Doc p # / Annex p #]**
Chapter 1 – General	2	Definitions	27/1
Chapter 2 - Survey, certification and means of control	5	Surveys	30/4
	6	Issue or endorsement of Certificates and Statements of Compliance…	31/5
	8	Form of Certificates and Statements of Compliance…	34/8
	9	Duration and validity of Certificates and Statements of Compliance…	35/9
	10	Port State Control on operational requirements	36/10
Chapter 4 - Regulations on the carbon intensity of international shipping	26	Ship Energy Efficiency Management Plan (SEEMP)	36/10
	27	Collection and reporting of ship fuel use…	37/11
New Chapter 5 - Regulations on the IMO net-zero framework	X	Application	39/13
	X	Goal	39/13
	X	Functional requirements	39/13
	X	Attained annual GHG fuel intensity (attained annual GFI)	39/13
	X	[Target][Required] annual GHG fuel intensity	43/17
	X	GFI data collection and reporting	44/18
	X	[Alternative] compliance approaches	45/19

***MARPOL* Annex VI Chapter**	**Reg #**	**Topic**	**Page # [Doc p # / Annex p #]**
	X	IMO GFI Registry	49/23
	X	Uptake of zero or near-zero GHG emission technologies, fuels and/or energy sources (ZNZs)	50/24
	X	Synergies with existing measures [no text]	51/25
	X	Economic mechanism(s) to incentivize the transition to net-zero [*no text*]	51/25
	X	Calculation of economic contribution by ships	51/25
	X	Collection of economic contribution by ship	52/26
	X	Maritime GHG emissions pricing mechanism	52/26
	X	Calculation and collection of GHG fees	53/27
	X	Maritime GHG Emissions pricing system	54/28
	X	Collection of the Dues from the Company	56/30
	X	Review & Ratchet of the Levy and Surcharge	57/31
	X	Calculation of the Dues of the Ship	57/31
	X	Central management/oversight of [collected revenue][the IMO [XX] Fund/Facility] [*no text*]	57/31
	X	IMO Net Zero Shipping Fund	57/31
	X	Sustainable Shipping Fund (SSF)	58/32
	X	Sustainable Shipping Fund Governing Board (SSB)	58/32
	X	The Fund	59/33
	X	The Fund Board	59/33
	X	The Research, Development & Deployment (RD&D) Committee	60/34
	X	Distribution of revenue	61/35
	X	Purpose of the mechanism and disbursement of revenue	63/37
	X	Feebates disbursed via the maritime GHG emissions pricing mechanism	64/38
	X	Distribution of revenue	66/40
	X	Disbursement of revenue:	66/40
	X	Review of the chapter [*no text*]	67/41

***MARPOL* Annex VI Chapter**	**Reg #**	**Topic**	**Page # [Doc p # / Annex p #]**
	X	Dates for implementation [*no text*]	67/41