

# IMO's challenges on the route to decarbonising international shipping

Key Issues at Stake at the 72<sup>nd</sup> Session of the IMO  
Marine Environment Protection Committee (MEPC 72)

## KEY FINDINGS

- Despite efficiency improvements, **CO<sub>2</sub> emissions** from international shipping are projected to be **two to five times higher** in 2050 than in 1990. At the Paris climate conference, countries agreed to limit climate change to well below 2°C. Without **considerable contributions of the shipping sector** to global mitigation efforts, this goal will be much harder to achieve.
- The main issue at stake at MEPC 72 is the adoption of the **Initial IMO Strategy on reduction of greenhouse gas (GHG) emissions from ships**. MEPC 72 will be preceded by a weeklong meeting of the GHG Working Group (ISWG GHG 3) that will discuss issues relating to the Initial Strategy with a view to agreeing upon and submitting a draft decision text for adoption at MEPC 72.
- Other issues relevant to GHG reduction from international shipping include updates on the **Energy Efficiency Design Index (EEDI)** and the **Data Collection System (DCS)** as well as a agreeing on a Mandate for the Sub-Committee on Pollution Prevention and Response (PPR) to begin work on **measures for reducing the risk of Heavy Fuel Oil (HFO) spills in the Arctic area**.
- It is recommended that the ENVI delegation uses opportunities such as **bilateral meetings** with delegations from other countries, **informal conversations** or the **side events** to discuss the **importance of emission reductions in the maritime sector** including the pros and cons of regional measures.

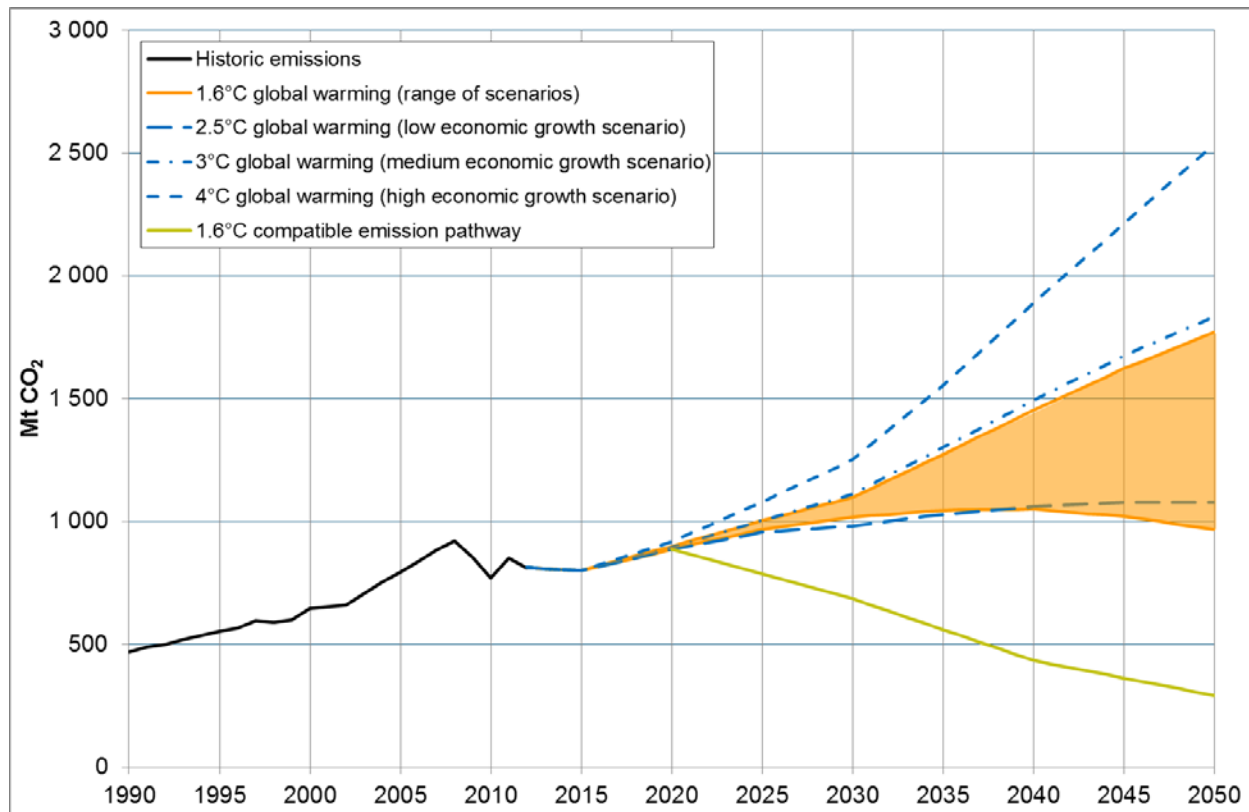
## 1. INTRODUCTION AND BACKGROUND

Historical emissions from international maritime transport increased by 80% or 3.0% per year from 1990 to 2010 (IEA 2014). In comparison, the total global GHG emissions only rose by 1.1% per year during that period (van Vuuren, D. P. et al. 2011). In 2012, the latest year for which comprehensive data is available, international shipping accounted for about 800 Mt CO<sub>2</sub> emissions, which corresponds to 2.2% of global man-made emissions (IMO 2015).

Figure 1 shows the historical emission development and different projections up to 2050. The projections are based on a new study submitted to MEPC 71 (CE Delft & Lee 2017). The study shows that without further measures to address the GHG emissions of shipping, they will increase from 800 Mt in 2012 to 1,000–1,800 Mt in 2050 in long-term socio-economic scenarios that are compatible with the Paris Agreement goals. If the Paris Agreement goals are

not met globally, emissions could increase to up to 2,500 Mt in 2050 because, amongst other things, there will be more transport of fossil fuels. Technological and operational improvements have a potential to reduce CO<sub>2</sub> emissions by approx. 33% in 2050 (IMO 2015). If the world at large followed an emissions trajectory compatible with the Paris Agreement but emissions from international maritime transport were to increase as forecast, the maritime sector would use up 17% of the global carbon emissions budget in 2050 (Cames et al. 2015).

**Figure 1: Historical, projected and permissible CO<sub>2</sub> emissions from international maritime transport under different economic forecasts**



**Notes:** The projections are based on the expected demand for international shipping under the different economic scenarios and do not consider emission budgets. The green line shows a pathway for the shipping sector that would be compatible with the Paris Agreement (see Cames et al. 2015, the pathway shown here is based on constant share of RCP 2.6 CO<sub>2</sub> emissions).

**Source:** IEA 2014, IMO 2009, IMO 2015, CE Delft & Lee 2017, Cames et al. 2015

For an overview of EU legislation and existing IMO actions and measures geared to reducing shipping emissions as well as a brief introduction of the IMO, the MEPC and the EU's role in both bodies, see the briefing for the previous session of the MEPC.<sup>1</sup>

## 2. MAIN ISSUES AT STAKE

MEPC 72, which will take place from 9 to 13 April 2018 in London, has four agenda items relating to greenhouse gas emissions, of which item 7 is by far the most important:

- Agenda item 7, **Reduction of GHG emissions from ships**, will cover the development of the GHG reduction strategy.

<sup>1</sup> Key Issues at Stake at the 71<sup>st</sup> Session of the IMO Marine Environment Protection Committee (MEPC 71), available at: [http://www.europarl.europa.eu/RegData/etudes/BRIE/2017/602062/IPOL\\_BRI\(2017\)602062\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2017/602062/IPOL_BRI(2017)602062_EN.pdf).

The other relevant Agenda items are:

- Agenda **item 5, Air pollution and energy efficiency**, will tackle, among other issues, technical aspects with regards to the EEDI.
- Agenda item 6, **Further technical and operational measures for enhancing the energy efficiency of international shipping**, will cover the discussion on the IMO Data Collection System (DCS).
- Agenda item 11, **Development of measures to reduce risks of use and carriage of heavy fuel oil as fuel by ships in Arctic waters**, will address the discussion on the [potential] HFO ban on arctic routes and the potential uptake ban of such fuels.

The subsections below discuss the submissions for the above-mentioned agenda items 7, 6 and 11 in more detail. Agenda item 5 includes, among other items, documents with regard to the EEDI. Among other documents, it mainly includes information provided by the Secretariat and a report of the respective Correspondence Group and is therefore not elaborated in more detail in this briefing.

### GHG Reduction Strategy (agenda item 7)

At MEPC 70 IMO parties approved a *Roadmap for developing a comprehensive IMO strategy on reduction of GHG emissions from ships*, which aims at the adoption of an initial GHG reduction strategy at MEPC 72 and the adoption of the revised strategy at MEPC 80 (spring 2023).

The development of this GHG Reduction Strategy will be discussed at MEPC 72 under Agenda item 7, **Reduction of GHG emissions from ships**. The week before MEPC 72, the Intersessional Working Group on Reduction of GHG Emissions from Ships (ISWG-GHG) will meet for its third meeting (3 to 6 April 2018) to focus on terms of reference adopted by MEPC 70 (any IMO Member State, IGO or NGO can participate in the Working Group). Its task is to “consider how to progress the matter of reduction of GHG emissions from ships and advise the Committee as appropriate.”

From 23 to 27 October 2017 the ISWG-GHG held its second meeting chaired by Mr. Sveinung Oftedal (Norway) in London. Based on a structure agreed at the first session and submissions by Parties and observers, the chair tabled suggestions for draft text for each section of the structure. These suggestions were discussed by the ISWG-GHG and as a result the chair was mandated to develop a draft negotiation text as a basis for discussion at the third meeting of the ISWG-GHG. The plan is to further develop the draft text contained in ISWG-GHG 3/2 dated 15 January 2018 towards an initial GHG reduction strategy by the end of the ISWG-GHG’s third meeting with a view to discussing any remaining issues, if necessary, and to formally adopting the strategy at MEPC 72.

The draft text includes seven chapters of which three are likely to be the most contentious and debated chapters:

- **Chapter 2 on Vision** is comparatively short (just 2 lines) but currently includes the chair’s suggestion that the IMO should commit to phase out GHG emissions to zero by 2075.
- **Chapter 3 on Levels of ambition (LoA) and guiding principles** includes a package of four **targets**: strengthening the Energy Efficiency Design Index (.1), fleet-average carbon intensity targets for 2030 and 2050 (.2), establishing 2008 emissions as a peak which should not be exceeded (.3) and an absolute emission target for CO<sub>2</sub> emissions from international shipping for a future year (.4). Some of these options include square brackets, particular around years and reduction figures, indicating that further discussion in the ISWG-GHG or during the MEPC will be required.

Moreover, this chapter contains a discussion of the conflicting **guiding principles** under IMO and the UNFCCC. While under the IMO all ships are treated equally, independently of their flag due to the principle No More Favourable Treatment (NMFT), the UNFCCC is based on the principle of Common but Differentiated Responsibilities and Respective Capabilities (CBDR&RC). To align both principles, the impacts of measures

on Small Islands Developing States (SIDSs) and Least Developing Countries (LDCs) need to be considered in the IMO's strategic GHG reduction plan.

- **Chapter 4** on a **List of candidate short-, mid- and long-term further measures with possible timelines and their impacts on states** contains a list of potential measures and supportive action for inclusion in the initial strategy.

The **short-term measures** comprise further improvement of the EEDI and SEEMP (.1), technical and operational measures for both new and existing ships (.2), establishment of an Existing Fleet Improvement Programme (.3), speed reduction measures (.4), and measures to address methane and Volatile Organic Compounds (VOC) emissions (.5).

The **mid-term measures** are geared to increasing the use of low- or zero-carbon fuels (.1), operational efficiency measures for new and existing ships (.2), and innovative emission reduction measures, possibly including Market-based Measures (MBM) (.3).

The **long-term measures** cover the provision of zero-carbon or fossil-free fuels (.1), and fostering the adoption of innovative reduction mechanism(s) (.2).

Moreover, the chapter contains a section on the **Impacts on States** including a list of aspects which should be evaluated before adoption of measures, as well as a proposal of how impacts could be addressed.

- **Chapter 6** concentrates on **Follow-up actions towards the development of the revised strategy**, which will lay down the workplan for the next five years.

The current version of the text does not contain a workplan, as a result of which there is a risk that the Strategy will not lead to the adoption of any measures in the coming years. To counter that risk, several EU Member States, together with Pacific Island States, have submitted a draft workplan. Canada and Norway have made similar proposals.

In total, 26 documents have been submitted by Parties and observers either under ISWG GHG agenda item 2 or under MEPC 72 agenda item 7, two of which have been submitted to both bodies. Several submissions to the ISWG GHG suggest textual changes of the chair's draft text or comment on other submissions. EU Member States have submitted one document together with Kiribati, the Marshall Islands and New Zealand. In addition, France has submitted with the Marshall Islands the "Tony de Brum" Declaration. Table 1 provides an overview of these documents and summarises the main issues of each document.

**Table 1: Overview of submissions on the draft GHG reduction strategy**

Sym- bol	Sponsor(s)	Title	Main issues
ISWG-GHG 3/2/1	Norway	Emission reduction potential towards 2050 and determining levels of ambition	<ul style="list-style-type: none"> <li>• Suggests establishing only a long-term level of ambition (2050) and does not support setting intermediate goals</li> <li>• Supports operational and technical measures and the development of a MBM</li> </ul>
ISWG-GHG 3/2/2	China	Comments on document ISWG-GHG 3/2 on Indicative suggestions to assist the ISWG in finalizing the draft initial IMO GHG Strategy	<ul style="list-style-type: none"> <li>• Proposes replacing in Vision chapter the year "2075" with "as soon as possible in this century" and an indirect reference to CBDR&amp;RC with the UNFCCC</li> <li>• Intends to avoid most numbers and prefers to establish a carbon intensity LoA only after 2020 when the results of the DCS are available</li> </ul>
ISWG-GHG 3/2/3	Republic of Korea	Comments on document ISWG-GHG 3/2 on Indicative suggestions to assist the ISWG in finalizing the draft initial IMO GHG Strategy	<ul style="list-style-type: none"> <li>• Proposes replacing in Vision chapter the year "2075" with "in the second half of this century"</li> <li>• Restates that NMFT should apply to ships and CBDR&amp;RC should be reflected through support actions</li> <li>• Supports a carbon intensity LoA (2030: -40%, 2050: &lt;-40%, both compared to 2008)</li> </ul>

Sym- bol	Sponsor(s)	Title	Main issues
ISWG-GHG 3/2/4	Kiribati, Marshall Islands, New Zealand, Solomon Islands and Tuvalu	Ensuring Paris temperature goal-compatible GHG reduction from the Initial Strategy	<ul style="list-style-type: none"> <li>International shipping should contribute to staying below 1.5°C</li> <li>The vision and the LoA should aim at decarbonisation by 2050</li> <li>Supports early actions and suggests including measures which can be implemented before 2023</li> </ul>
ISWG-GHG 3/2/5	Panama	Early application of measures for the reduction of GHG emissions from ships	<ul style="list-style-type: none"> <li>Opposes early action prior to 2023 arguing that it is not in line with the roadmap adopted at MEPC 70</li> <li>Requests that potential early actions should not “result in economic repercussions to States, industry or users, in particular developing States, LDCs or SIDSs”</li> </ul>
ISWG-GHG 3/2/6	Panama	Review of the Vision for the Strategy on reduction of GHG emissions from ships	<ul style="list-style-type: none"> <li>Proposes as vision “The IMO ... aims to phase them out as soon as possible in this century”</li> <li>Argues that measures will commence only after 2023 and may only be accomplished by 2099</li> </ul>
ISWG-GHG 3/2/7	Institute of Marine Engineering, Science & Technology (IMarEST)	On the relevance of the 1.5°C goal	<ul style="list-style-type: none"> <li>Claims that all sectors face challenges in contributing to the below 1.5 °C goal; therefore, shipping cannot rely on the efforts of other sectors such as offsets</li> <li>Underscores the importance of a high LoA</li> </ul>
ISWG-GHG 3/2/8	Greenpeace, WWF, Pacific Environment and Clean Shipping Coalition	An effective IMO GHG Strategy, true to the Paris Agreement	<ul style="list-style-type: none"> <li>Argues that the LoA should not rely on a review and ratchet-up mechanism like for NDCs because it would create uncertainties due to the long investment cycles in the shipping sector</li> <li>Future reviews of the strategy should only refer to measures but not to the long term LoA</li> </ul>
ISWG-GHG 3/2/9	Belgium, Denmark, Finland, France, Germany, Kiribati, the Marshall Islands, New Zealand, Spain, Sweden and the United Kingdom	Comments and suggestions for finalization of the draft Initial IMO Strategy	<ul style="list-style-type: none"> <li>Suggests including a reference to Article 4.1 of the Paris Agreement</li> <li>Proposes replacing in Vision chapter the year “2075” with “to zero as soon as possible in this century”</li> <li>Supports a carbon intensity LoA of -50% towards -70% by 2030 relative to 2008 and an absolute reduction of CO<sub>2</sub> emissions by -70% towards -100% by 2050 compared to 2008</li> <li>Underscores the importance of the NMFT principle</li> </ul>
ISWG-GHG 3/2/10	Chile and Peru	Analysis of the impact on States and the implications of speed reduction	<ul style="list-style-type: none"> <li>Claims that exports will be disproportionately disadvantaged if speed limits were established</li> <li>Proposes including references to “distance from markets” in the section on impacts on States and aim at operationalising the impact assessment (Chapter 4)</li> </ul>
ISWG-GHG 3/2/11	IMarEST	CO <sub>2</sub> emissions from shipping: a route-level perspective	<ul style="list-style-type: none"> <li>Study aiming at identifying GHG emissions on routes to SIDS and LDCs and assessing the variability across these routes between countries of different development status</li> <li>If LDC and SIDS routes were excluded from GHG reduction measures, overall environmental effectiveness may not be significantly impacted</li> </ul>
ISWG-GHG 3/2/12	Argentina, Brazil, India and Saudi Arabia	Comments on document ISWG-GHG 3/2	<ul style="list-style-type: none"> <li>Intends to eliminate the reference to zero emissions in the vision (chapter 3)</li> <li>Prefers an LoA notified as a carbon intensity target whereby it should be based on feasibility considerations</li> <li>Suggests determining the LoA in 2023 when results of the DCS are available</li> </ul>

Sym- bol	Sponsor(s)	Title	Main issues
ISWG- GHG 3/2/13	Canada and New Zealand	Text for inclusion in the Initial comprehensive IMO Strategy on reduc- tion of GHG emissions from ships	<ul style="list-style-type: none"> <li>Claims that, due to the urgency of climate change, action cannot be postponed until results of the DCS are available</li> </ul>
ISWG- GHG 3/2/14  MEPC 72/7/9	Pacific Envi- ronment and Clean Shipping Coalition (CSC)	The need for an evi- dence-based level of am- bition and immediate ac- tion on the EEDI	<ul style="list-style-type: none"> <li>Suggests a reduction target with the highest possible am- bition</li> <li>Detailed review of Japan's submission (MEPC 72/7/3) con- cluding that its target is neither ambitious nor in line with the Paris Agreement</li> </ul>
ISWG- GHG 3/2/15  MEPC 72/7/10	WWF, Pacific Environment and Clean Shipping Coali- tion (CSC)	How speed reduction can ease international ship- ping's path to zero GHG emissions	<ul style="list-style-type: none"> <li>Argues that early speed reduction will provide the ship- ping sector with more time to exhaust its carbon budget</li> <li>Concludes that by implementing early actions interna- tional shipping can contribute to achieving the Paris Agreement temperature goals rather than making it harder for the world to achieve these goals</li> </ul>
ISWG- GHG 3/2/16	Turkey	A Coherent Conceptual Framework (CCF) for an enhanced GHG Strategy	<ul style="list-style-type: none"> <li>Suggests including a CCF in IMO's reduction strategy</li> <li>The CCF would open an entirely new discussion which may postpone the adoption of the strategy</li> </ul>
ISWG- GHG 3/3	IMarEST	The costs of GHG reduc- tion in international ship- ping	<ul style="list-style-type: none"> <li>Summarises and discusses recent studies on zero-emis- sion technologies and fuels</li> <li>Provides updated Marginal Abatement Cost Curves (MACC)</li> <li>Estimates the relative competitiveness of zero-emission technologies and fuels for implementation from 2030 on- wards</li> <li>Concludes that decarbonisation by 2050 can be achieved within a price range of 100 to 500 US\$/t</li> </ul>
MEPC 72/7/1	INTERTANKO	Understanding CO <sub>2</sub> emis- sions and challenges in assessing the operational efficiency for ships	<ul style="list-style-type: none"> <li>Summarises a study on operational efficiency indicators</li> <li>Claims that 60% of the operational efficiency relates to factors outside the control of the shipping company such as cargo load factor, weather, etc.</li> </ul>
MEPC 72/7/2	Norway	Action plan for imple- menting the IMO GHG Strategy	<ul style="list-style-type: none"> <li>Compares the specific reduction potential of candidate measures up to 2050</li> <li>Concludes that improvements of the EEDI and SEEMP and new/innovative emission reductions mechanism(s) are most likely candidates for a mandatory instrument</li> <li>Envisages improvements of EEDI/SEEMP by early 2022 and adoption of new/innovative emission reduction mech- anism(s) by mid-2023</li> </ul>
MEPC 72/7/3	Japan	Analysis of GHG emis- sions reduction targets for international shipping	<ul style="list-style-type: none"> <li>Provides a comparison of emission reduction targets</li> <li>Supports that IMO needs to adopt a reduction target</li> <li>Claims that the target needs to be an efficiency target be- cause demand for international transport services is be- yond control of the maritime sector</li> <li>Suggests 30% efficiency improvement by 2030 and 60% emission reduction by 2050 compared to 2008 as achiev- able targets; includes use of non-fossil fuels</li> </ul>



Sym- bol	Sponsor(s)	Title	Main issues
MEPC 72/7/4	Community of European Shipyards Associations (CESA)	Towards zero CO <sub>2</sub> emissions through innovative technology	<ul style="list-style-type: none"> <li>• Claims that many technological options for zero-emission ships are already available</li> <li>• Points to shortcomings of the EEDI and proposes that it should reward continuous improvement and over-achievement</li> <li>• Suggests promoting the development of GHG neutral fuels and propulsion systems as a priority</li> </ul>
MEPC 72/7/5	Russian Federation	The changing dynamics of harmful emissions into the atmosphere from seagoing ships operating in the Kola Bay area	<ul style="list-style-type: none"> <li>• Provides results of a study on pollutant emissions (NO<sub>x</sub>, SO<sub>2</sub>, CO, though not CO<sub>2</sub>)</li> <li>• Explains that emission reductions have been achieved by improved ship engines, use of low sulphur fuels and optimised logistics of ships</li> </ul>
MEPC 72/7/6	Canada	Proposed list of priority measures to reduce GHG emissions from shipping	<ul style="list-style-type: none"> <li>• Promotes early actions initially focusing on speed reduction and operational efficiency</li> <li>• Suggests fostering R&amp;D on zero-carbon fuels</li> </ul>
MEPC 72/7/7	France and the Marshall Islands	The "Tony de Brum" Declaration on reduction of greenhouse gas emissions from ships	<ul style="list-style-type: none"> <li>• Stresses among other aspects that the shipping sector's LoA must be compatible with LoA of Paris Agreement</li> <li>• Recalls that distortion of competition should be avoided and the disproportionate impacts on specific states should be addressed</li> </ul>
MEPC 72/7/8	WWF and CSC	IMO engagement in Talanoa Dialogue under Paris Agreement	<ul style="list-style-type: none"> <li>• Suggests that the IMO should interact more with UNFCCC and participate in the Talanoa Dialogue</li> <li>• Proposes that IMO should seek feedback from this dialogue on the adequacy of the maritime sector's contribution to global GHG reduction efforts</li> </ul>

**Source:** Author's compilation

An analysis of the submissions to ISWG GHG 3 and MEPC 72 suggests that the following issues will be the most intensively discussed:

- **Vision:** None of the submissions explicitly supports the chair's suggestion to phase out GHG emissions completely by 2075. Several Parties (China, the Republic of Korea, Panama, Belgium et al.) suggest replacing 2075 with "as soon as possible in this century" or "in the second half of this century". Belgium et al. intend bringing forward the year of decarbonisation by replacing it with "as soon as possible"; they also want to maintain the reference to zero GHG emissions while Panama would prefer to extend the time frame for achieving the target beyond 2075 and also suggests deleting the reference to zero GHG emissions. In contrast, Kiribati et al. want to aim at decarbonising international shipping by 2050 and request including a reference to the below 1.5°C goal in the Vision chapter.
- **Level of ambition:** Positions diverge with regard to the suggested metrics, to the time horizon, to target values and to when the decision should be taken by. An efficiency or carbon intensity metric is supported by China, the Republic of Korea as well as Argentina et al. while Kiribati et al. prefer absolute reduction targets for the entire sector. Belgium et al. as well as Japan suggest a package of metrics for the LoA that is composed of an efficiency target to be achieved by 2030 and an aggregate reduction target by 2050 or 2060, respectively. Norway suggests adopting only a long-term LoA (2050) but does not support setting intermediate goals while the Republic of Korea, Kiribati et al., Belgium et al. and Japan favour interim targets. China suggests determining an LoA for 2030 only. The LoA values for aggregated sectoral emission reduction range from -100% by 2050 (Kiribati et. al) to -50% by 2060 (Japan). Several Parties (Norway, China) highlight that the LoA should be based on the reduction potential within the shipping sector rather than on a proportional contribution of

shipping to global efforts. With regard to the question of when the LoA should be determined China, Panama, Argentina et al. do not think that such a decision should be taken until the results of the DCS are available, i.e. around 2023. Norway, Kiribati et al., Belgium et al. as well as Canada and New Zealand stress, by contrast, that any delay must be avoided because it would require more drastic emission reductions in the future.

- **Guiding principles:** The discussion has focused to date on whether the Strategy should be developed on the basis of No More Favourable Treatment (NMFT), as is common in IMO or on the basis of Common but Differentiated Responsibilities and Respective Capabilities (CBDR&RC), as is common under the UNFCCC. The chair's text makes reference to both principles and adds that the impacts of measures, in particular on LDCs and SIDSs, need to be considered. None of the submissions explicitly stresses the importance of the CBDR&RC principle. However, China suggests including a reference to the principles of the UNFCCC and the Paris Agreement in the Vision chapter in which its relevance may implicitly be emphasised. On the contrary, Belgium et al. underscore the importance that the strategy is based on the NMFT principle. The Republic of Korea restates its proposed compromise that NMFT should apply to all ships and CBDR&RC should be reflected in support actions.
- **Candidate Measures:** The positions of the Parties still vary considerably in respect of which measures and instruments are most effective or favourable. Chile and Peru claim that speed limits would disadvantage their economies disproportionately due to their longer distance from markets. Norway, for example, supports operational and technical measures and suggests the development of new/innovative mechanism(s). Canada promotes early actions, focusing initially on speed reduction and operational efficiency, and suggests encouraging R&D on zero-carbon fuels because their development will require more time. Moreover, Parties diverge in their view on when measures and instruments should come into effect. Panama as well as Argentina et al. stress that particularly binding instruments should apply only after the review of the initial strategy in 2023. Kiribati et al., Canada and New Zealand as well as Norway highlight, in contrast, the importance of early actions and suggest that actions to reduce international shipping's GHG emissions should be taken as soon as possible.

The positions of parties are clearly still somewhat divergent in many issues. However, they also seem to have emerged in some aspects, for example with regard to the guiding principle, so that it is conceivable that an agreement on IMO's initial strategy can be agreed upon at MEPC 72.

## Data Collection System (agenda item 6)

MEPC 70 adopted mandatory MARPOL Annex VI requirements for ships to record and report their fuel oil consumption in resolution MEPC.278(70), also referred to as the Data Collection System (DCS). In addition to fuel oil consumption, a proxy for transport work will also have to be reported. Note that the main differences between the IMO's DCS and the EU's MRV regulation 2015/757 as amended by Delegated Regulation 2016/2071 for shipping are:

- The EU MRV requires ships to submit data on voyages to and from EU ports, whereas the DCS is global in nature.
- The DCS requires ships to report to their flag state, which will verify the data, whereas under the EU MRV shipping companies have to submit a report to the European Commission that has been verified by an independent, accredited third party.
- The DCS requires ships to report transport work proxies such as dwt-miles, whereas the EU MRV requires ships to report actual cargo carried.

Regarding the DCS, 6 papers, including 1 information paper, have been submitted to MEPC 72. These submissions will not significantly change the regulation, the type of data collected or any of the differences between the DCS and the EU MRV. Table 2 provides an overview of these documents and summarises the main issues of each document.



**Table 2: Overview of submissions on the data collection system (DCS)**

Symbol	Sponsor(s)	Title	Main issues
MEPC 72/INF.10	Secretariat	Uncertainty analysis of methods used to measure ship fuel oil consumption	<ul style="list-style-type: none"> <li>Analysis of uncertainty of three fuel consumption measurement methods: bunker delivery notes (BDN), tank level indicators (TLI), flow meters</li> <li>Concludes that, contrary to previous studies, flow meters are less accurate than BDNs and TLIs</li> </ul>
MEPC 72/6	Secretariat	Status report of the development of the IMO Ship Fuel Oil Consumption Database	<ul style="list-style-type: none"> <li>Information on the development of the database</li> <li>Suggests that communications with the database are included as features in existing software to reduce the administrative burden required for ensuring the completeness of the database</li> </ul>
MEPC 72/6/1	IOGP and IMCA	Information on the difficulty of defining relevant, appropriate, and meaningful proxies for "transport work" for dynamically positioned (DP) ships used in offshore energy industry	<ul style="list-style-type: none"> <li>Explains why there is no appropriate proxy for transport work of work boats used in the offshore industry and that this market is a niche with a negligible impact on global transport work</li> <li>Suggests excluding these ship types from the requirement to submit transport work data</li> </ul>
MEPC 72/6/2	IACS	Sample form of the confirmation of compliance pursuant to regulation 5.4.5 of MARPOL Annex VI	<ul style="list-style-type: none"> <li>Proposes a standard form to be used for confirming compliance with the DCS</li> <li>The certificate of compliance should be retained on board the ship</li> </ul>
MEPC 72/6/3	Republic of Korea	Consideration of early submission of SEEMP Part II for assessment	<ul style="list-style-type: none"> <li>Highlights that the verification of the fuel oil consumption data collection plan as part II of the SEEMP must be completed by 31 December 2018</li> <li>Recommends that Member States call for early submissions of SEEMP part II</li> </ul>
MEPC 72/6/4	Russian Federation	Comments on document MEPC 72/6/1	<ul style="list-style-type: none"> <li>Refers to submission 72/6/1 and comments that other ship types have similar problems defining transport work</li> <li>Suggest excluding all those ship types from the requirement to submit a transport work proxy</li> </ul>

Source: Author's compilation

### HFO ban in the Arctic (agenda item 11)

Since August 2011, the carriage in bulk as cargo or carriage and use as fuel of heavy fuel oil has been banned in the *Antarctic Area* (MARPOL Annex I, chapter 9). The Polar Code (in force since January 2017) prohibits in the waters surrounding the two poles the discharge of oil or oily mixtures from any ship into the sea and sets structural requirements to category A and B ships constructed on or after 1 January 2017, but a ban comparable to the one in the Antarctic Area has not been implemented in the Arctic yet.

There are two major concerns with regard to HFO use in the Arctic:

- An oil spill could have severe impacts on marine and coastal ecosystems and could also endanger Arctic indigenous food security (oil spills are difficult to clean up due to harsh conditions and darkness); oil has a slow rate of degradation, especially in colder regions; lack of infrastructure to respond to the spill.
- The global warming effect and health effect of black carbon emissions (BC emissions are expected to be higher for HFO than for other fuels).

Due to the 2020 global sulphur cap, use of distillate fuels is expected to rise, but since ship activity in the Arctic is also expected to increase as ice dwindles, the use of HFO might still rise.

Ten documents including three information papers and seven submissions to MEPC 72 relate to a potential HFO ban and show divergent views amongst the submitters. Finland et al. suggest establishing a ban on the use and carriage of HFO as fuel on ships in Arctic waters by the end of 2021. This suggestion is supported by the Clean Shipping Coalition (CSC) and other NGOs which highlight that a similar ban for the Antarctica Area became effective in 2011. The Russian Federation does not explicitly reject a ban on HFO but clearly prefers other measures to reduce the risks of HFO spills. The Submission of Canada and the Marshall Islands and the submission of CLIA request that possible economic impacts of a HFO ban on Arctic communities must be considered and that clarifications regarding the definition of “Arctic waters” and “Heavy Fuel Oil” and with regard to the availability of fuels are required for the implementation of a HFO ban. Table 3 provides an overview of these documents and summarises the main issues of each document.

**Table 3: Overview of submissions on the HFO ban in Arctic waters**

Symbol	Sponsor(s)	Title	Main issues
MEPC 72/11	Russian Federation	Proposal for possible measures to reduce risks of use and carriage of HFO as fuel by ships in Arctic waters	<ul style="list-style-type: none"> <li>Identifies 17 potential measures to reduce risks associated with the use and carriage of heavy fuel oil (HFO) as fuel in Arctic waters</li> <li>The measures include navigational measures, operation of ship, infrastructure and communication, emergency preparedness in case of oil spills and early detection of spill and training but do not include a ban on use or carriage of HFO</li> </ul>
MEPC 72/11/1	Finland, Germany, Iceland, the Netherlands, New Zealand, Norway, Sweden and the United States	Proposal to ban heavy fuel oil use and carriage as fuel by ships in Arctic waters	<ul style="list-style-type: none"> <li>Proposes to ban the use and carriage of HFO as fuel on ships in Arctic waters by the end of 2021</li> <li>Argues that many ships will have switched to marine distillate fuels by then due to the global cap on marine fuel sulphur content coming into force in 2020</li> </ul>
MEPC 72/11/2	CSC, FOEI, Greenpeace, Pacific Environment, and WWF	Use and carriage of heavy fuel oil in the Arctic by ship type	<ul style="list-style-type: none"> <li>Summarises the key findings of an International Council on Clean Transportation briefing titled “Heavy Fuel Oil use in the IMO Polar Code Arctic: Summarized by Ship Type” (72/INF.20)</li> <li>Concludes that in 2015 HFO accounts for 56% of total fuel carried in that region and that a carriage ban would be the simplest and most effective measure to reduce the related risks</li> </ul>
MEPC 72/11/3	Russian Federation	Comments on the document with the proposal to ban heavy fuel oil use and carriage as fuel by ships in Arctic waters (MEPC 72/11/1)	<ul style="list-style-type: none"> <li>Comments on the proposal to ban HFO use and carriage as fuel by ships in Arctic waters (MEPC 72/11/1)</li> <li>Argues that HFO spills are rare and distillate spills might be more dangerous and that a ban would affect maritime trade</li> <li>Concludes that other risk reduction measures should be given preference over a HFO ban</li> </ul>
MEPC 72/11/4	Canada and the Marshall Islands	Comments on document MEPC 72/11/1 on measures to reduce risks of use and carriage of heavy fuel oil as fuel by ships in Arctic waters	<ul style="list-style-type: none"> <li>Comments on the proposal to ban HFO use and carriage as fuel by ships in Arctic waters (MEPC 72/11/1)</li> <li>Argues that possible economic impacts of a HFO ban on Arctic communities must be considered</li> </ul>

Sym- bol	Sponsor(s)	Title	Main issues
MEPC 72/11/5	CSC, FOEI, Greenpeace, Pacific Environment, and WWF	Proposal to ban heavy fuel oil use and carriage as fuel by ships in Arctic waters	<ul style="list-style-type: none"> <li>Comments on the proposal to ban HFO use and carriage as fuel by ships in Arctic waters (MEPC 72/11/1)</li> <li>Notes that a HFO ban for the Antarctica Area has been in effect since August 2011</li> <li>Raises concerns that delayed implementation for certain ship types may not sufficiently reduce the risks</li> </ul>
MEPC 72/11/6	Cruise Lines International Association (CLIA)	Comments on a proposal to ban heavy fuel oil use and carriage as fuel by ships in Arctic waters	<ul style="list-style-type: none"> <li>Comments on the proposal to ban HFO use and carriage as fuel by ships in Arctic waters (MEPC 72/11/1)</li> <li>Requests clarifications regarding the definition of "Arctic waters" and "Heavy Fuel Oil" and with regard to the availability of fuels</li> </ul>
72/INF. 14	Canada, Denmark, Finland, Iceland, Norway, the Russian Federation, Sweden and the United States	Summary of the work undertaken by the Arctic Council's Protection of the Marine Environment	<ul style="list-style-type: none"> <li>Provides findings of projects relevant to HFO use and carriage in the Arctic</li> <li>Finds that larger ocean going vessels used HFO whereas the smaller and more numerous vessels were more likely to rely upon distillate fuels</li> <li>States that between 1970 and 2014 thirteen HFO spills were identified, the majority of which occurred in near-Arctic waters</li> </ul>
72/INF. 18	Russian Federation	Example of navigational measures to reduce risks associated with use and carriage of HFO as fuel by ships in Arctic waters	<ul style="list-style-type: none"> <li>Presents examples of navigational measures to reduce risks associated with use and carriage of HFO</li> <li>Proposes the establishment of recommended routes to reduce the risk of potential incidents leading to pollution</li> </ul>
72/INF. 20	CSC, FOEI, Greenpeace, Pacific Environment, and WWF	Heavy Fuel Oil Use in the IMO Polar Code Arctic: Summarized by Ship Type	<ul style="list-style-type: none"> <li>Summary of the key findings of an International Council on Clean Transportation (ICCT) briefing "Heavy Fuel Oil use in the IMO Polar Code Arctic: Summarized by Ship Type"</li> <li>Annex: Full text of the briefing (10 pages) published in January 2018 on behalf of the European Climate Foundation (ECF)</li> </ul>

**Source:** Author's compilation

As a result of the discussion under this agenda item the MEPC may provide instructions to the Sub-Committee on Pollution Prevention and Response (PPR) to start work on concrete proposals of which type of measures should be developed.

### 3. CONCLUSIONS

MEPC 72 and ISWG GHG 3 in the preceding week are important meetings, particularly because a considerable amount of work is needed to elaborate and adopt the initial IMO strategy on the reduction of GHG emissions from ships. The main issues at stake are:

1. the language and perspective of the long term vision,
2. the levels of ambition of the initial (2018) and the revised (2023) strategy,
3. how the diverging guiding principles of IMO and UNFCCC can be aligned and
4. what measures will be taken when and which need further examination.

Even though it appears that positions related to the IMO strategy have converged since MEPC 71 in terms of structure and content, there is still a considerable gap with respect to some positions on fundamental issues. However, it would be detrimental for IMO's efforts to address GHG emissions from international shipping if these gaps in position cannot be closed during MEPC 72.

The ENVI delegation could aim to convey to key Parties the position of the European Parliament (2018), including conditions under which it would consider calling for regional measures. In addition to the subjects mentioned in the table, the ENVI delegation may want to use the opportunity to discuss how parties view the relation between the EU MRV and the IMO DCS.

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