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PRE-BRIEF

IMO

twenty-second meeting of the Intersessional Working Group on Reduction of GHG Emissions from Ships (ISWG-GHG 22)

Tuesday, 1 to Friday, 4 September 2026

CONTENTS

INTRODUCTION

The *Intersessional Working Group on Reduction of GHG Emissions from Ships* (ISWG-GHG) reports to the IMO's Maritime Environment Protection Committee (MEPC) and is tasked to consider matters related to GHG Reductions. ISWG-GHG 22 will produce a report on their deliberations which will be considered by MEPC 85 (30 November – 3 December)

Key Topics

The key topics that will be discussed at ISWG-GHG 20 and may be of interest to Members include[1]:

- IMO Net-Zero Framework
- Draft Guidelines Supporting Mid-Term Measures
- Life Cycle GHG Assessment (LCA) framework

NET-ZERO FRAMEWORK

Under this agenda item 2 the Working Group will consider proposals, including documents submitted to MEPC 84 and 85, previous sessions of ISWG-GHG, as well as documents submitted to ISWG-GHG 22, on how to address concerns with the draft amendments to MARPOL Annex VI on the Net-Zero Framework, in line with the 2023 IMO GHG Strategy

The folloiwng documents submitted at MEPC 85[2] will be discussed at this session: A detailed

Comparison Matrix on the below proposals on the IMO Net-Zero Framework is presented in the APPENDIX 3

MEPC 85/3/5 Amendments to MARPOL Annex VI - Note by the Secretariat

The Secretariat presents the MARPOL Annex VI amendments proposed by Liberia (Circular Letter No.5213) for formal consideration and possible adoption at MEPC 85 and/or the resumed MEPC/ES.2. The proposal would substantially redesign the IMO Net-Zero Framework by linking the GFI trajectory to commercially viable fuels, assessed against affordability, availability and scalability criteria, and introducing a market-based Surplus Unit (SU) compliance system. Notably, fuel availability would include minimum global market share, geographical/port coverage and maximum bunkering-distance criteria, explicitly intended to accommodate both liner and tramp shipping.

MEPC 85/3/6 Amendments to MARPOL Annex VI - Note by the Secretariat

The Secretariat presents Brazil's proposed MARPOL Annex VI amendments (Circular Letter No.5214) for consideration and possible adoption at MEPC 85 and/or the resumed MEPC/ES.2. Brazil largely preserves the IMO Net-Zero Framework architecture, but proposes a two-year softer start to the GFI trajectory (3% in 2029 and 4% in 2030), followed by a steeper pathway from 2031. It retains the two-tier compliance

[1] The full provisional agenda can be found in Appendix 2
[2] The following circulars were submitted to the IMO Secretariat on Draft amendments to MARPOL Annex VI:

- Circular Letter No.5213 proposed draft amendments to MARPOL Annex VI from **Liberia**
- Circular Letter No.5214 proposed draft amendments to MARPOL Annex VI from **Brazil**
- Circular Letter No.5215 proposed draft amendments to MARPOL Annex VI from **Tuvalu**
- Circular Letter No.5216 proposed draft amendments to MARPOL Annex VI from **Australia, Canada, South Africa and the United Kingdom**

mechanism, with Tier 1 RUs at US$100/t$CO_2$eq and Tier 2 at US$380/tCO_2eq, banking and transfer of Surplus Units for Tier 2, ZNZ rewards, and the IMO Net-Zero Fund/Facility with support for a just and equitable transition.

MEPC 85/3/7 **Amendments to MARPOL Annex VI - Note by the Secretariat**

The Secretariat presents Tuvalu's proposed amendments to MARPOL Annex VI (Circular Letter No.5215) for consideration at MEPC 85 and/or the resumed MEPC/ES.2. The proposal retains the two-tier GFI framework but significantly strengthens the economic element, setting Tier 1 Remedial Units at US$300/t$CO_2$eq and Tier 2 at US$380/tCO_2eq, alongside an ambitious GFI trajectory reaching a 30% direct-compliance reduction and 65% base-target reduction by 2035. It maintains the IMO Net-Zero Fund and ZNZ rewards, representing a substantially more stringent approach to accelerating the transition to ZNZ fuels

MEPC 85/3/8 **Amendments to MARPOL Annex VI - Note by the Secretariat**

The Secretariat presents the amendments proposed by Australia, Canada, South Africa and the United Kingdom (Circular Letter No.5216) for consideration at MEPC 85 and/or the resumed MEPC/ES.2. The proposal largely retains the IMO Net-Zero Framework architecture, including the two-tier GFI system, Tier 1 and Tier 2 RUs at US$100 and US$380/tCO_2eq respectively, banking and transfer of Surplus Units, ZNZ rewards and the IMO Net-Zero Fund. It also provides detailed Fund governance and revenue allocation provisions, with particular emphasis on a just and equitable transition, SIDS/LDCs, infrastructure and addressing disproportionately negative impacts, including food security.

The following papers have been submitted at this session.

ISWG-GHG 22/2 **Possible textual adjustments to the draft amendments to MARPOL Annex VI relating to the IMO Net-Zero Framework- Submitted by China**

China supports maintaining a global IMO Net-Zero Framework and proposes targeted textual adjustments to improve its implementability, operational clarity and flexibility. China supports recognition of technologies, fuels and energy sources as ZNZs, inclusion of shore power, wind propulsion and solar power in GFI calculations, and allowing the IMO Net-Zero Fund/Facility to provide both financial rewards and other support measures.China seeks to amend the draft text by using broader, technology-neutral wording that preserves flexibility for future negotiations. It proposes revised definitions for GFI, expanded energy accounting, adjustments to verification and reporting procedures, and replacing prescriptive provisions (e.g. rewards only for ZNZ fuels) with more inclusive language to accommodate different implementation approaches and facilitate consensus.

ISWG-GHG 22/2/1 **Key elements for proposals to address concerns to be in line with the 2023 IMO GHG strategy- Submitted by Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands (Kingdom of the), Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the European Commission**

The co-sponsors support an IMO Net-Zero Framework that remains fully aligned with the 2023 IMO GHG Strategy, including a WtW pathway to net-zero by or around 2050, early incentives for ZNZ fuels, technologies and energy sources, effective global enforcement, regulatory certainty, flexible compliance mechanisms, and support for a just and equitable transition, particularly for SIDS and LDCs. They oppose changes that would weaken the emissions trajectory, delay the energy transition, reduce enforceability, or undermine the level playing field and long-term investment certainty

ISWG-GHG 22/2/2 **Analysis of candidate MARPOL Annex VI amendments relative to the 2023 IMO GHG Strategy- Submitted by IMarEST**

MarEST supports an IMO Net-Zero Framework that is fully aligned with the 2023 IMO GHG Strategy, including effective incentives for the uptake of zero and near-zero (ZNZ) fuels, a robust economic element, and a framework capable of meeting the 2030 and 2040 emission reduction checkpoints. It raises concerns that the current "IMO Net-Zero Framework as is" and the "softer start, harder finish" proposal are unlikely to deliver the Strategy's interim targets, while the "Fundamental Redesign" provides insufficient incentives for early energy transition. The analysis concludes that the "IMO Net-Zero Framework as levy" performs best in delivering the IMO GHG Strategy objectives.

ISWG-GHG 22/2/3 **Comments on amendments to MARPOL Annex VI in Circular Letter No. 5213- Submitted by Norway**

Norway supports the IMO Net-Zero Framework agreed at MEPC 83, including a robust GFI reduction trajectory, a Fund-based economic mechanism, Tier 1 and Tier 2 remedial units, incentives for zero and near-zero (ZNZ) fuels, and a framework capable of delivering the 2023 IMO GHG Strategy.
Norway does not support the key elements of Liberia's proposal, including:

- replacing the Fund-based economic mechanism with a predominantly market-based surplus-unit system;
- linking the GFI trajectory to the commercial availability and affordability of fuels, arguing this would weaken ambition and create regulatory uncertainty;
- introducing borrowing of surplus units and broader compliance flexibilities that could delay emissions reductions;
- reducing the role of the IMO Net-Zero Fund and the associated financial incentives for ZNZ fuels;
- weakening the incentive for early investment in alternative fuels by making compliance dependent on fuel market conditions; and
- introducing periodic recalibration of the GFI trajectory based on market developments, which Norway considers could undermine long-term investment certainty and the achievement of the IMO's decarbonisation objectives.

ISWG-GHG 22/2/4 **Advantages of flexible compliance approaches: experiences from the first year of FuelEU Maritime implementation- Submitted by Norway**

Norway supports retaining the flexible compliance mechanisms agreed at MEPC 83, including banking, transfer of Surplus Units (SUs) and the purchase of Remedial Units (RUs). Drawing on the first year of FuelEU Maritime, Norway argues that these mechanisms have enabled cost-effective fleet-wide compliance, supported the uptake of low-GHG fuels, maintained environmental integrity, and provided regulatory certainty that encourages investment in alternative fuels.. Norway therefore opposes proposals that replace or substantially restrict the compliance approaches agreed at MEPC 83, citing the positive practical experience from the implementation of FuelEU Maritime.

ISWG-GHG 22/2/5 **Perspectives on the cost of decarbonization compared to 2008 as the base year- Submitted by Norway**

Norway supports maintaining the IMO Net-Zero Framework agreed at MEPC 83, arguing that concerns over excessive decarbonisation costs should be assessed against the 2008 baseline used in the 2023 IMO GHG Strategy rather than against a business-as-usual (BAU) scenario. Based on the IMO Comprehensive Impact Assessment, Norway concludes that, despite higher costs relative to BAU, fuel cost per tonne-mile in 2050 would remain around 18% below 2008 levels, owing to improvements in energy efficiency, demonstrating that the transition is economically achievable. The paper also supports the establishment of an IMO Net-Zero Fund to mitigate impacts on vulnerable developing countries, particularly SIDS and LDCs.

ISWG-GHG 22/2/6 **Staying within our mandate- Submitted by Solomon Islands**

Solomon Islands stresses that ISWG-GHG 22 must remain within its mandate to address concerns with the IMO Net-Zero Framework “in line with the 2023 IMO GHG Strategy”, rather than reopen or revise the Strategy itself. It considers the proposals by Fiji et al. and Brazil compatible with the Strategy, but argues that proposals by Algeria et al. and Argentina et al. contain elements that conflict with it, particularly proposals to link GFI targets to fuel cost/availability or to exclude a GHG pricing and revenue mechanism.

ISWG-GHG 22/2/7 **Amendments to MARPOL Annex VI- Submitted by Kiribati, Marshall Islands, Naoero, Palau, Tuvalu and Vanuatu**

The co-sponsors support adoption of the IMO Net-Zero Framework at MEPC 85 (or the resumed MEPC/ES.2) based on the architecture agreed at MEPC 83, including a robust economic element, an IMO Net-Zero Fund, and a framework aligned with the 2023 IMO GHG Strategy. They also support prioritising development of the IMO Net-Zero Fund guidelines and limiting negotiations to the four circulated amendment proposals. The co-sponsors oppose Liberia's proposal, arguing that it removes both the economic element and the goal-based technical element, weakening the IMO Net-Zero Framework and reducing its ability to achieve the objectives of the 2023 IMO GHG Strategy.

ISWG-GHG 22/2/8 **Questions on legality, feasibility and equity of the funding approach- Submitted by Liberia**

Liberia raises fundamental concerns over the IMO Net-Zero Fund and price-based compliance mechanism, questioning their legal consistency with MARPOL, environmental effectiveness, administrative feasibility and equity. It argues that allowing compliance through payment may not ensure actual emissions reductions and could significantly increase freight costs and disproportionately affect long-distance exports from developing States, particularly bulk commodities. Liberia also highlights unresolved taxation, cross-border payment, governance, KYC/AML and institutional capacity issues, and calls for these matters to be resolved before adopting such a financial mechanism.

ISWG-GHG 22/2/9 **Proposal for a pragmatic approach for the reduction of GHG emissions from ships - draft regulations- Submitted by Liberia and Panama**

Liberia and Panama further develop their alternative, pragmatic approach to the IMO Net-Zero Framework, linking the GFI reduction trajectory to the affordability, availability and scalability of commercially viable fuels, and using transferable Surplus Units (SUs) instead of an IMO-managed financial mechanism. The proposal also introduces the possibility of generating SUs from verified GHG reductions achieved through operational and technological energy-efficiency improvements, thereby rewarding actual ship-level emissions reductions in addition to fuel switching. Support to developing States would remain voluntary rather than Fund-based..

ISWG-GHG 22/2/10 **Guiding principles for developing mid-term GHG reduction measures to build convergence among Member States leading up to MEPC 85 and the resumed MEPC/ES.2- Submitted by Saudi Arabia and United Arab Emirates**

The co-sponsors do not support the current IMO Net-Zero Framework adopted at MEPC/ES.2, arguing that it lacks consensus, technical maturity and a comprehensive impact assessment. They oppose centrally determined carbon prices, arbitrary compliance costs, top-down restrictions that do not reflect national circumstances, and measures that could undermine trade, energy and food security or disproportionately burden developing countries.

ISWG-GHG 22/2/11 **Trade and distributional shortcomings in the IMO Net-Zero Framework: non-uniform incidence, distance-dependent trade costs, and freight market effects- Submitted by Saudi Arabia and United Arab Emirates**

Saudi Arabia and the United Arab Emirates argue that the current IMO Net-Zero Framework would create uneven economic and trade impacts because a uniform carbon price affects States and trades differently. They highlight that long-distance trades, remote and trade-dependent economies, and developing countries would face disproportionately higher transport costs. The paper calls for further refinement of the framework to better reflect trade patterns, distributional impacts and national circumstances before adoption.

ISWG-GHG 22/2/12 **Proposals to address concerns regarding the draft amendments to chapter 5 of MARPOL Annex VI - Submitted by Brazil**

Brazil supports adoption of the IMO Net-Zero Framework substantially as agreed, with only the adjustments strictly necessary to facilitate consensus. The paper proposes limited amendments to the implementation timeline and governance arrangements, including delaying the initial GFI reduction trajectory by two years, clarifying that GHG emissions pricing is one of several compliance options, replacing the IMO Net-Zero Fund with a lighter Facility model, and reaffirming the IMO framework as the primary global regime for shipping GHG emissions, with adoption targeted at MEPC 85.

DRAFT GUIDELINES SUPPORTING MID-TERM MEASURES

Under agenda item 3 the Working Group will consider the draft guidelines supporting the uniform and effective implementation of IMO's mid-term measures.

GFI calculation, verification and reporting, and fuel certification

ISWG-GHG 22/3/6 **Draft amendments to the 2022 Guidelines for Administration verification of ship fuel oil consumption data and operational carbon intensity to include verification of the attained annual GHG fuel intensity (GFI) - Submitted by China and Norway**

China and Norway propose draft amendments to the 2022 Administration Verification Guidelines to incorporate verification of the attained annual GHG Fuel Intensity (GFI) under the IMO Net-Zero Framework. The paper also identifies an outstanding issue for further consideration: how to address material discrepancies discovered after a Statement of Compliance has been issued and their implications for compliance.

ISWG-GHG 22/3/9 **Work plan for the intersessional work on the guidelines for the recognition of Sustainable Fuel Certification Schemes and reporting of certification activities (SFCS Guidelines)- Submitted by Brazil and RINA**

Brazil and RINA propose a work plan for the intersessional development of the Sustainable Fuel Certification Schemes (SFCS) Guidelines. The work focuses on refining traceability requirements, the recognition and assessment process for certification schemes, and reporting requirements, with the aim of submitting updated draft guidelines to MEPC 85.

ISWG-GHG 22/3/12 **Draft amendments to resolution MEPC.395(82) and development of a cross-checking tool to increase the accuracy of fuel consumption data reported under the IMO Data Collection System (IMO DCS) – the Energy Consumption Index (ECI)- Submitted by Brazil**

The authors proposes amending the 2024 SEEMP Guidelines (resolution MEPC.395(82)) to introduce the Energy Consumption Index (ECI) as a voluntary cross-checking tool to support verification of fuel consumption data reported under the IMO DCS. The paper repositions the ECI from a reporting method to a verification tool, using a ship's operational profile to identify significant discrepancies in reported fuel consumption while avoiding additional mandatory reporting requirements.

ISWG-GHG 22/INF.2 **Practices of the book and claim chain of custody model in the field of renewable electricity - Submitted by China**

China supports a step-by-step introduction of the “book and claim” chain-of-custody model under the SFCS Guidelines, starting with renewable electricity used for OPS and potentially expanding later to other sustainable fuels. China argues that existing renewable electricity certificate systems demonstrate its feasibility and that it could address geographical mismatches between renewable energy production and ship demand. The paper stresses, however, the need for robust registries, verification and safeguards against double counting.

ISWG-GHG 22/INF.3 **A prototype registry for the traceability of sustainable marine fuels- Submitted by Brazil**

Brazil presents a prototype shared digital registry for the traceability of sustainable marine fuels under the IMO Net-Zero Framework. The system would link fuel sustainability documentation across the supply chain, enable Administrations to cross-check ship-reported data, and prevent duplication and double counting across different Administrations. Key issues requiring further work include data requirements, confidentiality, traceability rules and governance/ownership of the registry.

ISWG-GHG 22/INF.4 **Results of a voluntary case study on the Energy Consumption Index (ECI) proposed in documents MEPC 84/6/4 and ISWG-GHG 22/3/12- Submitted by Brazil**

Brazil presents results from a voluntary case study testing the proposed Energy Consumption Index (ECI) as a cross-checking tool for reported fuel consumption. Tests covering a tanker, bulk carrier and offshore vessels showed that the ECI can confirm consistent data and flag potential discrepancies for further examination. Brazil proposes a ±10% tolerance margin, reflecting measurement uncertainty, and stresses that the ECI should serve as a verification tool rather than a sanctioning mechanism.

ZNZ fuels and technologies

ISWG-GHG 22/3 **Draft modules for possible inclusion in the guidelines related to ZNZs- Submitted by Norway, Solomon Islands and United Kingdom**

The paper consolidates previous submissions into a single working draft covering ZNZ definitions and eligibility, reward calculation and disbursement, reporting and verification, and procedures for budget shortfalls, while identifying several issues requiring further discussion, including reward differentiation, eligibility criteria, JET provisions and reporting requirements.

ISWG-GHG 22/3/1 **Possible role of a ZNZ incentive multiplier in GFI compliance as an alternative or complementary incentive arrangement to promote ZNZ uptake where reward funding is constrained- Submitted by China**

China proposes a ZNZ incentive multiplier as an alternative or complementary mechanism to monetary rewards under the IMO Net-Zero Framework where funding is constrained. The paper presents an illustrative methodology whereby ZNZ fuels receive enhanced credit in GFI compliance calculations, improving their economic attractiveness and supporting early market uptake, while providing a technical basis for further consideration without prejudging the final design of the reward mechanism.

ISWG-GHG 22/3/2 **Methodology for determining the ZNZ reward rate and assessing related funding requirements- Submitted by China**

China proposes a methodology for determining a fixed annual ZNZ reward rate based on the cost gap between a ZNZ fuel pathway and a reference compliance pathway using conventional fuel oil blended with biodiesel. The paper estimates an initial reward rate of around US$300/t$CO_2$eq in 2029, declining towards 2035 as ZNZ fuel costs fall, and concludes that projected Tier 1 Remedial Unit revenues would be sufficient to finance the proposed ZNZ incentives. It also concludes that allowing ships receiving ZNZ rewards to generate and transfer Surplus Units (SUs) would primarily strengthen incentives for deeper emissions reductions, with only a limited risk of overcompensation in the early years.

ISWG-GHG 22/3/3 **Clarification of the application of netting between ZNZ rewards and GHG emissions pricing contributions under the IMO Net-Zero Framework - Submitted by China**

China proposes clarifying how netting would operate under the IMO Net-Zero Framework, allowing verified ZNZ reward amounts to be offset against a ship's GHG emissions pricing contributions during the annual GFI compliance process. The paper emphasises that netting is only a financial settlement mechanism that simplifies payments, does not change compliance obligations, does not replace the requirement to obtain Remedial Units (RUs), and does not alter the total value of contributions or ZNZ rewards. It also proposes integrating GFI and ZNZ reporting and verification through a single process supported by the IMO GFI Registry and the IMO Net-Zero Fund.

ISWG-GHG 22/3/4 **ZNZ guidelines and recommendations for their further development- Submitted by IMarEST**

The author supports the continued development of the ZNZ Guidelines but recommends further refinement of the reward mechanism to improve investment certainty and cost-effectiveness. The paper concludes that differentiated ZNZ rewards remain essential, while analysing the proposed carry-forward mechanism for unpaid rewards and finding that it does not eliminate uncertainty, but merely shifts it from the reward amount to the timing of payment. It also discusses possible approaches for Just and Equitable Transition (JET)-eligible ZNZ rewards and invites further consideration of eligibility criteria and implementation.

Net-Zero Fund governing provisions

ISWG-GHG 22/3/13 **Base text for the governing provisions of the IMO Net-Zero Fund - Submitted by Brazil, Democratic Republic of the Congo, Kenya, Solomon Islands and Tuvalu**

The authors submit draft governing provisions for the IMO Net-Zero Fund as a basis for further negotiations. The proposal covers the Fund's governance, revenue collection, allocation and disbursement, ZNZ rewards, support for a just and equitable transition, infrastructure, food security/DNI, financing instruments, implementing partners, monitoring and auditing. The text remains work in progress, with key options unresolved—including whether the mechanism should ultimately operate as a "Fund" or a "Facility"—and the co-sponsors propose further work at ISWG-GHG 22 to narrow options and build consensus.

ISWG-GHG 22/3/14 **IMO Net-Zero Fund - Submitted by Fiji, Kiribati, Naoero, Palau, Tuvalu and Vanuatu**

The authors strongly support the IMO Net-Zero Fund as essential for a just and equitable transition. They call for strong SIDS/LDC representation, simplified access to funding, dedicated support for DNI and infrastructure, and sufficient ring-fenced revenues, while opposing excessive reliance on external entities to manage the Fund.

New elements proposed in alternative MARPOL amendments:

ISWG-GHG 22/3/5 **Development of guidelines for an essential goods flexibility mechanism to support the uniform and effective implementation of mid-term GHG reduction measures- Submitted by Kuwait**

The author proposes the development of guidelines for an Essential Goods Flexibility Mechanism (EGFM) to support the implementation of the IMO mid-term GHG measures. The proposed mechanism would provide transparent and narrowly defined implementation flexibility for the maritime transport of essential goods—such as food, medicines, humanitarian supplies and critical energy cargo—particularly for developing countries, LDCs, SIDS and import-dependent economies.

ISWG-GHG 22/3/7 **Development of guidelines on the methodology for the determination of commercially viable fuels, and the data required to facilitate the implementation of the mid-term GHG reduction measures- Submitted by Saudi Arabia**

The paper proposes the development of guidelines for determining commercially viable fuels to support implementation of the IMO Net-Zero Framework. The paper calls for the IMO to establish a methodology and collect the necessary data to assess fuels against availability, affordability and scalability criteria, arguing that these assessments are fundamental to setting the GFI reduction trajectory and should be completed before implementation

ISWG-GHG 22/3/10 **Guidelines for the allocation of surplus units through operational and technological energy efficiency improvements- Submitted by Liberia and Panama**

Liberia and Panama propose the development of guidelines for allocating Surplus Units (SUs) for verified GHG emissions reductions achieved through operational and technological energy efficiency improvements. The paper sets out high-level principles requiring emissions reductions to be additional, verifiable, technology-neutral, transparent, and free from double counting, while relying as far as practicable on existing IMO reporting and verification processes to minimise administrative burden.

Impacts on States

ISWG-GHG 22/3/8 **Proposal for the development of guidelines aimed at operationalizing draft regulation 43 in the IMO Net-Zero Framework regarding food security- Submitted by Brazil**

The paper discusses how to address food security issues within the IMO Net-Zero Framework. The paper recommends using the IMO Net-Zero Fund to support measures addressing food security impacts and exploring partnerships with existing international initiatives, such as the Global Alliance Against Hunger and Poverty, through simple procedures enabling affected countries to request support

ISWG-GHG 22/3/11 **The need for guidelines on the identification of disproportionately negative impacts (DNI) on States- Submitted by Democratic Republic of the Congo and MOESNA**

The authors propose the development of guidelines for identifying disproportionately negative impacts (DNI) on States under the IMO Net-Zero Framework. The paper argues that, while the framework provides mechanisms to address DNI through the IMO Net-Zero Fund, it does not define the criteria or methodology for identifying affected States, and therefore calls for intersessional work to develop objective, transparent and reproducible guidelines for submission to ISWG-GHG 23.

LIFE CYCLE GHG ASSESSMENT (LCA) FRAMEWORK

Under agenda item 4 the Working Group will Further consider the development of the IMO Life Cycle GHG Assessment (LCA) framework

ISWG-GHG 22/4 **Including avoided livestock methane emissions in manure-based pathways- Submitted by the United States**

The United States proposes explicitly including avoided livestock methane emissions in the IMO LCA Guidelines for manure-based renewable natural gas (RNG) pathways. The paper argues that this is consistent with existing international fuel standards, does not expand the LCA system boundaries, and aligns with the current treatment of direct land-use change (DLUC) emissions and carbon capture and storage (CCS) in the IMO methodology.

ISWG-GHG 22/4/1 **Proposed treatment of sustainability theme/aspect 2 (carbon source) under the 2024 LCA Guidelines- Submitted by Saudi Arabia and United Arab Emirates**

The United States proposes explicitly including avoided livestock methane emissions in the IMO LCA Guidelines for manure-based renewable natural gas (RNG) pathways. The paper argues that this is consistent with existing international fuel standards, does not expand the LCA system boundaries, and aligns with the current treatment of direct land-use change (DLUC) emissions and carbon capture and storage (CCS) in the IMO methodology.

ISWG-GHG 22/4/2 **Further consideration of the use of actual well-to-tank (WtT) emission values for conventional marine fuels under the 2024 LCA Guidelines- Submitted by Saudi Arabia and United Arab Emirates**

Saudi Arabia and the United Arab Emirates propose allowing the use of verified actual well-to-tank (WtT) emission values for conventional fossil marine fuels under the IMO LCA Guidelines, subject to the same certification and verification requirements as non-fossil fuels. The paper argues that this would ensure fuel-neutral treatment, better reflect differences in upstream emissions across fossil fuel supply chains, and recognise verified emissions reductions from measures such as methane management, reduced flaring and refinery efficiency improvements.

ISWG-GHG 22/4/3 **Observations on land-use change and life cycle accounting consistency under the 2024 LCA Guidelines- Submitted by Saudi Arabia and United Arab Emirates**

The authors propose further technical work under the IMO LCA Guidelines to ensure consistent, technology-neutral life-cycle accounting across fuel pathways. The paper calls for the development of quantified approaches for indirect land-use change (ILUC), replacement of pending land-use change and soil carbon parameters, and consideration of the symmetric application of verified actual well-to-tank (WtT) emission values across all fuel pathways.

APPENDIX 1

COMPARISON MATRIX OF PROPOSALS ON THE IMO NET-ZERO FRAMEWORK

Issue	Liberia	Brazil	Tuvalu	Australia et al.
Overall approach	Fundamental redesign based on fuel availability and commercial viability	Preserve the MEPC 83 framework with limited adjustments	Strengthen ambition and economic incentives	Preserve the framework while improving implementation and governance
GFI trajectory	Gradual pathway linked to available and affordable fuels	Retains the negotiated two-tier trajectory	More stringent reduction pathway	Retains the two-tier trajectory
Fuel availability	Central criterion for setting compliance requirements	No explicit binding availability safeguard	No explicit availability safeguard	Addresses availability mainly through infrastructure support
Economic mechanism	Market-based surplus-unit system	Two-tier remedial-unit and Fund mechanism	Strong Fund-based carbon-pricing mechanism	Two-tier Fund mechanism
Tier 1 price	No equivalent fixed Fund price	To be determined	**US$300/t$CO_2$eq**	**US$100/t$CO_2$eq**
Tier 2 price	Compliance mainly through traded, banked or borrowed units	Fund units and surplus units	**US$380/t$CO_2$eq**, primarily through Fund payment	**US$380/t$CO_2$eq**, with surplus-unit flexibility
Banking and transfers	Strongly supported	Supported	Significantly restricted	Supported
Borrowing	Supported	Not clearly provided	Not supported	Not provided
ZNZ rewards	Mainly delivered through market value of surplus units	Retained through the Fund	Strongly supported	Supported through the Fund
IMO Net-Zero Fund	No equivalent compulsory central Fund	Supports retaining the Fund	Supports a strong Fund and redistribution role	Supports a Fund with detailed governance
Support for developing States	Technical support and voluntary contributions	Supports equitable implementation	Strong emphasis on SIDS and LDCs	Strong support through Fund disbursement
Cost allocation	Not a central provision	Recognises recovery from the party controlling operational decisions	Similar principle retained	Similar principle retained
Administrative burden	Lower Fund complexity, but greater market-monitoring complexity	Retains existing Registry and Fund complexity	Relatively simple compliance route but high cost	Detailed Fund, Registry and governance arrangements

APPENDIX 2

PROVISIONAL AGENDA

1. Adoption of the agenda

2. Consideration of proposals, including documents submitted to MEPC 84 and 85, previous sessions of ISWG-GHG, as well as documents submitted to ISWG-GHG 22, on how to address concerns with the draft amendments to MARPOL Annex VI on the Net-Zero Framework, in line with the 2023 IMO GHG Strategy

3. Further consideration of the draft guidelines supporting the uniform and effective implementation of IMO's mid-term measures

4. Further consideration of the development of the IMO Life Cycle GHG Assessment (LCA) framework

5. Any other business

6. Consideration of the report to MEPC 85

APPENDIX 3

PROVISIONAL TIMETABLE

Date	Agenda item
Tuesday, 1 September 2026	Opening of the session 1 Adoption of the agenda 2 Consideration proposals, including documents submitted to MEPC 84 and 85, previous sessions of ISWG-GHG, as well as documents submitted to ISWG-GHG 22, on how to address concerns with the draft amendments to MARPOL Annex VI on the IMO Net-Zero Framework, in line with the 2023 IMO GHG Strategy
Wednesday, 2 September 2026	2(cont.) Consideration proposals, including documents submitted to MEPC 84 and 85, previous sessions of ISWG-GHG, as well as documents submitted to ISWG-GHG 22, on how to address concerns with the draft amendments to MARPOL Annex VI on the IMO Net-Zero Framework, in line with the 2023 IMO GHG Strategy
Thursday, 3 September 2026	3 Further consideration of the draft guidelines supporting the uniform and effective implementation of IMO's mid-term measures
Friday, 4 September 2026	4 Further consideration of the development of the IMO Life Cycle GHG Assessment (LCA) framework 5 Any other business 6 Consideration of the report of the Working Group to MEPC 85 Closing of the session