Briefings of IMO Meeting
MEPC 76 (10 – 17 June 2021)

BRIEFING STATUS

☐ *Flash*

☑ *Final*

Briefings of IMO Meeting are sequentially released by 2 steps as *Flash* - *Final*.

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Subject: News Flash of MEPC 76 and ISWG-GHG 8

The Marine Environment Protection Committee, its 76th session was held from 10 to 17 June 2021 via remote session due to the COVID-19. Herewith, we would like to inform key results on its Committee, please make use of reference data for relevant subject. With respect to the decisions made by MEPC 76, we already published the MEPC 76 – News Flash containing information of the main and summarized outcomes from the Committee. We now release MEPC 76 – News Final as 2nd step containing overall outcomes of the session and applicable measures of those. Herewith, we would like to inform detailed results on the Committee, please make use of reference data for relevant subject. In particular, it is noted that the amendments to MARPOL Convention and related mandatory instruments will be effective as of 1 November 2022 or 1 January 2023, and also any guidelines adopted as 'Resolution' will be effective immediately.

1. Adoption and Amendments to MARPOL Convention

1.1 MEPC 76 adopted Res.MEPC.328(76) containing draft amendments to MARPOL Annex VI to reduce the carbon intensity of existing ships as follows, and these amendments will enter into force on 1 November 2022:

.1 Requirements on EEXI (Energy Efficiency Existing Index)

- New regulations on the attained and required EEXI will require existing ships to improve their technical efficiency, and shall apply to the ship types to which required EEDI applies (excludes 'Passenger ship', but applies to 'Ro-Ro Passenger ship').
- The initial verification of ship's individual attained EEXI shall take place at the first IAPP annual, intermediate or renewal survey, or IEE initial survey whichever is the first, on or after 1 January 2023. With respect to the Technical Guidelines for supporting the implementation of EEXI requirements, please refer to the paragraphs 4.1.2, 4.1.3 and 4.1.4 below.
- While reduction factors as per size class of each applicable ship types are derived from the values corresponding to EEDI reduction rates Phase 2 (20%) in principle, large size segment (more than 200,000 DWT) for Bulk Carrier and Tanker into the table of EEXI reduction rates with 5% lower value than the original draft, and downward adjustment of EEXI reduction rates for smaller container ships and Ro-Ro vessels were introduced.

Ship Type	Size	Reduction Factor
Bulk Carrier	200,000 DWT and above	15
	20,000 and above but less than 200,000 DWT	20
	10,000 and above but less than 20,000 DWT	0-20*
Gas Carrier	15,000 DWT and above	30
	10,000 and above but less than 15,000 DWT	20
	2,000 and above but less than 10,000 DWT	0-20*
Tanker	200,000 DWT and above	15
	20,000 and above but less than 200,000 DWT	20
	4,000 and above but less than 20,000 DWT	0-20*
Container ship	200,000 DWT and above	50
	120,000 and above but less than 200,000 DWT	45
	80,000 and above but less than 120,000 DWT	35
	40,000 and above but less than 80,000 DWT	30
	15,000 and above but less than 40,000 DWT	20
	10,000 and above but less than 15,000 DWT	0-20*
General cargo ship	15,000 DWT and above	30
	3,000 and above but less than 15,000 DWT	0-30*
Refrigerated cargo carrier	5,000 DWT and above	15
	3,000 and above but less than 5,000 DWT	0-15*
Combination carrier	20,000 DWT and above	20
	4,000 and above but less than 20,000 DWT	0-20*
LNG carrier	10,000 DWT and above	30
Ro-Ro cargo ship (vehicle)	10,000 DWT and above	15
Ro-Ro cargo ship	2,000 DWT and above	5
	1,000 and above but less than 2,000 DWT	0-5*
Ro-Ro passenger ship	1,000 DWT and above	5
	250 and above but less than 1,000 DWT	0-5*
Cruise passenger ship having non-conventional propulsion	85,000 GT and above	30
	25,000 and above but less than 85,000 GT	0-30*

* Reduction factor to be linearly interpolated between the two values dependent upon ship size. The lower value of the reduction factor is to be applied to the smaller ship.

.2 Requirements on CII (Carbon Intensity Indicator)

- New regulations on the operational carbon intensity require a non-linear reduction consisting of three consecutive phases in the carbon intensity of ships between 2023 and 2030, for ensuring that the global fleet achieves an average reduction of at least 40% by 2030, relative to 2008. (Ex: 1.0% for 2020~2022, 2.0% for 2023~2026, blank for 2026~2030

(subject to Review in 2026))

- After the end of each calendar year, each ship of 5,000 GT and above as per ship types to which required EEDI applies (excludes 'Passenger ship', but applies to 'Ro-Ro Passenger ship') shall calculate the attained annual operational CII over a 12-month period from 1 January to 31 December in that calendar year.
- Attained CII shall be calculated by using the data submitted under regulation 22A (Collection and reporting of ship fuel oil consumption data), and after verification against the required annual operational CII to determine the rating from A to E, corrective actions will be required for ships which are rated D for three consecutive years, or E.
- On or before 1 January 2023, SEEMP(Ship Energy Efficiency Management Plan) shall include a description of the methodology that will be used to calculate the ship's attained annual operational CII and the processes that will be used to report this value to the ship's Administration; the required annual operational CII for next 3 years; an implementation plan documenting how the required annual operational CII will be achieved during the next 3 years and a procedure for self-evaluation and improvement.
- For ships rated as D for 3 consecutive years or rated as E, the SEEMP shall be reviewed to include a plan of corrective actions to achieve the required annual operational CII.
- With respect to the Technical Guidelines for supporting the implementation of CII requirements, please refer to the paragraphs 4.1.5, 4.1.6, 4.1.7 and 4.1.8 below.

.3 Draft amendments to MAPROL Annex VI contain the amendments concerning the exemption of UNSP(Unmanned Non-Self-Propelled) barges from survey and certification requirements. See the paragraph 1.3 below.

.4 The Committee further considered several proposals to amend or clarify some aspects of draft amendments to MARPOL Annex VI as follows:

- The Committee considered a proposal suggesting voyage exclusions from calculating attained CII when sailing in ice-conditions, but the Committee did not agree to this proposal since this matter was deferred to be further considered at the next Intersessional Working Group on GHG (ISWG-GHG) with a view to developing a new guideline on the application of correction factors, voyage exclusions and waivers;
- Even in the event of a flag/company change mid-year, annual attained CII should be calculated regardless of such change for a full calendar year. In this regard, the Committee agreed that a new text stating that the Administration of ships shall be

granted access to all reported data for the preceding calendar year required for the CII calculation of the ships is to be included, and more detailed procedures on the aggregation and reporting of ship's fuel consumption data in the event of change of the Administration or company would be considered by future Correspondence Group with a view to addressing it in the CII calculation guidelines;

- While the amendments to MAPROL Annex VI in relation to the implementation of EEXI, CII and SEEMP will enter into force on 1 November 2022, owing to the calendar year concept on CII requirements, it should be explicitly stated that the requirements shall be implemented as of 1 January 2023; and
- Other editorial corrections to regulations 2, 13, forms of IAPP Certificate, etc.

.5 Considerations for ship owners, builders and related stakeholders

- EEXI, which is one of the short-term measures referred to in the IMO Initial Strategy (Res.MEPC.304(72)) adopted at MEPC 72 with a view to enhancing the energy efficiency for international shipping, could be met by applying engine/shaft power limitation, changing the fuel oil used onboard and installing energy saving devices, etc., as far as it could be certified in accordance with the relevant IMO technical Guidelines.
- In particular, a case where an initial survey to issue IEEC (International Energy Efficiency Certificate) for new ships under construction, which were designed to comply with EEDI reduction rates Phase 1 or 2, is completed on or after 1 January 2023, it should be noted that an initial verification for EEXI requirements shall be conducted at that initial survey and thus additional EEXI reduction rates (if applicable) as per ship type and size shall be met accordingly.

* Ex) For Bulk carriers of 200,000 DWT and above, complying with EEDI reduction rates Phase 1 (10%), additional 5% reduction rates shall be met for implementing EEXI requirements. For Containerships of 200,000 DWT and above, complying with EEDI reduction rates Phase 2 (20%), additional 30% reduction rates shall be met for implementing EEXI requirements.

- An initial verification of EEXI for existing ships should be completed at first IAPP annual, intermediate or renewal survey, or the IEE initial survey, whichever comes first, on or after 1 January 2023. Following the verification, IEE Certificate will be issued or re-issued with modifications for details on the verified attained and required EEXI for individual ships.
- CII is also one of the short-term measures referred to in the IMO Initial Strategy (Res.MEPC.304(72)) adopted at MEPC 72 with a view to improving the carbon intensity

indicator for international shipping. The requirements relating to the CII reference lines, CII reduction rates for each calendar year and dd vectors for determining the rating boundaries of ship types, which were designated separately in accordance with the relevant IMO technical Guidelines, should be met.

- In particular, as the carbon intensity of individual ships will be estimated as the rating for the satisfaction of CII requirements for each calendar year by comparing actual fuel oil consumption data based on the IMO DCS Database with the reference lines for each ship type, CII reduction factors and dd vectors, it should be noted that attained CII values could be improved through navigation/speed optimization, noble technologies for reducing the ultimate fuel oil consumption and/or change of fuel oil used onboard with low carbon contents (C_f = Carbon factor).

- Furthermore, taking into account the industrial concerns relating to the increase of fuel oil consumption owing to the external elements beyond the control of ship owners and operators, it should also be noted that relevant IMO discussions on voyage exclusions from calculated attained CII and correction factors are still proceeding.

- This society is providing technical services on the calculation of EEXI and CII by utilizing in-house programme (KR-Gears) so as to support the effective implementation of EEXI and CII requirements (https://gears.krs.co.kr/). Readers are kindly invited to make best efforts for complying with EEXI and CII requirements referring to the user manuals below:

* attachment: KR-EEXI User manual, KR-CII User Manual

1.2 MEPC 76 adopted Res.MEPC.329(76) containing draft amendments to MARPOL Annex I to prohibit the use and carriage for use of heavy fuel oil as fuel by ships in Arctic waters, and these amendments will enter into force on 1 November 2022:

.1 The use and carriage of heavy fuel oil as fuel by ships shall be prohibited in Arctic waters on or after 1 July 2024;

.2 For ships to which regulation 12A (oil fuel tank protection), the use and carriage of heavy fuel oil as fuel shall be prohibited in Arctic water on or after 1 July 2029;

.3 Arctic coastal States may waive the requirements above until 1 July 2029 for the ships flying their flag respective flags and operating in their territorial waters.

.4 Considerations for ship owners, builders and related stakeholders

- It should be noted that these requirements apply to ships operating in 'Arctic waters' as defined in regulation 46.2 of MARPOL Annex I, the use and carriage of heavy fuel oil as

fuel are allowed until 1 July 2029, provided that the ships are delivered on or after 1 August 2010 and complying with the requirements on fuel oil protection in accordance with regulation 12A of MARPOL Annex I.

- But, it should also be noted that the use and carriage of heavy fuel oil as fuel will be prohibited on or after 1 July 2029 for ships operating in Arctic waters regardless of whether the ships are complying with the requirements on fuel oil protection, and thus such ships may consider the options for change of fuel oil used onboard to light grade oil and subsequent conversion and/or modification to the relevant fuel oil system in advance.

1.3 MEPC 76 adopted Res.MEPC.330(76) containing draft amendments to MARPOL Annex I, IV and VI concerning the exemption of UNSP(Unmanned Non-Self-Propelled) barges from survey and certification requirements, and these amendments will enter into force on 1 November 2022. Model format of the exemption certificate which is to be issued by the Administration when the exemption is granted were also provided in the appendix of the Annexes of MARPOL Convention. In addition to adoption of these amendments, the Committee further approved MEPC.1/Circ.892 on Guidelines for exemption of unmanned non-self-propelled barges from the survey and certification requirements under the MARPOL Convention.

1.4 MEPC 76 adopted Res.MEPC.331(76) containing draft amendments to AFS Convention containing the control mechanisms for the ships bearing anti-fouling system containing Cybutryne in their external coating layer of the hull, and these amendments will enter into force on 1 January 2023.

.1 These amendments are also requiring ships to stop using anti-fouling system containing Cybutryne as of 1 January 2023, and to remove or apply sealer coating such system for existing ships by the next renewal of the system after 1 January 2023, but no later than 60 months following the last application in accordance with current Article 4.2 of the Convention;

.2 Fixed and floating platforms, FSUs, and FPSOs that have been constructed prior to 1 January 2023 and that have not been in dry-dock on or after 1 January 2023; ships not engaged in international voyages; and ships of less than 400 GT engaged in international voyages if accepted by the coastal State(s) could be excepted from the application of control measure for Anti-fouling system containing Cybutryne;

.3 The amendment to the model form of the IAFS Certificate for adding a new column to identify the ships that has applied an anti-fouling system containing Cybutryne previously, but not currently contained in the external coating layer of their hull was also introduced.

.4 Considerations for ship owners, builders and related stakeholders

- Taking into account that ships shall not apply or re-apply anti-fouling system containing Cybutryne as of 1 January 2023 and the ships bearing anti-fouling system containing Cybutryne applied before 1 January 2023 are required to remove the system or apply sealer coating no later than 60 months following the last application of the system, ship owners, builders and related stakeholders are recommended to scrutinize whether an anti-fouling system applied previously to the ships are containing Cybutryne or not, contacting to the anti-fouling system manufacturers, etc.

- According to paragraph 4.2 of 2010 *Guidelines for survey and certification of anti-fouling systems on ships* (Res.MEPC.195(61)), it is noted that surveys for Cybutryne may also be complemented by a declaration and supporting information from the anti-fouling system manufacturer, confirming that the anti-fouling system applied, or intended to be applied to the ship is in compliance with the requirements of the Convention.

2. Ballast Water Management Convention

2.1 Type approved BWMSs reported to MEPC 76 (total 27 units)

- Alfa Laval PureBallast 3.2 BWMS (Vietnam), Thao Linh Development Maritime Technology Co. Ltd. BWMS (Vietnam), De Nora Marine Technologies, LLC BALPURE® (United Kingdom), BWMS inTank BWTS (Norway), BWMS oneTank (Norway), Optimarin Ballast System (Norway), Wärtsilä Aquarius UV BWMS (Norway), BIO-SEA® Ballast Water Treatment System (France), Semb-Eco BWMS (Singapore), Miura BWMS (Japan), Miura BWMS (Japan), Miura BWMS (Japan), JFE BallastAce BWMS (Japan), ECS HYCHLOR™ BWMS (Norway), Ecochlor® BWMS (Norway), Wärtsilä Aquarius EC BWMS (Norway), ATPS BLUEsys BWMS (Norway), SKF BlueSonic BWMS (Norway), Seascape BWMS (Norway), NGT BWMS (Norway), KURITA BWMS (Norway), Trojan Marinex BWT™ BWMS (Norway), PACT marine BWMS (China), LeesGreen® BWMS (China), Cyeco BWMS (China), KBAL BWMS BWMS (Norway), BSKY™ BWMS (China), they were type approved in accordance with BWMS Code adopted by resolution MEPC.300(72).

2.2 Form of International Ballast Water Management Certificate (IBWMC)

- Recalling that draft amendments to regulation E-1 in relation to the Commissioning Testing of individual BWMS as well as the amendments to the form of the IBWM Certificate which add a selection of 'other approach in accordance with regulation' in addition to the current selections (in accordance with D-1, D-2 and D-4) under 'the principal Ballast Water Management Method(s) employed on this ship is/are' were adopted by Res.MEPC.325(75), development of Unified Interpretation to form of the IBWM Certificate was proposed as follows:

.1 A barge carried on a semi-submergible engaging in an international voyage should be regarded as cargo and is not subject to the BWM Convention;

.2 A semi-submergible which does not carry ballast water and sediments in its ballast water tanks, which method in the form of the IBWMC should be crossed; and

.3 A ship granted exemption from D-2 standard and conducting D-1 standard in accordance with BWM.2/Circ.52/Rev.1, which method among D-1 or D-4 should be crossed in its IBWMC.

- The Committee agreed to refer above proposal to PPR Sub-Committee for further consideration.

2.3 Verification of Compliance Monitoring Devices (CMDs) for ballast water

- ISO (International Organization for Standardization) informed the Committee of the status of ongoing work within ISO regarding the standard for verifying the performance of compliance monitoring devices for ballast water. Upon request from MEPC 74, the drafting of *'ISO 3725 Ships and marine technology – Ballast water sampling – Verification testing protocol for compliance monitoring devices'* began in January 2020, and a simplified protocol that would focus on the general approach for determining CMD accuracy, precision and reliability for any condition or variable, etc will be developed.

- The Committee agreed to refer above information to PPR Sub-Committee for further consideration.

2.4 Several proposals in relation to the practical implementation of BWM Convention had been submitted to MEPC 76 for consideration as follows, but deferred to be discussed in next session of the meeting owing to time constraints and the nature of virtual meeting:

- A proposed draft BWM circular on application of the BWM Convention to ships operating at ports with challenging water quality. This circular proposes that at ports with challenging water quality, the ships may intake ballast water bypassing the BWMS and

then move to an area where the BWMS can be operated properly to exchange ballast water using water treated by BWMS installed on board to comply with regulation D-2.

- A review process regarding entries in the ballast water record book (BWRB) for the purpose of improving the Convention in light of experience gained with the BWRB and whether additional guidance on entries in the BWRB in necessary was proposed.

3. Air Pollution and Energy Efficiency Regulation

3.1 A Correspondence Group on air pollution and energy efficiency was established at MEPC 75, and its report was submitted to MEPC 76 for consideration as follows:

.1 Review the indicative example of a license for fuel oil supply with a view to annexing it to the Guidance for best practice for Member State/Coastal State (MEPC.1/Circ.884) for encouraging member States to implement bunker licensing schemes within their jurisdiction, taking into account the need for introducing such schemes for bunker suppliers as an important step to ensure quality and compliance of fuel oil);

- MEPC 76 approved MEPC.1/Circ.884/Rev.1 on draft amendments to the *Guidance for best practice for member State/coastal State*, which contains the indicative example of a license for fuel oil supply.

.2 Draft amendments to Appendix IX of MARPOL Annex VI on Information to be submitted to the IMO Ship Fuel Oil Consumption Database, taking into account the proposed transport work proxies for cruise passenger ships (the Ship's Available Lower Berth (ALB) passenger capacity) and offshore vessels (yearly energy consumption and operational time of the vessel);

- For offshore and marine contracting vessels, while the group discussed the possible carbon intensity proxies for these ship types, i.e. Proxy A (based on yearly energy consumption) and B (based on effective utilization), instead considered the possible way forward that these ship types are encouraged to collect 'engine running hours and installed power, for each engine' on a voluntary basis and the Organization will develop an anonymized dataset of proxies A and B for analysis and consideration with a view to amending MARPOL Annex VI, if necessary.

- For Cruise passenger ships, in the same manner, the group considered the possible way forward that this ship type is encouraged to collect 'available lower berth(ALB)' in addition

to the IMO DCS data on a voluntary basis and the Organization will develop an anonymized dataset of proxies based on ALB for analysis and consideration with a view to amending MARPOL Annex VI.

- MEPC 76 agreed that this issue will be further reviewed by correspondence group on carbon intensity reduction, taking into account that ISWG-GHG 8 suggested that the correspondence group could further consider possible approaches for voluntary collecting, verifying and reporting CII data for trial purposes including developing the associated reporting format and verification procedures to ensure reliability and transparency of these data.

.3 Proposed performance indicators (PIs) as 'other relevant information' for inclusion in the annual report to the Committee in terms of collection and reporting of Ship Fuel Oil Consumption Data. The proposal includes the use of 6 different indicators in the data analysis to be undertaken by the IMO;

- Having noted that some of the proposed PIs could not be obtained from the data pursuant to regulation 22A of MARPOL Annex VI and PIs should be considered in conjunction with consideration on CII under the Correspondence Group on the development of Technical Guidelines on Carbon Intensity Reduction, or in conjunction with the 3-step approach of IMO DCS, the group agreed to keep all potential PIs for further consideration.

- MEPC 76 noted a number of newly developed potential PIs, some of which can be calculated using available data from the IMO DCS.

.4 Development of the work plan to progress the work on the concept of Shaft Power Limitation, taking into account the updated proposals for the use of Shapoli in calculating the attained EEDI for new ships as well as the override mechanism when the ships are operating in adverse weather condition.

- The group considered the draft Work Plan to progress the work on the Shaft/Engine Power Limitation concept suggesting that guidelines on the Shaft/Engine Power Limitation System to comply with the EEDI requirements (EEDI-GL) might be adopted at MEPC 77, following the outcome of consideration on 'the draft guidelines on the Shaft/Engine Power Limitation System to comply with the EEXI requirements and use of a power reserve (EEXI-GL).

- Further, the group tentatively listed possible items (inclusion of overridable /

technology-neutral approach / management plan for use a power reserve / reflection of P_{ME} in EEDI and EEXI formula / compliance to relevant requirements such as NOx and minimum propulsion power) to be covered by the EEDI-GL and the items (certified MCR value under the NOx requirements / criteria of power limitation, i.e lower limit of 85% MCR / values of SFC and C_F) which may be independent from EEXI-GL.

- MEPC 76 approved a draft work plan on the development of the guidelines on the shaft/engine power limitation system to comply with the EEDI or EEXI requirements and use of a reserve power.

.5 Finalization of the revision of the interim minimum power guidelines (MEPC.1/CIrc.850/Rev.2) for ensuring that ships are provided with sufficient power to operate safely in adverse weather, taking into account an agreement that Shapoli should not affect the minimum propulsion power and introduction of Shapoli need not depend on the finalization of the Interim minimum power guidelines.

- For 'Adverse Weather Conditions', the group considered the revised conditions which are more stringent than the current conditions provided in MEPC.1/Circ.850/Rev.2 and a view that inclusion of the 'Minimum power assessment' as a new assessment procedure should be prerequisite for revision of the adverse weather condition.

- For 'ship's forward speed', the group considered the split views on the speed, i.e. 2 knots or 4 knots and new proposal on the default values for the Self-propulsion factors (thrust deduction factors *t* and the wake fraction *w*).

- The discussion on the revision of the interim minimum power guidelines could be summarized as follows:

	Current (Simplified Assessment)	Revision (Minimum Power Assessment)
Adverse weather condition	Significant wave height *hs*, m = 5.5m Mean wind speed *Vw*, m/s = 19.0m/s	Significant wave height *hs*, m = 6.0m Mean wind speed *Vw*, m/s = 22.6m/s
Forward Speed	4 Knots	2 Knots
Self-Propulsion factor	w=0.35, t=0.245	w=0.15, t=0.1
Assessment Procedure	1. definition of the required advance speed in head wind and waves, ensuring course-keeping in all wave and with direction; and 2. assessment whether the installed power is sufficient to achieve the	1. calculate the maximum total resistance in the longitudinal ship direction over wind and wave directions from head to 30 degrees off-bow; 2. calculate corresponding required

	required advance speed in head wind and waves.	brake power and rotation speed of the installed engine, considering the resistance and propulsion characteristics of the ship including appendages; and 3. check whether the required brake power does not exceed the maximum available brake power of the installed engine, defined according to the engine manufacturer data at the actual rotation speed of the installed engine.

- MEPC 76 further considered a proposal that the forward speed provided in the draft revised guidelines should be further considered with a conservative approach, such as 4 Knot, taking into account the comparison between the required propulsion power across under the existing simplified assessment (existing assessment level 2) and under the proposed new minimum power assessment (new assessment level 2). But the Committee approved the draft amendments to the guidelines for determining minimum propulsion power to maintain the manoeuvrability of ships in adverse condition proposed by correspondence group without any modifications, and further agreed to keep them under review for future session of the Committee.

.6 Finalization of the draft amendments to the 2018 Guidelines on the method of calculation of the attained EEDI for new ships, taking into account draft amendments to MARPOL Annex VI requiring mandatory reporting of the data on attained and required EEDI values as well as relevant information. The amendments also require the data reporting for the ships delivered prior to 1 April 2022;

- MEPC 76 adopted the proposed modifications to the 2018 Guidelines ((Res.MEPC.308(73) as amended by Res.MEPC.322(74)) for mandatory reporting of the attained EEDI values and related information in accordance with draft amendments to MARPOL Annex VI adopted by MEPC 75.

.7 Finalization of draft amendments to MEPC.1/Circ.795/Rev.4 to clarify the dates related to EEDI phase 2 and 3 for 'new ships', taking into account draft amendments to MARPOL Annex VI in relation to the EEDI phase 3 requirements by applying reduction factors of the required EEDI to certain ships from 2022 and others from 2025;

- MEPC 76 approved MEPC.1/Circ.795/Rev.5 containing the updates to clarify dates related to EEDI Phase 2 and 3 for new ships.

.8 Clarification of the ship types that are subject to the provisions for 'Attained EEDI' and 'Required EEDI', taking into account a particular proposal that which ship types addressed in the table 1 and 2 in appendix of Res.MEPC.231(65) should be subject to the calculation of attained EEDI and/or required EEDI.

- The group did not identify a specific need to clarify the ship types that were subject to the provisions for 'Attained EEDI' and 'Required EEDI' taking into account that the scope of EEDI application was provided by regulation 2, 20 and 21 of MARPOL Annex VI, and the tables in appendix 1 to Res.MEPC.231(65) were not intended to distinguish the applicability of the EEDI, and MEPC 76 noted above.

.9 Considerations for ship owners, builders and related stakeholders

- While the revised Guidelines for minimum propulsion power in adverse conditions (MEPC.1/Circ.850/Rev.3) can apply to ships after approval by MEPC 76, taking also into account that details on ship design aspects relating to the EEDI requirements are based on the ships' building contract date, please make sure the revised Guidelines should apply to the ships for which building contract is placed on or after the date when MEPC 76 approved it.

- With respect to the various ship types addressed in the table 1 and 2 in appendix of Res.MEPC.231(65) on 2013 *Guidelines for calculation of reference lines for use with the EEDI*, it is noted that the ships to which attained and required EEDI apply should be in accordance with definitions for each ship type addressed in regulation 2 of MARPOL Annex VI.

4. Reduction of GHG emission from ships

4.1 Outcome of 8th meeting of the Intersessional Working Group on Reduction of GHG Emissions from Ships (ISWG-GHG 8)

.1 ISWG-GHG 8 was held via a virtual meeting due to COVID-19 from 24 – 28 May 2021 so as to continue the discussions for developing and finalizing a number of technical Guidelines for supporting the implementation of the requirements on EEXI, CII and SEEMP.

With that, MEPC 76 adopted 7 technical guidelines for supporting the implementation of EEXI and CII requirements as follows:

.2 2021 Guidelines on the Method of Calculation of the attained EEXI - Res.MEPC.333(76)

Power of main engine in the EEXI formula for cases where Shaft/Engine Power Limitation is installed

- While many members supported 75% of the limited installed power (MCR_{lim}) to be used in calculating EEXI since the entire consistency between the EEXI and EEDI will prevent any confusion when applying the guidelines, the group also considered the concerns that EPL(Engine Power Limitation) could lead to reduced EEXI values without real-world reductions in ship fuel consumption and thus 87% of MCR_{lim} should be introduced.
- Taking into account a proposal to set 83% of MCR_{lim} having 20% margin that would be consistent with the sea margin under the existing EEDI framework (83% = 1/1.20) as a compromise, the group agreed to set the power of main engine at 83% of MCR_{lim} or 75% of the original installed power (MCR), whichever is lower.

Determination of the accurate reference speed (V_{ref}) for EEXI

- With respect to a proposal for additional alternative method to determine V_{ref} by using empirical data from in service ship performance measurement, the group considered the proposals were not mature enough to be included in the Guidelines and has encouraged members to cooperate on this issue with a view to incorporating alternative method to determine an accurate reference speed for EEXI, taking into account the concerns with regard to the lack of reference to international standards, the role of verifiers and the absence of calibration of the draught conditions, which would risk distorting the effectiveness and ambition of the EEXI framework.

Inclusion of a correction factor for ro-ro cargo ships (vehicle carriers)

- The group agreed to include an additional cubic capacity correction factor in the draft Guidelines for ro-ro cargo ships (vehicle carriers) with DWT/GT of less than 0.35, taking into account that the majority supported the inclusion of this correction factor which would better reflect the reality of the vehicle carriers, while some others expressed the views that the need for this factor using the criteria for assessing candidate correction factors for EEDI as set out in MEPC 61/5/17 (United States) should be further assessed

and around 85% of the vehicle carriers would benefit from the application of this correction factor having considerable relaxation risking distorting the effect of the EEXI.

.3 2021 Guidelines on survey and certification of the attained EEXI - Res.MEPC.334(76)

The use of numerical calculation methods for purpose of estimating V_{ref}

- Some delegations suggested that further work would be needed to refine the proposals, notably to ensure standardization of the numerical calculation, with following reasons:

· Texts of paragraphs 4.2.2.7 and 4.2.8 were amended by CG to indicate that estimation of speed-power curves could be accomplished by tank test or numerical calculations.

· However, in the last version of the draft guidelines, the texts of paragraph 4.2.2.7 were amended again to say that estimated speed-power curves should be obtained from tank test and numerical calculations, in order to be consistent with the text in paragraph 2.3.

· However, paragraph 4.2.8 retains the wording or, creating an inconsistency within the draft guidelines regarding the applicability of numerical calculation.

- After consideration, the group agreed that numerical calculations may be accepted as a replaced of model tests and could also be used independently, and an estimated speed-power curve can also be obtained from tank test and/or numerical calculations.

.4 2021 Guidelines on the Shaft/Engine Power Limitation System to comply with the EEXI requirements and use of a power reserve - Res.MEPC.335(76)

Facilitation of access to power reserve override by the crew for safety reasons

- The group, mindful of the need to safeguard the safety of ships and crews, agreed to incorporate following proposals in the guidelines:

· Where technically possible and feasible, the Shaft/Engine Power Limitation System should be controlled from the ships' bridge and not require attendance in the machinery space by ship's personnel.

· For systems that use a Password/PIN to control access to the power reserve override, attention should be paid to ensure that the necessary Password/PIN is always available when override is required.

· Ship master and officer in charge of a navigational watch (OICNW) are not restricted from exercising judgement to override the Shaft/Engine Power Limitation System when required for safety reasons, and this authority should be clearly set out in the Onboard

Management Manual or Safety Management System manual, as appropriate.

· In cases where a ship overrides the Shaft/Engine Power Limitation System for safety reasons but does not subsequently use the reserve power, this event should be recorded in the bridge and engine room logbooks.

.5 2021 Guidelines on the operational carbon intensity indicators and the calculation methods - Res.MEPC.336(76)

Formula of CII of individual ships

- While the group considered a proposal to use cgDIST instead of AER as a metric to be used as proxy for transport work of ro-ro cargo ships with a particular reason that for volume carriers such as ro-ro cargo ships, cgDIST would provide a more fair and robust outcome than AER, which would unfairly prefer smaller size ships, the group agreed not to change the metric to cgDIST taking into account the views of majority that the proposal would require further analysis.

· The metric calculated as 'CO_2 emission / (DWT x Distance travelled)' is referred to as AER, while the metric calculated as 'CO_2 emission / (GT x Distance travelled) is referred to as cgDIST.

· In reality, cgDIST was chosen as the mandatory CII for Cruise passenger ships, ro-ro cargo ship (vehicle carrier) and ro-ro passenger ship for calculation of attained CII, while AER was applied to all other ship types.

- While the group considered a proposal to reflect onboard CO_2 capture in the CII calculation guidelines, as the system is one of GHG emissions reduction technologies aimed by the CII, the group agreed not to reflect it taking into account the views that the technology was not deemed mature enough to be integrated at this stage in the CII framework.

- The attained annual operational CII of individual ships is calculated as the ratio of the total mass of CO_2 (M) emitted to the total transport work (W) undertaken in a given year: *attained* CII_{ship} = *M(mass of* CO_2 *emission) / W(transport work)*

- *Mass of* CO_2 *emission (M)*: $M = FC_j \times C_{fj}$

· j = fuel oil type

· FC_j = total mass (in grams) of consumed fuel oil of type j in the calendar year, as reported under IMO DCS

· C_{fj} = fuel oil mass to CO_2 mass conversion factor for fuel oil type j, in line with those

specified in the 2018 *Guidelines on the method of calculation of the attained EEDI for new ships* (Res.MEPC.308(72)), as may be further amended. In case the type of fuel oil is not covered by the guidelines, the conversion factor should be obtained from the fuel oil supplier supported by documentary evidence.

- *Transport work (W)*: $W_s = C \times D_t$

· C = the ship's capacity. For bulk carriers, tankers, container ships, gas carriers, LNG carriers, ro-ro cargo ships, general cargo ships, refrigerated cargo carrier and combination carriers, deadweight tonnage (DWT) should be used as Capacity. For cruise passenger ships, ro-ro cargo ships (vehicle carriers) and ro-ro passenger ships, gross tonnage (GT) should be used as Capacity.

· D_t = the total distance travelled (in nautical miles), as reported under IMO DCS.

Introduction of certain correction factors and voyage exclusions in the CII calculation

- The group considered concrete proposal on introducing certain correction factors and voyage exclusions in the CII guidelines as follows:

· Consideration of the correction factors for ice-classed ships, for ships carrying refrigerated containers (reefers), and for ships with cargo heating/cooling systems or other cargo handling gears.

· Consideration of voyage exclusion from the CII calculation for those specified in regulation 3.1 of MARPOL Annex VI, sailing in ice conditions, prolonged period without distance travelled, severe weather conditions, dynamic positioning operations as well as disproportionate fuel consumptions.

- Taking into account the concerns that such proposals could allow actual emission beyond what was allowed under regulation 3.1 of MARPOL Annex VI, and the challenges in verification methods would allow arbitrary manipulation of the attained CII which would undermine the effectiveness and ambition of the measures, the group agreed to develop new guidelines to cover the correction factors and voyages exclusion (subject to regulation 3.1 of MARPOL Annex VI only) by future correspondence group, if established, using the assessment criteria proposed in MEPC 76/7/23(France) as a guidance, which was based on similar criteria for EEDI correction factors.

- The group further agreed to develop the guidelines before the entry into force of the short-term measures, considering the urgency in developing the guidance before entry into force of the measures.

CII of individual ships for trial purpose on a voluntary basis

- The group considered views expressed that the data should be anonymized regardless of whether the collection of CII data of individual ships would be on a voluntary basis, and that the collection and sharing of non-anonymized CII data of individual ships would improve IMO's decision making process, in particular facilitate the review of the short-term measure.
- After consideration, the group suggested that the correspondence group, if established, could further consider possible approaches for voluntary collecting, verifying and reporting CII data for trial purposes, including developing the associated reporting format and verification procedure to ensure reliability and transparency of these data.
· During CG, It was pointed out that the DWT or GT may not be the most suitable elements to represent the capacity of all ship types and both AER and cgDIST would punish a ship with higher payload utilization thus incentivizing lower loads and more ballast water voyages (inefficient operations). For example, compared with DWT or GT, the number of available lower berths and the length of the lanes may be more appropriate to represent the capacity of cruise passenger ships and ro-ro cargo ships. Moreover, while the use of laden distance in CII calculation may alleviate the biasness in AER and cgDIST in accordance with EEOI framework, the reference line and rating boundaries could not be developed on these metrics, due to the limitation of the current DCS (on 100% DWT).
· In this regard, a set of trial CIIs on a voluntary basis was developed to gain sufficient supporting data for decision-making in the review to be conducted in 2026, taking into account that a standardized reporting format and verification procedure for the additional voluntary data was needed for the sake of consistency, transparency and reliability.

.6 2021 Guidelines on the reference lines for use with operational carbon intensity indicators - Res.MEPC.337(76)

- In discussing the possibility to develop split reference lines within specific ship types depending on their size, the group agreed to keep the reference lines suggested by the correspondence group, but these reference lines might be improved subsequently when more data would become available.
- With respect to the High-Speed Crafts (HSC), the group suggested that correspondence group, if established, could further consider to develop an additional reference in conjunction with the examination of correction factors and voyage exclusions for this ship

type in the CII framework, considering that these ship types are in constant pursuit of efficiency improvements through advanced technologies and lowering their light weight by radical measures such as hollow boring of propulsion shafting and utilization of honeycomb interior paneling, while these are being included in the conventional ro-ro passenger sector and offer similar services as conventional ro-ro passenger ships.

- The group did not accept the proposals to split the ro-ro cargo sector into two size class (below and above 25,000 DWT) and vehicle carriers in three distinct reference lines.
- Formula for calculation of CII reference line: a Capacity^{-c}
- Parameters for determining the ship specific reference lines

Ship Type		Capacity	a	c
Bulk carrier	279,000 DWT and above	279,000	4977	0.626
	Less than 279,000 DWT	DWT	4977	0.626
Gas carrier	65,000 DWT and above	DWT	2384E7	1.910
	Less than 65,000 DWT	DWT	8032	0.638
Tanker		DWT	5118	0.607
Container ship		DWT	1963	0.487
General cargo ship	20,000 DWT and above	DWT	61293	0.854
	Less than 20,000 DWT	DWT	361	0.336
Refrigerated cargo carrier		DWT	6736	0.599
Combination carrier		DWT	151991	0.930
LNG carrier	100,000 DWT and above	DWT	9.860	0
	65,000 and above, but less than 100,000 DWT	DWT	1966E10	2.498
	Less than 65,000 DWT	65,000	1966E10	2.498
Ro-Ro cargo ship (vehicle)		GT	5831	0.633
Ro-Ro cargo ship		DWT	15958	0.677
Ro-Ro passenger ship		GT	7691	0.586
Cruise passenger ship		GT	904	0.380

.7 2021 Guidelines on operational carbon intensity reduction factors relative to reference lines - Res.MEPC.338(76)

CII calculation methods and reduction rates

- With respect to the understanding of the 'transport work', two types of measurements of the operational carbon intensity on international shipping were considered as follows:

· 'Demand-based method' indicating the CO_2 emission per actual transport work of international shipping similar to EEOI; and

· 'Supply-based method' indicating CO_2 emissions per transport work proxy similar to AER.

- In accordance with 4th IMO GHG Study, the carbon intensity of international shipping had improved by 31.8% in year of 2018 relative to 2008 in demand-based method, while improved by 22.0% in year of 2018 relative to 2008 in supply-based method. Thus, the group had an intensive debates as to which method should be selected to the associated CII reduction factors for the period 2019 – 2030, i.e. 11.0% or 22.0%, respectively.

Distribution of the reduction effort across the fleet

- With respect to the reduction factors to ship types, the group considered two methodological approaches were as follows:

· 'Ship-type specific reduction rates' considering the average annual reduction rate of the entire international shipping, the relative carbon intensity level, the improvement already made, the uncertainties in the estimated achievement and the potential for further improvement of each ship type;

· 'Flat reduction rates' using the average gap of international shipping against 2030 target as the uniform gap of each and every ship type.

- In this regard, there were the views expressed that it would be unfair if a flat reduction factor was applied to all ship types regardless of the contribution already made and the capability for further improvements, and some ship types have achieved great reduction whereas some did not.

Consideration of a possible compromise on the CII reduction rates

- With regard to the reduction rates, some delegations stated that an 11% reduction rate would be in line with the objectives of the Initial strategy while other delegations estimated that this rate should be above 22% when considering the global emission evolution from the shipping industry. Some delegations also estimated that this rate should be set between 31% and 53% or 75% if the group wants to give a clear impulse an energy transition in shipping.

- In this regard, Chair of the group proposed a compromise proposal for defining CII reduction rates with a non-linear reduction consisting of three consecutive phases in the carbon intensity of ships between 2023 and 2030, as follows:

· Phase 1 is similar to BAU carbon intensity improvement until entry-into force;

· Phase 2 is defined as 2%; and

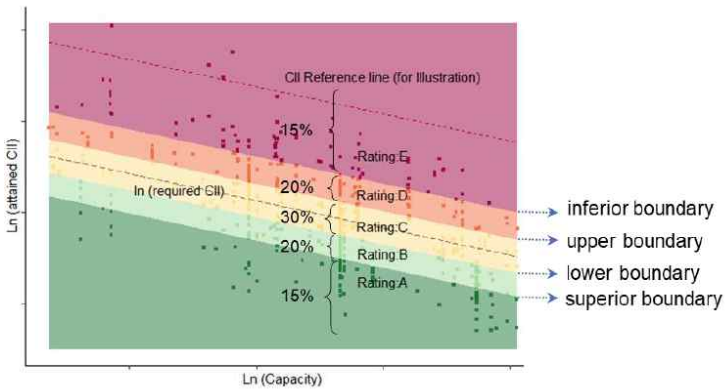
· Phase 3 will be further strengthened and developed taking into account the review of the short-term measure.

Years	
2020	1.0%*
2021	1.0%*
2022	1.0%*
2023	2.0%
2024	2.0%
2025	2.0%
2026	2.0%
2027	
2028	
2029	
2030	

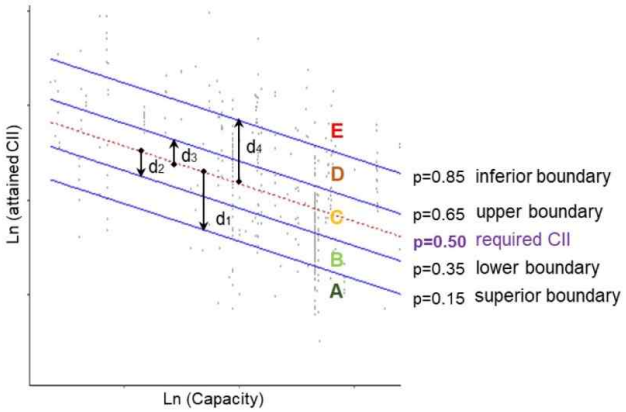
- Despite the split views regarding Chair's compromise proposal, the group agreed, noting that a majority of member States supported this proposal, to include it in the report of group, with a view to adoption by MEPC 76.

.8 2021 Guidelines on the operational carbon intensity ratings of ships - Res.MEPC.339(76)

- An operational energy efficiency performance rating should be annually assigned to each ship in a transparent and robust manner, based on the deviation of the attained annual operational CII of a ship from the required value.
- To facilitate the rating assignment, for each year from 2023 to 2030, four boundaries are defined for the five-grade rating mechanism, namely superior boundary, lower boundary, upper boundary, and inferior boundary. Thus, a rating can be assigned through comparing the attained annual operational CII of a ship with the boundary values.



- The boundaries can be determined by the required annual operational CII in conjunction with the vectors, indicating the direction and distance they deviate from the required value (denoted *dd* vectors), as illustrated below:



- *dd* vectors for determining the rating boundaries of ship types are as follows:

Ship Type		Capacity	*dd* vectors			
			d1	d2	d3	d4
Bulk carrier		DWT	0.86	0.94	1.06	1.18
Gas carrier	65,000 DWT and above	DWT	0.79	0.89	1.12	1.38
	Less than 65,000 DWT		0.85	0.95	1.06	1.25
Tanker		DWT	0.82	0.93	1.08	1.27
Container ship		DWT	0.83	0.94	1.07	1.19
General cargo ship		DWT	0.84	0.95	1.07	1.19
Refrigerated cargo ship		DWT	0.77	0.90	1.07	1.21
Combination carrier		DWT	0.88	0.95	1.06	1.26
LNG carrier	100,000 DWT and above	DWT	0.91	0.98	1.05	1.11
	Less than 100,000 DWT		0.77	0.91	1.12	1.37
Ro-Ro cargo ship (vehicle)		GT	0.86	0.94	1.06	1.16
Ro-Ro cargo ship		DWT	0.67	0.90	1.09	1.37
Ro-Ro passenger ship		GT	0.73	0.87	1.10	1.37
Cruise passenger ship		GT	0.85	0.94	1.04	1.15

- By comparing the attained annual operational CII of a specific ship with the four boundaries, a rating can be assigned. For example, given the required CII of a bulk carrier in a specific year as 10 gCO_2/(dwt.nmile), then the superior boundary, lower boundary, upper boundary, and inferior boundary is 8.6, 9.4, 10.3 and 11.8 gCO_2/(dwt.nmile). If the attained CII is 9 gCO_2/(dwt.nmile), the ship would be rated as "B".
- While the group considered the proposals to widen the rating band for smaller general cargo ship and container ships or to develop size-dependent correction factors for bulk carriers, tankers and other ship types to adjust the rating boundaries, the group decided to keep the original rating boundaries and further agreed that all proposals addressing

inequities between ship types (i.e. correction factors, refined reference lines, etc) should be considered holistically within the future correspondence group, if established, for further consideration.

.9 Update of the 2016 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP) (Res.MEPC.282(70))

Audit and verification of the SEEMP

- The group agreed to recommend that the correspondence group, if established, should further consider proposals regarding the role of the SEEMP, verification audits applicable to all ships, the conduct of the SEEMP verification process and the plan of corrective actions, and further agreed to refer the proposals to provide the basis for adding a new Part III in both the SEEMP Guidelines and SEEMP.
- While the group considered a proposal that ships implementing planned corrective actions should be provided with two or three years for the plan to reflect changes in their attained CII and rating, the group did not accept the proposal since it is not in line with the relevant provisions in draft amendments to MARPOL Annex VI.

Compliance on a company/fleet level basis

- While the group considered a proposal to include an option allowing for compliance at company/fleet level in the SEEMP Guidelines, the group did not accept this proposal, taking into account the concerns expressed regarding the legal implication that a fleet averaging approach was not in line with the current structure of the MARPOL Convention which is based on an individual ships' compliance and the inequity that this approach could have for States with small fleets.

4.2 Comprehensive Impact Assessment on States

.1 MEPC 75, taking into account that a comprehensive impact assessment on States should be a prerequisite for the adoption of draft amendments to MARPOL Annex VI containing short term measure for reduction of GHG from ships and should be conducted in accordance with the *Procedure for assessing impacts on States of candidate measures* (MEPC.1/Circ.885), decided to initiate the comprehensive impact assessment on States. After establishment of a Steering Committee for initiating this task and conduct of the

assessment, its final reports were submitted to MEPC 76 with a view to the approval.

.2 MEPC 76 considered its final report and also noted main points of the views expressed as follows:

- While many delegations supported the approval of the report, certain member States considered themselves as being disproportionately negative impacted according to the consequence of the short term measures; and
- While some delegations supported a proposal to include a waiver clause in MARPOL Annex VI for States considered as disproportionately negative impacted from the requirements of short term measure, many other delegations, stating that flag-wise waiver was not feasible for international shipping and the application of such a waiver would risk undermining the effective implementation of the measures, did not support this waiver.

.3 After consideration, MEPC 76 did not agree to the inclusion of a waiver clause to the draft amendments to MARPOL Annex VI instead agreed that it could be re-visited in the review of the short term measures to be completed by 1 January 2026. It was also agreed that next ISWG-GHG 9 meeting would consider how to keep the impacts of the measures under review and how to undertake a lesson-learned exercise of the impact assessment of the measures.

4.3 International Maritime Research and Development Board (IMRB)

.1 Recalling that MEPC 75 considered a proposed development of a research and development (R&D) programme to accelerate the introduction of low-carbon and zero-carbon technologies and fuels, which includes the establishment of a non-governmental International Maritime Research and Development Board (IMRB) in charge of funding, overseeing and coordinating specific R&D projects, and an International Maritime Research Fund (IMRF) expected to raise approximately 5 billion USD over the 10 to 15 years life of the programme via a mandatory R&D contribution of 2 USD per tonne of fuel oil purchased for consumption, MEPC 76 further considered an updated proposal for the IMRB and its Fund suggesting draft amendments to MARPOL Annex VI and changes to address specific concerns and suggestions raised by some member States at MEPC 75, as well as a comprehensive impact assessment for the proposal.

.2 In this regard, MEPC 76 noted the following divergent views expressed as follows:

- The acceleration of R&D activities to develop alternative low-carbon and zero-carbon fuel should be encouraged, and the thereby IMRB/IMRF could quickly support the delivery of field-proven technologies;
- Proposed IMRB/IMRF were designed to only support R&D but not the deployment or uptake of alternative fuels, fuel production and bunkering infrastructures;
- The IMRB did not include a mechanism to ensure equitable assess to the required technologies, fuels and ship designs and could increase the gap between developed counties having own the next generation technologies and developing countries not having them;
- Setting up the IMRB through the amendments to MARPOL would present significant legal challenges since the Convention provides international rules and standards concerning the prevention and control of marine pollution from ships; and
- Proposed levy would have severe negative impacts on developing countries and in accordance with the principles of CBDR-RC, the IMRB funds should be used to support developing countries, in particular SIDC and LCDs.

.3 Due to the time constraint, MEPC 76 did not reach a consensus on this issue and agreed that the discussion would be resumed at its next session.

4.4 Development of mid- and long-term measure following up on the Initial IMO Strategy

.1 MEPC 76 considered several proposals on a work plan for the development of mid- and long-term measures, in accordance with the Initial IMO Strategy on reduction of GHG emissions from ships, as follows:

- Proposed three possible concepts for a regulatory mechanism: a fuel CO_2/GHG limit; an emission cap and trading; and carbon intensity indicators and credit trading/fleet averaging, so as to achieve the overall ambitions of the Initial IMO GHG strategy;
- Proposed work plan for the development of mid- and long-term measures with three-phase approach (Collation, Assessment and Development of measures);
- Proposed universal levy of 100 USD per CO_2equivalent tonne to incentivize a rapid shift away from fossil fuel use by international shipping;
- Proposed measures to incentivize the use of low-carbon and zero-carbon fuels (GHG tax or levy of 250 to 400 USD per CO_2equivalent tonne to become competitive with fossil

fuels; cap-and-trade scheme for maritime GHG emissions; and low-GHG fuel standard);
- Proposed acceleration of the discussions on MBMs (market-based measures); and
- Proposed stringent carbon pricing/a fuel standard for resolving market failure caused by the lack of commercial viability in zero-carbon shipping.

.2 Due to the time constraints, MEPC 76 could not have a detailed consideration of the various proposal above. But, the Committee approved a work plan for the development of mid- and long-term measures consisting of the three phase approaches as follows:
- Phase I – Collation and initial consideration of proposals for measures;
- Phase II – Assessment and selection of measures to further develop; and
- Phase III – Development of measures to be finalized within agreed target dates.

Above work plan includes the assessment of impacts on States of the proposed measures in accordance with MEPC.1/Circ.885, taking into account the outcome of the lesson-learned exercise from the comprehensive impact assessment of the short term measures.

.3 The various proposals with regard to the development of mid- and long-term measures and supporting working arrangements, including concepts for a regulatory mechanism for the uptake of alternative low-carbon and zero-carbon fuel; legal bases of candidate measures in MARPOL Annex VI; description of general effects of a possible GHG levy were referred to ISWG-GHG 9 for further consideration as part of dedicated work streams on mid-term measures and on GHG life-cycle assessments.

.4 Proposal on the establishment of a universal mandatory GHG levy was also referred to ISWG-GHG 9 for further consideration, taking into account the positive views that initiating discussions on concrete proposals for an MBM is urgent; a carbon price to provide a signal to the industry and energy providers and to generate funds to provide real support to SIDC and LDCs is needed, and the negative views that a levy would not necessarily be the most suitable basis for an MBM; defining the exact amount of the levy would have to be subject to a cost-benefit analysis and impact assessment; it would have considerable negative impact on the maritime trade serving developing countries and be incompatible with the implementation of CBDR-RC, etc.

5. Reports of PPR Sub-Committee

5.1 With respect to the actions to address marine plastic litter from ships, MEPC 76 approved

MEPC.1/Circ.893 on *Provision of adequate facilities at ports and terminals for the reception of plastic waste from ships* and MEPC.1/Circ.894 on *Sharing of results from research on marine litter and encouraging studies to better understand microplastics from ships*.

5.2 MEPC 76 approved MEPC.1/Circ.895 on Unified interpretations to the NOx Technical Code 2008, as amended.

6. Underwater Noise from commercial ships

6.1 MEPC 76 approved a new work programme on 'Review of *2014 Guidelines for the reduction of underwater noise from commercial shipping to address adverse impacts on marine life* (MEPC.1/Circ.833) and identification of next steps' with a target completion year of 2023, assigning the SDC Sub-Committee as the coordinating organ. This way forward is based on significant advances in technologies which are capable of reducing underwater noise of the ships, taking also into account the ongoing work of energy efficiency requirements relating to GHG and the relationship between energy efficiency technologies and tendency of underwater noise from ships as well.

6.2 Provisional agenda of SDC 8 includes the terms of references in relation to identifying barrier to uptake and implementation; identifying measures to reduce underwater noise from ships as well as new and advancing technologies and ship design solutions; and identifying the acceptable means of measuring existing ship noise profiles for ISO or international standards, etc. - The end –

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