Recent Topics at IMO

— Outline of Discussion at IMO Committees —

External Affairs Department, Research and Development Division, ClassNK

1. INTRODUCTION

This article introduces recent topics discussed at International Maritime Organization (IMO). At the previous issue, a summary of the topics discussed at 81st Marine Environment Protection Committee (MEPC 81) held in March 2024 and 108th Maritime Safety Committee (MSC 108) held in May 2024 was provided.

This article provides a summary of the decisions taken at 82nd Marine Environment Protection Committee (MEPC 82) held from 30 September to 4 October 2024 and 109th Maritime Safety Committee (MSC 109) held from 2 to 6 December 2024 as below.

2. OUTCOMES OF MEPC 82

2.1 Greenhouse Gases (GHG)

Reduction of greenhouse gas (GHG) emissions to address global warming is a universal challenge, and the measures to reduce GHG emissions from international shipping have been deliberated at IMO. Such measures introduced at the IMO so far include the regulation of Energy Efficiency Design/Existing Ship Index (EEDI/EEXI), retaining of the Ship Energy Efficiency Management Plan (SEEMP) onboard, and reporting annual fuel oil consumption data in the IMO Data Collection System (IMO DCS) and its Carbon Intensity Indicator (CII) rating. At MEPC 80 held in July 2023, the 2023 IMO Strategy on Reduction of GHG Emissions from Ships (2023 IMO GHG Strategy) was adopted, establishing the IMO's reinforced levels of ambition (see table below) and proposed measures for GHG reduction, to lead further discussions with an aim to accomplish the goals of GHG reduction from international shipping.

Table 1 Levels of Ambition Adopted at MEPC 80

Target year	Levels of ambition and indicative checkpoints (as of 2023)
2030	• To reduce CO2 emissions per transport work by at least 40% (compared to 2008) • To reduce total annual GHG emissions by at least 20% (striving for 30%) (compared to 2008) • Uptake of zero GHG emission fuels etc. to represent at least 5% of the energy used (striving for 10%)
2040	• To reduce total annual GHG emissions by at least 70% (striving for 80%) (compared to 2008)
2050	• To reach net-zero GHG emissions by or around 2050 at the latest

At this session, MEPC 82 held continued discussions on developing mid-term measures for reduction of GHG along with various topics such as the review of short-term measures (namely EEXI and CII), further operationalization of the Guidelines for Life Cycle GHG Intensity of Marine Fuels, etc.

2.1.1 Mid-Term Measures for Reduction of GHG

2023 IMO GHG Strategy sets out that, as mid-term measures for achieving the GHG reduction targets for international shipping, a basket of candidate mid-term measures should be developed comprising both a "technical element", which is a goal-based marine fuel standard regulating the phased reduction of the marine fuel's GHG emission per unit energy (i.e. GHG intensity), and an "economic element", which is based on a maritime GHG emission pricing mechanism.

The following work plan was previously agreed at MEPC 80 for developing mid-term measures, aiming for entry into force by 2027:

Table 2　Work plan for developing mid-term measures

Timeline	Work Item
2023-2024	Conduct a comprehensive impact assessment (CIA) to assess potential impacts towards various countries and international shipping posed by combinations of respective basket of measures, and finalize the mid-term measures
2025	Approval and adoption of the mid-term measures
2027	Entry into force of the mid-term measures

At the previous session, the “IMO net-zero framework” was agreed, illustrating an outline of regulatory amendments to be considered, and the IMO Member States and international organizations were then invited to continue with discussions towards finalizing mid-term measures on the basis of the framework.

Furthermore, the results from the CIA, which was conducted by organizations such as UNCTAD etc., were submitted as reports to this session in order to take into account the corresponding results in developing the proposed basket of candidate measures.

At this session, the various points of discussion regarding mid-term measures were consolidated as text options for relevant regulations; however, the Committee was not able to finalize the draft mid-term measures. Many unresolved topics still remain, such as calculating methods of GHG emissions on the life cycle basis, the level of GHG intensity and pricing regulations to be set out, and management and distribution of revenues collected through the pricing mechanism. Further discussions will continue with the aim to adopt mid-term measures within 2027.

Regarding the results from the CIA, a number of delegations expressed concerns that the impacts to States from transportation cost perspectives, in particular on essential food commodities, have not been properly assessed. Thus, it was agreed to carry out further work on assessing consequential impacts in terms of food security.

2.1.2　Review of Short-Term Measures for Reduction of GHG

MARPOL Convention Annex VI prescribes that a review of the EEXI (Energy Efficiency Existing Ship Index) and CII rating regulations, introduced by IMO as short-term measures, shall be completed by 1 January 2026 to assess their effectiveness.

In addition, it was agreed to investigate the effectiveness of the CII rating regulations in terms of a number of proposals submitted by Member States and international organizations, addressing concerns such as ship sizes and operational conditions both positively and/or negatively affecting the CII rating.

At this session, initial analysis on the available data and proposals from Member States and international organizations was conducted in order to proceed with the review of the short-term measures. This session also developed a consolidated list of challenges and gaps in the short-term measures, which will be used as the base document for subsequent discussions at the relevant Correspondence Group and Intersessional Working Group.

2.1.3　Operationalization of the Guidelines on Life Cycle GHG Intensity of Marine Fuels

For low/zero-carbon fuels, such as hydrogen, ammonia and biomass-based fuels which are expected to become more widely used in the future to decarbonize ships, it has been recognized that GHG emissions during manufacturing and distribution processes of these fuels should be taken into account. It is also recognized that GHG other than CO2, such as methane (CH4) and nitrous oxide (N2O), may cause significant impact on global warming.

At the previous session, amendments were made to the LCA Guidelines adopted at MEPC 80 and were adopted as the 2024 LCA Guidelines, and it was also agreed that further investigations will be pursued by the Working Group on the Life Cycle GHG Intensity of Marine Fuels (GESAMP-LCA WG) newly established under GESAMP so as to seek their scientific review and advice.

At this session, Member States and international organizations were invited to submit proposals for default emission factors in order to allow the GESAMP-LCA WG to review default emission factors for each fuel. Also, Member States and international organizations were further invited to propose a certification framework for sustainable fuels to MEPC for consideration by GESAMP-LCA WG in developing a fuel certification scheme.

2.1.4　Guidance for Collecting Data in IMO DCS

At the previous session, the amendments to MARPOL Annex VI Appendix IX were adopted, including the amendments and additions to the items required to be reported in the IMO DCS, such as total fuel oil consumption per combustion systems and

actual transport work. These amendments will enter into force on 1 August 2025, but the Parties are further invited to consider early application of the amendments from 1 January 2025.

However, having noted that the data reported to IMO is collected annually per calendar year, it was pointed out that the data collected before and after the date of entry into force may contain data in an inconsistent format.

At this session, in order to allow data reporting in a consistent format throughout the year 2025, a guidance was approved, which essentially allows that data collection according to the amended data format may be commenced from 1 January 2026 for existing ships. It was also confirmed that the guidance does not preclude a voluntary early application of the amendments. Also refer to ClassNK Technical Information TEC-1339 for detailed application schedule and procedures etc.

2.1.5 Initiation of the Fifth IMO GHG Study

IMO periodically conducts a study, providing estimates such as GHG emissions from international shipping. The most recent study was the Fourth IMO GHG Study published in 2020, which presents the emission statistics between 2012 and 2018 and also GHG emission per transport work. It is to be noted that the GHG emission considered in the Study is only associated with onboard (Tank-to-Wake) emissions.

The 17th session of Intersessional Working Group on Reduction of GHG (ISWG-GHG 17), held immediately before this MEPC session, initiated the consideration of Fifth IMO GHG Study by discussing its Terms of Reference. During the discussions, some comments were made, such as: not only the GHG emissions in 2008, which essentially is considered as the baseline for emissions from international shipping, but also carbon concentration in fuels should be determined; and GHG emissions should be calculated on the Well-to-Wake basis.

It was then agreed at this session to continue with detailed discussions on the Terms of Reference of the Fifth IMO GHG Study at the next session, taking into account the views shared and comments raised at this session.

2.2 BWM Convention

2.2.1 Modifications to Ballast Water Management Systems (BWMS) with Existing Type Approval

There have been cases reported, where type-approved BWMS are modified or have their model changed after their installation, such as when the system is found no longer compliant with the Regulation D-2 of the Ballast Water Management (BWM) Convention due to various consequences. Such modifications and changes comprise not only removal of filters but also changes made in UV transmittance system and dosage of active substances. Given that varying approaches are being taken by Member States on whether new type approval should be necessary after such modifications or changes, the industry suggested aligning the views in this regard.

At this session, the amended Guidance for Administrations on the Type Approval Process for Ballast Water Management Systems (MEPC.2/Circ.43/Rev.2) was approved, listing detailed examples of BWMS components and providing guidance on when a new type approval should be necessary or not.

2.2.2 Review of BWM Convention

The Correspondence Group on Review of the BWM Convention reported to this session the progress of its work being undertaken since MEPC 80 and held further in-person discussions. The Correspondence Group will continue its work, which will further be reported to MEPC 83.

When BWM Convention entered into force in 2017, it was agreed to monitor the application and to review the effectiveness of the Convention through the experience building phase (EBP), and MEPC 80 approved the Convention Review Plan (CRP) which comprises the list of issues that need to be finalized. MEPC 81 further endorsed the list identifying items that need to be amended within the BWM Convention, BWMS Code and relevant guidelines and guidance, based on the review undertaken by the Correspondence Group.

At this session, the following topics were discussed with an aim to establish common understanding to facilitate further work by the Correspondence Group:

- BWMS maintenance procedures;
- Standardization of BWMS data logs and export files;
- Relationship between BWMS testing conditions and treatment rated capacity (TRC);
- BWMS test duration;
- Test water conditions; and
- Type of analysis of ballast water discharges during surveys.

It was also concluded that the Correspondence Group will not proceed with the consideration of the proposal for regulating disinfection by-products (DBPs) in discharges from BWMS that make uses of active substances, given that the matter is not mature enough for consideration.

2.3 Others

2.3.1 Ship Recycling Convention

To conduct dismantling of ships in a safe manner and under appropriate management without environmental pollution, the Ship Recycling Convention (formally “the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009”, a.k.a. “the Hong Kong Convention”) will enter into force on 26 June 2025, where the Convention will apply to all ships of 500 GT or over flying the flag of a ratified Party (see ClassNK Technical Information TEC-1311). On the other hand, the Basel Convention which entered into force in 1992 (and its 1995 amendment) prohibits all transboundary movements to particular States of hazardous wastes covered by the Convention that are intended for final disposal.

At the previous session, concerns were raised where ships compliant to the Ship Recycling Convention may not proceed with the final voyage due to the Basel Convention; therefore, the interplay between the Conventions was further investigated.

At this session, the provisional IMO guidance was approved, clarifying that States that are Parties to both the Ship Recycling Convention and the Basel Convention should consider notifying the Secretariat of the Basel Convention so as to express that the States understand that the provisions of the Basel Convention should not affect the transboundary movements that take place pursuant to the Ship Recycling Convention. Member States and IMO Secretariat were also encouraged to continue sharing relevant information towards the implementation of the Ship Recycling Convention.

2.4 Amendments to Mandatory Instruments

2.4.1 Addition of Nitrogen Oxides (NOx), Sulphur Oxides (SOx) and Particulate Matter (PM) Emission Control Areas (ECA)

Amendments to MARPOL Annex VI were adopted, designating Canadian Arctic area and Norwegian Sea area as ECA and also including detailed dates relevant to the ship’s construction into the Form of the Supplement to IAPP Certificate. The amendments will enter into force on 1 March 2026.

The sulphur content in fuel oil used for ships operating in these ECA will be limited to 0.10% from 1 March 2027. Furthermore, the NOx Tier III emission limit will be applied to the following ships operating in these ECA:

Table 3 Application of NOx Tier III limitations

Canadian Arctic ECA	• Ships the keels of which are laid or that are at a similar stage of construction on or after 1 January 2025
Norwegian Sea ECA	• Ships for which the building contract is placed on or after 1 March 2026 • In the absence of a building contract, ships the keels of which are laid or which are at a similar stage of construction on or after 1 September 2026 • Ships delivered on or after 1 March 2030

3. OUTCOMES OF MSC 109

3.1 Adopted Mandatory Requirements

Mandatory requirements were adopted at MSC 109 as follows:

(1) Amendments to IGC Code

Amendments to chapter 16 of the IGC Code to make cargos identified as toxic products conditionally usable as fuel, in view of the launch of ammonia-fuelled vessels were adopted. In addition, the MSC circular to invite a voluntary early implementation of the amendments was also released.

(2) Amendments to IGF Code

Amendments to IGF Code regarding suction wells installed in fuel tanks, pressure relief valves of piping system, segregation and insulation of boundary of accommodation spaces and others facing the fuel tanks, hazardous area etc. were adopted as a part of the task for amendments to the IGF Code and development of guidelines for alternative fuels and related technologies.

3.2 Approved Mandatory Requirements

The following mandatory requirements were approved at this session and are expected to be adopted at MSC 110 to be held in June 2025.

(1) Amendments to HSC Code

Amendments to 1994 HSC Code and 2000 HSC Code regarding the numbers of lifejackets for infants and adults weighing up to 140 kg.

(2) Amendments to IGC Code

Amendments to Chapter 1 to 5, 8 to 13 and 15 to 19 of the IGC Code regarding the filling limit, requirements of using cargo other than LNG as a fuel, special requirements for carbon dioxide, etc.

(3) Amendments to SOLAS regulation II-1

Amendments to SOLAS regulation II-1/56 to include gaseous fuels irrespective of flashpoint in application of IGF Code in addition to low-flashpoint fuels.

3.3 Approval of Unified Interpretations (UIs), Guidelines and Guidance etc.

The following unified interpretations (UIs), guidelines, guidance and etc. were approved during MSC 109.

3.3.1 UIs

(1) Unified interpretation of SOLAS regulation III/20.8.4 and 20.11, and resolution MSC.402(96)

Unified interpretation of SOLAS regulation III/20.8.4 and 20.11 to clarify that SOLAS regulation III/20.11 and resolution MSC.402(96) should also be applicable to inflated rescue boats

(2) Unified interpretation of SOLAS regulation II-2/4.5.6.1 and 20.11, and paragraph 3.1.2, 3.1.4 and 3.5.3 of the IBC Code

Unified interpretation of SOLAS regulation II-2/4.5.6.1 and 20.11, and paragraph 3.1.2, 3.1.4 and 3.5.3 of the IBC Code regarding gas-freeing air-supply piping system located outside of the cargo area

(3) Unified interpretation of SOLAS regulation II-2

1. Unified interpretation of SOLAS regulation II-2/4.5.3.2.2 and 11.6.3.2 clarifying the secondary means of venting cargo tanks; and
2. Unified interpretation of SOLAS regulation II-2/11.4.1 regarding the definition of crowns for machinery spaces of category A

(4) Unified interpretation of SOLAS regulation II-1

Unified interpretation of SOLAS regulation II-1/26.2 regarding the reliability of single essential propulsion components

3.3.2 Guidelines and Guidance etc.

(1) Revised standards for the design, testing and locating of devices to prevent the passage of flame into cargo tanks in tankers

Amendments to standards for the design, testing and locating of devices to prevent the passage of flame into cargo tanks in tankers (MSC.1/Circ.677) to incorporate the previous amendment made (MSC.1/Circ.1324) and updating references.

(2) Interim guidelines for ships using ammonia as fuel

Interim guidelines for ships using ammonia as fuel, as a part of the task for amendments to the IGF Code and development of guidelines for alternative fuels and related technologies. The interim guidelines do not address ships using ammonia cargo as fuel.

3.4 Goal-based Standards (GBS)

GBS, as stipulated in SOLAS II-1/3-10, is applied to oil tankers and bulk carriers of 150m in length and above. Design and construction of these ships shall comply with rules deemed as compliant with GBS.

Further, GBS requires maintenance of verification to the rules as conforming to the goals and functional requirements of GBS based on the GBS Verification Guidelines (MSC.454(100)).

At this session, the GBS audit report and actions taken by the IACS for the 2022 amendments to IACS Recommendation No.34 (Rec.34/Rev.2), which provides wave scatter diagram to be used as the basis for the IACS Common Structural Rules (CSR) were considered, and it was agreed to add more detailed information about the wave data.

3.5 Consideration of Requirements for Maritime Autonomous Surface Ships (MASS)

In the recent development of MASS, it has been discussed at MSC on an international instrument of MASS (MASS Code). Non-mandatory MASS Code mainly on goal and functional requirements for items such as safety, operation, security, etc. is currently under consideration.

At this session, based on the report by the intersessional working group (ISWG) meeting held in September 2024, chapters of Risk Assessment (Chapter 7), Connectivity (Chapter 12), and Remote Operations (Chapter 18) were finalized. In addition, the future work plan was reviewed, and it was agreed that an intersessional working group meeting will be held in the second half of 2025, and that the non-mandatory MASS Code will be finalized at MSC 111, scheduled for 2026. There will be no changes regarding the schedule for mandatory MASS Code, i.e. it will be considered after the development of the non-mandatory MASS Code, with a view to adoption by 2030.

At this time, the structure of the non-mandatory MASS Code will be as follows.

Part 1: Introduction (purpose and application of the code)

Part 2: Main principles for MASS and MASS functions (certificate and survey, approval process, risk assessment, operational context, human element, etc.)

Part 3: Goals, functional requirements and expected performance (stipulating for each item such as safety of navigation and remote operations)

3.6 A Safety Regulatory Framework to Support the Reduction of GHG Emissions From Ships Using New Technologies and Alternative Fuels

At MSC 107, identification and updating a list of new technologies and alternative fuels to reduce greenhouse gas (GHG) emissions and their technical assessment, as well as a review of safety obstacles and gaps in the current IMO instruments that may impede the use of the alternative fuel or new technology, were initiated. The correspondence group is working to update the list and is supposed to report to MSC 110.

In addition, it was proposed that the IGF Code should also apply to gaseous fuels irrespective of flashpoint by the Sub-Committee on Carriage of Cargoes and Containers held in September 2024 (CCC 10). At this session, amendments to SOLAS II-1/56 to apply the IGF code to all gaseous fuels, not just low-flashpoint fuels, was approved. It is expected to be adopted at MSC 110.

3.7 Cyber Risk Management

In view of the growing importance of cyber security on board ships and the need for security risk countermeasures, Resolution MSC.428(98) on maritime cyber risk management and the non-mandatory guidelines (MSC-FAL.1/Circ.3/Rev.2) for reference in the implementation of this resolution have been developed.

At the previous session, a draft amendment to the guidelines in light of the increased use of cyber-connected systems in recent years were agreed. The draft amendment to the guidelines were further approved by subsequent 49th session of the Facilitation Committee (FAL 49) and published as an MSC-FAL Circular (MSC-FAL.1/Circ.3/Rev.3).

At this session, it was agreed to the need to further develop cybersecurity standards for ships and port facilities as next steps to enhance maritime cybersecurity and also agreed to extend the target completion of the output on this agenda item to year 2026 to further discussion.