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**Note by the International Maritime Organization (IMO) to the sixty-second session of the UNFCCC Subsidiary Body for Scientific and Technological Advice (SBSTA 62)**
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**Agenda item 13(b)**
**"Emissions from fuel used for international aviation and maritime transport"**

# UPDATE ON IMO'S WORK TO ADDRESS GHG EMISSIONS FROM INTERNATIONAL SHIPPING

**SUMMARY**

The International Maritime Organization (IMO) contributes to international action to address climate change by regulating greenhouse gas (GHG) emissions from international shipping.

Since SBSTA 61 in November 2024, IMO's Marine Environment Protection Committee (MEPC) held one session (MEPC 83) and its Intersessional Working Group on Reduction of GHG Emissions from Ships met twice (ISWG-GHG 18 and ISWG-GHG 19).

This note is an update of the IMO submission to SBSTA 61 and focusses on the latest developments on the various GHG-related workstreams at IMO, and in particular the approval of the 'IMO Net-Zero Framework' transposing the GHG reduction commitments of the *2023 IMO Strategy on reduction of GHG emissions from ships* into draft mandatory requirements for ships.

## Context

1 As previously presented in IMO submissions to SBSTA, IMO Member States unanimously adopted, in July 2023, by resolution MEPC.377(80), the *2023 IMO Strategy on reduction of GHG emissions from* ships (2023 IMO GHG Strategy), enhancing IMO's contribution to global efforts by addressing GHG emissions from international shipping and establishing timelines for the development of regulatory measures to effectively transpose the GHG reduction commitments into mandatory requirements.

2 The enhanced levels of ambition in the 2023 IMO GHG Strategy include:

.1 a confirmation of the ambition to reduce **$CO_2$ emissions per transport work (carbon intensity)**, as an average across international shipping, by at least 40% by 2030, compared to 2008;

.2 to reach at least 5%, striving for 10%, of the **energy used** by international shipping to be zero or near-zero GHG emission technologies, fuels and/or energy sources by 2030;

.3 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 of the Strategy, consistent with the long-term temperature goal set out in Article 2 of the Paris Agreement; and

.4 **indicative checkpoints** to reach net-zero GHG emissions as follows: reduce the total annual GHG emissions from international shipping by at least 20%, striving for 30%, by 2030, and by at least 70%, striving for 80%, by 2040, compared to 2008.

3 Since the adoption of the 2023 IMO GHG Strategy, IMO Member States have been actively developing the regulatory measures required to implement the Organization's decarbonization commitments. The final draft of these measures, referred to as the 'IMO Net-Zero Framework', was approved by MEPC 83 in April 2025, with a view to adoption in October 2025 at an extraordinary session of the Committee, in line with the timelines set out in the 2023 IMO GHG Strategy.

4 IMO's comprehensive set of energy efficiency regulations, in combination with the new IMO Net-Zero Framework, is designed to meet the GHG emission reduction targets set out in the 2023 IMO GHG Strategy. In parallel, IMO is also developing comprehensive global requirements and guidelines to ensure a safe and just transition of the world fleet and the maritime workforce towards net-zero GHG emissions.

**Development and approval of a basket of mid-term GHG reduction measures: the 'IMO Net-Zero Framework'**

5 As presented in previous IMO submissions to SBSTA, MEPC and its ISWG-GHG have been developing a 'basket of mid-term GHG reduction measures', aimed at delivering on the reduction targets of the 2023 IMO GHG Strategy. The measures are comprised of a technical element, namely a global marine fuel standard regulating the phased reduction of a marine fuel's GHG intensity; and an economic element, on the basis of a maritime GHG emissions pricing mechanism.

6 A comprehensive impact assessment of the potential impacts of the candidate mid-term measures on the world fleet and on States, in particular Least Development Countries (LDCs) and small islands developing States (SIDS), was initiated by MEPC 80 (July 2023). MEPC 82 (September/October 2024) noted the outcome of this assessment and agreed to take them into account, as appropriate, in the further development of the measures; and also agreed to further assess the potential impacts of the measures on food security.

7 In response, the World Maritime University (WMU) carried out a literature review, assessing the potential impacts of increased maritime transport costs resulting from GHG reduction measures in international shipping on food security and IMO organized an Expert Workshop (GHG-EW 6) to facilitate the understanding of the possible impacts of the basket of candidate measures on food security. Following consideration of the review and additional information provided by the Secretariat, MEPC 83 (April 2025) agreed that the impacts on food security are to be taken into account and addressed, as appropriate, in the further development of the measures; and to keep the future potential impacts on food security under continuous review, so that any necessary adjustments may be made.

8 Based on the various proposals on the architecture of the mid-term GHG reduction measures, set out as possible amendments to Annex VI (Prevention of air pollution from ships) of the International Convention for the Prevention of Pollution from Ships (MARPOL),

MEPC 82 (September/October 2024) produced a draft legal text (the draft 'IMO Net-Zero Framework'). This draft text was used as the basis and further developed during ISWG-GHG 18 (February 2025) and ISWG-GHG 19 (March 2025).

9 The text of the draft amendments to MARPOL Annex VI on the IMO Net-Zero Framework was finalized by the GHG Working Group at MEPC 83 (April 2025). During the consideration of the report of the Group (MEPC 83/WP.11), the delegation of Saudi Arabia requested a roll-call vote in relation to the action requested of the Committee, i.e., "to approve the draft amendments to MARPOL Annex VI on the IMO Net-Zero Framework with a view to circulation". Following the request, a roll-call vote was conducted, resulting in 63 affirmative and 16 negative votes cast, with 24 abstentions. Consequently, the Committee approved the draft amendments to MARPOL Annex VI on the IMO Net-Zero Framework, with a view to circulation.

10 The delegation of Saudi Arabia, on behalf of the delegations of Bahrain, Iran (Islamic Republic of), Iraq, Jordan, Kuwait, Lebanon, Malaysia, Oman, Pakistan, Qatar, Russian Federation, Thailand, United Arab Emirates, Venezuela (Bolivarian Republic of) and Yemen, opposed the approval of the draft amendments and their circulation and reserved their position with regard to the adoption of the amendments at the extraordinary session.

11 The delegation of Tuvalu, on behalf of the delegations of Fiji, Kiribati, Marshall Islands, Nauru, Palau, Tonga, Vanuatu, Seychelles and Solomon Islands, abstained during the vote, and expressed their disappointment with the approved draft amendments, referring in particular to their lack of climate ambition and the implications for the future of maritime decarbonization, as well as the ability to generate sufficient revenue to support a just and equitable transition.

12 Following the approval of the draft amendments on the IMO Net-Zero Framework and as requested by the Committee, the Secretary-General circulated a draft Revised MARPOL Annex VI 2025 (Circular Letter No. 5005) to all IMO Member States, in accordance with MARPOL article 16, with view to adoption at the aforementioned extraordinary session of MEPC (MEPC/ES.2) in October 2025. Following its adoption, the Revised MARPOL Annex VI 2025 is expected to enter into force in March 2027.

**Key elements of the draft 'IMO Net-Zero Framework'**

13 The goal of the IMO Net-Zero Framework is to achieve the climate targets set out in the 2023 IMO GHG Strategy; accelerate the introduction of zero and near-zero GHG fuels, technologies and energy sources by providing regulatory certainty to the industry and fuel providers; and support a just and equitable transition.

14 When adopted, the IMO Net-Zero Framework will be included in a new Chapter 5 of MARPOL Annex VI and will apply to ships of 5,000 gross tonnage (GT) and above. Under the draft regulations, ships will be required to comply with a:

.1 Global fuel standard: ships will be required to reduce, over time, their annual GHG fuel intensity (GFI), i.e. how much GHG is emitted for each unit of energy used, on the basis of a 'well-to-wake' emissions approach and using the *IMO Guidelines on Life cycle GHG intensity of marine fuels* (LCA Guidelines); and

.2 Global economic measure: ships emitting above GFI thresholds will have to balance their compliance deficit by acquiring remedial units by means of pricing contributions to the IMO Net-Zero Fund; while over-compliant ships

will generate surplus units; and those using zero or near-zero GHG technologies will be eligible for financial rewards disbursed by the IMO Net-Zero Fund.

15 The GFI reduction factors will be set annually and will be based on a two-tier compliance approach: a direct compliance target and a base target. Ships emitting above the set thresholds will balance their compliance deficit by acquiring remedial units through pricing contributions to the IMO Net-Zero Fund; while for emissions above the base target thresholds the deficit can also be balanced by using surplus units banked from previous reporting periods or surplus units transferred from other ships.

16 An IMO GFI Registry will be established and administered by the IMO Secretariat to ensure compliance and facilitate the implementation of the IMO Net-Zero Framework, by recording all actions (banking, cancellations, credit, etc.) and transfers of units in each ship's account in the Registry. For each ship and reporting period, an annual ship account statement will be issued by the Registry, reflecting how the ship complied with the requirements and its potential eligibility to receive rewards for the use of zero or near-zero GHG emission technologies, fuels and/or energy sources (ZNZs).

17 An IMO Net-Zero Fund will be established to collect, manage and disburse generated revenues through the acquisition of remedial units. The Fund will operate in accordance with governing provisions to be developed by MEPC. The day-to-day operation of the Fund will be overseen by a Governing Board, appointed by the Committee ensuring a gender and geographically balanced composition and adequate representation of developing countries, in particular SIDS and LDCs.

18 The revenue will be used for the disbursement of rewards to ships for the use of ZNZs and, in the context of the implementation of the IMO Net-Zero Framework, promote a just and equitable transition in States by facilitating environmental and climate protection, adaptation and resilience-building within the boundaries of the energy transition in shipping, paying particular attention to the needs of developing countries, in particular LDCs and SIDS, for:

.1 researching, developing and making globally available and deploying ZNZs, supporting the energy transition of shipping, and developing the necessary maritime, coastal and port-related infrastructure and equipment;

.2 enabling a just transition for seafarers and other maritime workforce;

.3 facilitating information-sharing, technology transfer, capacity building, training and technical cooperation supporting the implementation of the IMO Net-Zero Framework;

.4 supporting the development and implementation of National Action Plans (NAPs), including fleet renewal and upgrade; and

.5 addressing, as appropriate, disproportionately negative impacts on States, including on food security, resulting from the implementation of the IMO Net-Zero Framework.

19 The IMO Net-Zero Framework also introduces a framework for certification of sustainable fuels to certify the ship's attained annual GFI; enhances the assessment of possible impacts of the measures on food security by inviting the Committee to keep under review the potential impacts of the new chapter on food security; and explicitly supports the promotion of technical cooperation and transfer of technology by inviting Administrations to

cooperate amongst them, as well as with the Organization and other international organizations in respect of the implementation of the new measures.

20 MEPC 83 requested the Secretariat to prepare a draft work plan to prepare for the entry into force of the IMO Net-Zero Framework, for consideration by MEPC/ES.2.

**Life cycle GHG intensity assessment (LCA) of marine fuels**

21 MEPC 80 adopted *Guidelines on life cycle GHG intensity of marine fuels* (LCA Guidelines), allowing for a Well-to-Wake (WtW) calculation, including Well-to-Tank (WtT) and Tank-to-Wake (TtW) emission factors, of total GHG emissions related to the production and on-board use of marine fuels. The LCA Guidelines are a key implementation instrument for the IMO Net-Zero Framework as they provide a robust international framework to assess the GHG intensity and sustainability of marine fuels with the overall objective of reducing GHG emissions within the boundaries of the energy system of international shipping and preventing a shift of emissions to other sectors.

22 MEPC 81 adopted *2024 Guidelines on life cycle GHG intensity of marine fuels* (2024 LCA Guidelines), including amendments on a revised calculation for default emission factors and new templates for their submission; and established a Working Group on Life Cycle GHG Intensity of Marine Fuels under the UN's Joint Group of Experts on Scientific Aspects of Marine Environmental Protection (GESAMP LCA-WG).

23 The GESAMP LCA-WG was tasked to provide the best possible scientific and technical assessment of issues related to the implementation of the LCA Guidelines, such as methodological refinement of the emission quantification to ensure the integrity of the data provided, refine and explore indicators and approaches under the sustainability themes/ aspects, and methodological requirements with regard to certification.

24 The Group is currently composed of 12 experts, acting in their individual capacity, and held its first in-person meeting in September 2024, followed by three virtual sessions in October and November 2024, while experts work continued by correspondence.

25 Following the recommendations of the Group, MEPC 83 approved the *Methodology for submission, scientific review and recommendation of proposed default emission factors by GESAMP-LCA WG* (MEPC.1/Circ.916) and invited further nominations of experts. The Group will meet in June/July and November 2025 to review proposals for default emission factors and methodological issues in the LCA Guidelines. The report of the sessions will be considered by MEPC 84 in Spring 2026.

26 The IMO Net-Zero Framework introduces the fuel lifecycle label (FLL) as a technical tool to convey information relevant for the LCA of a marine fuel. This will be an important tool to document a fuel's sustainability across the fuel value chain. Details on the operationalization of the FLL will need to be provided in guidelines to be developed. The IMO Net-Zero Framework also envisages recognition by the Committee of Sustainable Fuel Certification Schemes (SFCS) to certify, as appropriate, GHG emission factors and sustainability themes or aspects of a marine fuel.

27 MEPC 83 adopted, by resolution MEPC.402(83), *Guidelines for test-bed and onboard measurements of methane ($CH_4$) and/or nitrous oxide ($N_2O$) emissions from marine diesel engines.* These Guidelines provide an emission measurement protocol and procedures for documentation and verification of emission values, based on the well-established methodologies of IMO's $NO_x$ Technical Code 2008.

28 MEPC 83 approved a *Work plan on the development of a regulatory framework for the use of onboard carbon capture and storage (OCCS),* in order to reduce net GHG emissions from ships without negatively affecting the environment, and re-established a Correspondence Group to advance regulatory developments on these issues.

**Fifth IMO GHG Study**

29 To support evidence-based decision-making when addressing GHG emissions from international shipping, IMO regularly commissions studies to estimate global emissions from the sector and project possible developments. The Fourth IMO GHG Study was published in 2020, providing emission inventories, carbon intensity trends as well as emission projections for global shipping.

30 MEPC 84 (Spring 2026) will further consider the commission of a Fifth IMO GHG Study to inform, inter alia, the review of the 2023 IMO GHG Strategy, expected to be finalized in the spring of 2028.

**Update on emissions and the carbon intensity and efficiency of the fleet**

31 Since 2019, ships of 5,000 gross tonnes (GT) and above (which produce approximately 85% of the total $CO_2$ emissions from international shipping) are required to collect consumption data for each type of fuel oil they use as well as other specified information. This data helps to inform the development of measures to reduce GHG emissions from ships and monitor developments in annual carbon intensity improvements using both demand-based measurements (based on estimates of cargo transported) and supply-based measurements (based on capacity).

32 The latest report of fuel oil consumption data submitted to the IMO database shows that, in 2023, 28,620 ships consumed 211 million tonnes of fuel (versus 213 million tonnes in 2022). It also shows a continued increase in the use of alternative marine fuels (LNG, methanol, biofuels, etc.), representing approximately 6.5% of global ships' fuel consumption (versus 5.3% in 2022).

33 The second report on carbon intensity developments, using both methods and covering the period from 2019 to 2023, shows a greater decrease in carbon intensity in 2023, compared to the period from 2019 to 2022. Possible reasons for this result are the entry into force, in 2023, of the short-term GHG reduction measures (EEXI and CII rating), and the changes in global shipping routes necessitated by geopolitical events, leading to longer voyages.

34 Overall, the analysis of reported fuel consumption data shows that the average supply-based and demand-based carbon intensity has reduced by 31.0% and 36.5%, respectively, in 2023, compared to 2008.

**Implementation and review of the short-term GHG reduction measure**

35 Following the adoption by MEPC 80 (July 2023) of the *Review plan of the short-term GHG reduction measure*, to be completed by 1 January 2026, MEPC 82 continued its work to review the short-term measure currently in force to reduce GHG emissions from ships by enhancing the energy efficiency of the global fleet. These regulations, adopted in 2021 and effective since 1 January 2023, require existing ships to measure their energy efficiency by calculating their attained Energy Efficiency Existing Ship Index (EEXI) and to continuously improve their annual operational carbon intensity indicator (CII) rating.

36 MEPC 82 agreed on a two-phase approach to address a number of key challenges or gaps identified in the implementation of the short-term measures over the past years, ranging from CII impact on individual ships assessments or operational energy efficiency performance and potential penalization of ships on short voyages to the lack of incentivization for port call efficiency and just-in-time (JIT) arrival of ships. The timeframe foresees addressing some challenges and gaps before 1 January 2026 (Phase 1), while others will be addressed after 1 January 2026 (Phase 2).

37 MEPC 83 finalized Phase 1 by adopting amendments to the *2021 Guidelines on the operational carbon intensity reduction factors relative to reference lines* (resolution MEPC.400(83)) and defining new CII reduction factors for 2027 to 2030, resulting in a 21.5% reduction in 2030 compared to 2019.

38 The delegation of Saudi Arabia, supported by the delegations of Iran (Islamic Republic of), Kuwait, Malaysia, Oman, Russian Federation, Somalia, Thailand and Venezuela, expressed concerns regarding the newly defined CII reduction factors for the period 2027 to 2030. These delegations stated, inter alia, that the report of the relevant Working Group did not adequately reflect the views of all Member States; that the reduction targets developed by the Group would be unachievable and impose an excessive burden on countries and jeopardize economic sustainability, in particular for developing countries and countries with limited access to fuel, technologies and infrastructure; that additional capacity-building efforts would be needed; that the discussion did not take into account all aspects of the issue; that the impact on States of the proposed CII values should be assessed and addressed; and that future discussions should be better balanced to ensure that no country would be left behind. The delegations of Saudi Arabia, Iran (Islamic Republic of) and Venezuela reserved their position on the adoption of the CII reduction (Z) factors for 2027 to 2030.

39 The delegations of Fiji, Kiribati, Marshall Islands, Tonga, Tuvalu and Vanuatu, in acknowledging the compromise achieved as reflected in the Working Group report, expressed the view that the agreed CII reduction factors for 2027 to 2030 were insufficient to achieve the strive targets of the 2023 IMO GHG Strategy.

40 MEPC 83 also approved a *Work plan for Phase 2 of the review of the short-term GHG reduction measure* (2026 to 2028) including the following work streams: enhancing the Ship Energy Efficiency Management Plan (SEEMP) framework; further developing CII metrics; and considering synergies between IMO carbon intensity/energy efficiency framework and the IMO Net-Zero Framework.

**Development of the necessary safety regulatory framework allowing safe handling of future marine fuels on board of ships**

41 IMO's Maritime Safety Committee (MSC) re-established, at its 108th session (May 2024), a Correspondence Group on the Development of a Safety Regulatory Framework to Support the Reduction of GHG Emissions from Ships using New Technologies and Alternative Fuels and tasked it to capture detailed information on new technologies and alternative fuels previously listed, and to assess safety obstacles and gaps in existing regulations for the use of these new technologies.

42 MSC 109 (December 2024) endorsed the addition of "swappable traction lithium-ion battery containers" to the list of new technologies developed by the Correspondence Group, which will continue its intersessional work and report to MSC 110 (18 to 27 June 2025).

43 In addition, MSC 109 approved draft *Interim guidelines for the safety of ships using ammonia as fuel*, developed by the Sub-Committee on Carriage of Cargoes and Containers

(CCC), and endorsed the updated work plan of the CCC Sub-Committee for the development of guidelines for new alternative fuels, including:

.1 interim guidelines for the safety of ships using hydrogen as fuel, with a view to approval at MSC 111 in 2026; and

.2 interim guidelines for ships using low flashpoints oil fuels and revision of the interim guidelines for ships using methyl/ethyl alcohol as fuel, with a view of finalization in 2025.

44 In terms of training for seafarers on ships using alternative fuels and new technologies, the Sub-Committee on Human Element, Training and Watchkeeping (HTW), recognized, at its eleventh meeting (February 2025), the maritime industry's need for technical and detailed guidance on training of seafarers on ships using alternative fuels and new technologies, including addressing different risk profiles; and agreed that such guidance should be provided by both generic interim guidelines, applicable across the whole industry and relevant to all alternative fuels and new technologies, and individual sets of fuel/ technology-specific interim guidelines, closely aligned with the safety provisions developed by other IMO bodies.

45 HTW 10 agreed on draft generic interim guidelines on training for seafarers on ships using alternative fuels and new technologies, with a view to approval by MSC 110.

**Capacity-building, technical cooperation and other supporting activities**

46 IMO supports developing countries, in particular SIDS and LDCs, in addressing GHG emissions from international shipping through its Technical Cooperation (TC) programs, a dedicated TC fund and a wide portfolio of projects dedicated to climate action. In addition, the IMO multi-donor GHG Trust Fund, established in 2019, continues to fund important projects and studies supporting the implementation of the 2023 IMO GHG Study and inform decision making on IMO's GHG reduction measures.

47 In February 2025, IMO organized a "Regional Workshop on the implementation of the 2023 IMO GHG Strategy and the Green Transition of Shipping in Africa". The workshop, gathering more than 200 representatives from 37 African countries, provided a platform to exchange experience and discuss challenges and opportunities from shipping decarbonization in Africa. The policy recommendations were consolidated in a *Roadmap for Maritime Decarbonization and Just Transition in Africa*, which includes follow-up actions in the following areas: sustainable shipping governance; shipping and port infrastructure development; and job creation and training skills.

48 The IMO Future Fuels and Technology (FFT) project, funded by the Republic of Korea, supports the regulatory discussions on GHG reduction measures from international shipping at MEPC and its subsidiary bodies. To achieve its goal, the FFT Project conducts global studies/research to support IMO Member States' evidence-based decision-making; provides easy and free-of-charge access to the latest information on zero and near-zero marine fuels and technologies through a dedicated online portal; and promotes communication and knowledge sharing to foster cooperation and collaboration among stakeholders to achieve the targets of the 2023 IMO GHG Strategy. The FFT Project is organizing a Technical Seminar on Onboard Carbon Capture and Storage (OCCS) Systems, taking place in September 2025, to enhance the understanding of the latest developments in OCCS technology, infrastructure readiness and relevant environmental, safety and human element perspectives.

49 The GreenVoyage2050 Programme has officially entered its Phase II (2024-2030) with over USD21 million in funding from the Governments of Denmark, Finland, France, Germany, Netherlands and Norway. Under this phase, the Programme will be expanded annually through an open call inviting new partner countries. In 2025, nine countries joined the Programme and are receiving targeted support, i.e. Bangladesh, Egypt, Ghana, Mexico, and Nigeria are developing National Action Plans (NAPs) for Green Shipping, while India, Indonesia, Türkiye and Viet Nam are undertaking feasibility studies for pilot projects. Strategic partnerships have also been strengthened, including with the GIZ's International PtX Hub, to advance the uptake of alternative fuels. In parallel, the Programme is developing a new grant facility to enable co-funding of innovative low- and zero carbon pilot projects in developing countries. Through its Global Industry Alliance (GIA) to Support Low Carbon Shipping, the Programme is developing practical tools (including a Wind Propulsion Technology Guide based on real-world user experience, and a questionnaire for alternative fuel producers) and is collaborating with the Port of Tema (Ghana) on JIT arrival of ships to reduce emissions and improve port efficiency. The Programme has also launched dedicated youth outreach activities to raise awareness of maritime decarbonization and inspire future leaders in the sector.

50 The IMO CARES (Coordinated Actions to Reduce Emissions from Shipping) project (approximately USD1.6 million, 2022-2025), funded by Saudi Arabia, focusses on assisting SIDS and LDCs to identify suitable market-ready technology solutions that will help improve the efficiency of selected vessels and/or ports, and reduce operational costs and GHG emissions. A central activity was IMO Cares Global Technology Challenge, which selected four innovative proposals focused on renewable energy, waste-to-energy systems, vertical axis wind turbines, and port call data sharing solutions. The project supported the development of in-depth technical proposals by the winning technologies and host countries and these projects are now being implemented in Africa and the Caribbean. Additionally, a report titled *Decarbonization of Domestic Shipping: Insights from Africa and the Caribbean* was developed, highlighting key actions including national plans, stakeholder collaboration, infrastructure, fleet renewal, and capacity building, while evaluating green technologies and the role of pilot projects in advancing clean technology adoption.

51 The Global Maritime Technology Cooperation Centres Network (GMN) project, funded by the European Union, is in its second Phase (€10 million, 2024-2027) with the main focus being the implementation of six technology demonstration pilot projects aimed at reducing GHG emissions from ports and domestic vessels (under 5,000 GT) in Africa (Mauritius and Namibia), the Caribbean (St. Kitts and Nevis and Trinidad and Tobago), as well as in the Pacific and Latin America regions. The GMN II project specifically supports developing countries, with a focus on LDCs and SIDS, in meeting IMO's energy-efficiency and GHG reduction targets.

52 The Sustainable Maritime Transport Training Programme (GHG-SMART), funded by the Republic of Korea (USD4.5 million, 2020 to 2026), supports SIDS and LDCs with the implementation of the 2023 IMO GHG Strategy through capacity-building in maritime decarbonization, with annual training cycles comprised of theoretical and practical sessions and study visits complemented with post-training scholarships at the World Maritime University. Since 2022, around 80 professionals from 47 SIDS and LDCs from Africa, Asia and the Caribbean and Pacific regions have been trained on relevant regulatory, policy, technological and financial aspects of maritime decarbonization. The programme is currently in the process of operationalizing an alumni network of maritime professionals trained in maritime decarbonization from SIDS and LDCs to further strengthen international and regional collaboration.

53 The IMO-UNEP-Norway Innovation Forum (USD 647,316, funded by Norway) is an annual global joint initiative between IMO and the United Nations Environment Programme

(UNEP) and the Government of Norway, bringing together a broad spectrum of stakeholders to champion innovation and accelerate the transition of the maritime sector towards a zero- and low emission future, with a focus on the needs of developing countries, SIDS and LDCs.

54 The SMART-C GHG Project (2023-2027, USD4 million, supported by the Republic of Korea) is providing tailor-made support to Viet Nam and the Philippines for development of their National Action Plans and implementation of the 2023 IMO GHG Strategy.

55 The Voluntary Multi-Donor Trust Fund (VMDTF), established in March 2023 to assist the in-person attendance of developing countries, especially SIDS and LDCs, in IMO meetings, specifically MEPC and ISWG-GHG, as well as other meetings related to GHG matters, funded the attendance of 59 representatives from 45 countries at three sets of MEPC and ISWG-GHG meetings in 2025, as well as the participation of representatives of countries at the GHG-EW 6 meeting on the possible impacts of the basket of candidate measures on food security. This assistance allowed for an increased and more diverse in-person attendance of representatives from developing countries across the different UN regions, especially from SIDS and LDCs, to participate in these important discussions.

56 The Maritime Just Transition Task Force (MJTTF) was launched at COP 26 in Glasgow by the IMO Secretariat, along with the International Chamber of Shipping (ICS), the International Transport Workers' Federation (ITF), the United Nations Global Compact and the International Labour Organization (ILO), to ensure a people-centred transition to a zero-carbon shipping industry. It is the first global sectoral task force dedicated to a just transition, enabled by the international nature of the maritime industry. Recent efforts of the Task Force focused on training aspects for seafarers on ships powered by ammonia, methanol and hydrogen, including the development of a Train-the-Trainer Programme on Alternative Fuels for Sustainable Shipping.

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