



İstanbul :

Sayı

Our Reference 3836

Konu

Subject : **Sera Gazlarının Azaltılmasına Ait****IMO Çalışma Grubu'nun 4. Toplantısı Hk.**

10.10.2018

Sirküler No: 569/ 2018

Sayın Üyemiz,

İlgi: Uluslararası Deniz Ticaret Odası(ICS)'nin 05.10.2018 tarihli ve MC(18)89 sayılı yazısı

İlgi yazı ile;

Üyeler, ICS Çevre Alt Komitesi'nin ISWG-GHG başlıklı 4. oturumlararası toplantısında gemilerden kaynaklanan sera gazlarının azaltılmasına ilişkin görüşülecek Özet Gündem konularını, değerlendirmeye davet edilmektedir.

Bilgilerinizi arz ve rica ederiz.

Saygılarımızla,

Murat TUNCER
Genel Sekreter**EKLER:**

Ek-1: İlgi yazı ve Eki (26 syf)

DAĞITIM:**Gereği:**

- Tüm Üyelerimiz (Web)
- Türk Armatörler Birliği
- S/S Gemi Armatörleri Motorlu Taş. Koop.
- Vapur Donatanları ve Acenteleri Derneği
- İMEAK DTO Meslek Komitesi Başkanları
- İMEAK DTO Şube ve Temsilcilikleri
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- Gemi Yakıt İkmalcileri Derneği
- Yetkilendirilmiş Klas Kuruluşları
- Gemi Sahibi Firmalar

Bilgi:

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5 October 2018

MC(18)89

TO: MARINE COMMITTEE

**Copy: Environment Sub-Committee
All Full and Associate Members (for information)**

ISWG-GHG 4 - ICS BRIEF

Action required: Members are invited to note the attached brief for the ISWG-GHG 4 meeting. Comment on the brief or questions on the arrangements for the meeting should be addressed to the undersigned.

The fourth meeting of the IMO Intersessional Working Group on Reduction of GHG Emissions from Ships (ISWG-GHG 4) will be held at IMO headquarters in London from Monday 15 to Friday 19 October.

The ICS brief for this meeting is attached at **Annex**.

Members are invited to note the attached brief. Comment on the brief or questions on arrangements for the meeting should be addressed to the undersigned (john.bradshaw@ics-shipping.org)

John Bradshaw
Technical Director

ITEM 1: PROVISIONAL AGENDA

The fourth session of the intersessional working group on Reduction of GHG Emissions from Ships will be held at IMO Headquarters, 4 Albert Embankment, London SE1 7SR, from Monday, 15 to Friday, 19 October 2018

The session starts at 09:30 on Monday, 15 October.

Papers:

1 Provisional Agenda

The Secretariat provides the agenda for this session of the intersessional working group on Reduction of GHG Emissions from Ships.

The session will consider the development of a programme of follow-up actions of the Initial IMO Strategy on reduction of GHG emissions from ships and also further consider how to progress the matter of reduction of GHG emissions from ships.

ITEM 2: DEVELOPMENT OF A PROGRAMME OF FOLLOW-UP ACTIONS OF THE INITIAL IMO STRATEGY ON REDUCTION OF GHG EMISSIONS FROM SHIPS

The working group (ISWG-GHG 4) will consider the development of a programme of follow-up actions of the initial IMO strategy on reduction of GHG emissions from ships along with the following documents submitted to this session.

Papers:

2 Prioritized candidate measures and follow-up actions towards 2023 Norway

Norway provides proposals for a programme of follow up actions for the consideration of the working group. After reviewing potential carbon pathways for the world fleet Norway proposes that implementing the following measures to reduce GHG emissions should be prioritised (references to paragraphs in the initial IMO strategy are in parentheses):

- i. Further improvement of the existing energy efficiency framework with a focus on EEDI and SEEMP (4.7.1);
- ii. Technical and operational energy efficiency measures for both new and existing ships, including consideration of indicators (4.7.2);
- iii. Consider measures on methane and VOC (4.7.5);
- iv. Implementation programme for fuels (4.8.1); and
- v. New/innovative emission reduction mechanism(s) (4.8.3).

In addition, Norway proposes that the following measures which will not directly reduce GHG emissions should be implemented:

- vi. National Action Plans (4.7.6);
- vii. Technical cooperation and capacity-building (4.7.7);
- viii. Lifecycle carbon intensity guidelines (4.7.11); and
- ix. Undertake additional GHG emission studies (4.7.13).

Norway considers that strengthening the existing energy efficiency framework (EEDI and SEEMP) would make it unnecessary to develop separate speed reduction measures. Norway also explicitly recognises the importance of resolving the minimum power issue and proposes allowing a limitation of shaft power in order to provide ships with a reserve of power. However, other measures advocated by Norway, pursuant to the reduction measures which they have prioritised, include:

- a. Development of guidelines for calculation, survey and certification of an EEDI for existing ships built before EEDI phase 0 and for ships with non-conventional propulsion;
- b. Development of an attained and required EEDI for existing ships and ships with non-conventional propulsion;
- c. Updated SEEMP guidelines including guidelines for the calculation of operational indicators;
- d. Mandatory surveys of the SEEMP; and
- e. Further EEDI phase reductions, *including retroactive requirements.*

Some aspects of the Norwegian proposals are to be welcomed, particularly their focus on the existing energy efficiency framework (EEDI and SEEMP). ICS has also proposed strengthening these existing measures and supports making the SEEMP subject to mandatory through life survey/audits. However the proposals to retroactively apply the EEDI to ships which pre-date EEDI phase 0 is concerning and could be a probably pre-cursor to mandatory technology retrofitting. The suggestion to retroactively apply revised EEDI reduction rates is also concerning and could seriously undermine confidence in the regulatory framework if ships built in good faith to comply with all applicable regulations are then required to be redesigned to meet a revised EEDI reduction introduced after entry into service.

Norway's proposals on operational indicators are also concerning. ICS continues to believe that all of the operational indicators proposed to date actually measure trade patterns, not the operational efficiency of a ship. A Shipowner cannot influence many of the key variables which will determine a ship's operational efficiency rating, for example the influence of weather, current, load factors for some trades and asymmetric trade patterns meaning some voyages are in ballast. Nor do they control the decisions of charters or spot markets in the tramp trades. There would be a real risk that an efficiently managed ship could score very poorly, and worse than an inefficiently managed ship simply because of the trades which ships serve. ICS recognises that operational indicators may be one key performance indicator used by a shipowner to monitor efficiency and included within the SEEMP, however a shipowner should be able to select indicators appropriate for their own particular operational conditions.

ICS thanks Norway for its submission and welcomes the emphasis on improving the existing energy efficiency framework. As delegates already know, ICS and other industry partners have supported an early implementation of EEDI phase 3 for some ship types and making the SEEMP part of the SMS required under the ISM Code so as to make it subject to mandatory, independent audits. We fully support the proposal of Norway that this will obviate the need to consider separate speed reduction measures.

However, we are concerned that proposals to apply the EEDI retroactively to ships built before EEDI phase 0, to retroactively apply revised EEDI reduction rates would be highly problematic technically, be of limited environmental benefit and divert investment which should be directed at developing longer term solutions. Importantly, applying such retroactive measures would undermine confidence in the regulatory process and introduce uncertainty at a time when regulatory certainty is needed in order to plan future investment. We would also urge caution with respect to operational efficiency indicators, as outlined in our submission, document ISWG-GHG 4/2/9, we consider that such indicators do not measure the operational efficiency of ships but rather trade patterns and that the key influencing factors are completely outside the control of shipowners.

— 2/1 **An overview of port initiatives, strategies and points of view** **IAPH and IHMA**

The co-sponsors provide information on the efforts being made by port operators to support reducing GHG emissions from shipping. This includes;

- i. Provision of onshore power supplies (cold ironing). The co-sponsors note the environmental benefits this offers but also notes that it requires significant investment from both shipowners and ports and that the return on investment is low. Successful implementation of onshore power supplies has tended to rely on public funding. The co-sponsors provide suggestions for the working group to consider to accelerate the adoption of onshore power supplies, including introducing partnerships, new business models and new forms of financial support;
- ii. Developing infrastructure to supply LNG fuel to ships;
- iii. Incentivising green ships and speed reduction, the co-sponsors stress that it is essential that such initiative are voluntary in order to function as incentive schemes; and
- iv. Improving port call optimisation, in particular by means of the Avanti and Pronto projects which are concerned with, respectively, berth compatibility and information along with just in time planning.

ICS welcomes the efforts being made by ports to facilitate GHG reductions, however it should be noted that many shipowners still report berth availability as a major cause of ship delay and consequent need to increase speed to recover this lost time, or that ships arrive on time only to anchor when if notified in advance they could have reduced speed and emitted less. This is fundamentally a problem caused by port congestion, however for ports there is little incentive to reduce this congestion. This would be made worse were it to be agreed to introduce mandatory speed reduction as the extra shipping movements needed to maintain transport supply would increase port

congestion. We welcome the recognition from port operators that green incentive schemes should be voluntary, the investment in LNG facilities and the suggestions to improve the take up of onshore power supplies.

ICS thanks the co-sponsors for their submission, and welcomes the work which is being done by ports to improve port optimisation. Port congestion remains one of the principal causes of uneven voyage speed profiles. Ships arrive on time only to anchor as no berth is available, and may have to increase speed on departure to recover this lost time. Reducing port congestion and improving port optimisation would significantly reduce GHG emissions. We would draw the attention of the working group to a related matter which is not generally appreciated. There is support from some delegations for mandatory speed reduction measures. Port congestion is already a significant problem for the industry then the additional number of vessel movements to compensate for the loss of transport supply resulting from lower speeds would actually make this worse, making speed reduction measures counterproductive. We appreciate the comments regarding cold ironing, we consider that cold ironing could significantly reduce emissions in port areas. However, we agree with the co-sponsors that further work is needed to consider technical and financial measures to make it attractive to both ports and shipowners.

**2/2 An action plan to support implementation of Australia and
the Initial GHG Strategy Japan**

The co-sponsors call for an evidenced based process in line with the three step approach incorporated within the roadmap which was agreed at MEPC 70, these three steps being data collection, analysis of data and decision making.

Early action will be necessary to achieve the 2030 target set out in the initial strategy and measures will need to be introduced well before 2030. In order to achieve the 2050 target it will be necessary to implement mid- and long-term measures, such as a transition to alternative fuels and adoption of new and innovative emission reduction mechanisms. Since these mid- and long-term measures are expected to require substantial, comprehensive work the initial strategy states that certain mid- and long-term measures will require work to commence prior to 2023 (paragraph 4.3), as such the co-sponsors consider that it will be necessary to initiate early action on these measures in order to achieve the 2050 target.

Impacts on states should be considered and discussions on the procedure for assessing the impact on states should occur in parallel with consideration of measures.

An action plan is attached as an annex to the document, indicating a timeline for implementing the initial strategy.

Based on this, the co-sponsors propose that:

- i. This session should to consider and agree the action plan set out in the annex to the document;
- ii. MEPC 73 should invite member states to submit concrete proposals on short-term measures and procedures for impact assessment to MEPC 74; and
- iii. Member states should submit proposals or information on mid- and long-term measures to future sessions of the Committee as appropriate.

The proposals are considered to be pragmatic and would promote evidence based decision making and timely implementation of GHG reduction measures.

2/3 Action Plan for implementing the IMO GHG Strategy and candidate measures

Antigua and Barbuda, Kenya, Marshall Islands, Palau, Solomon Islands, Tonga, Tuvalu

The co-sponsors call for the highest priority to be accorded to finalising an action plan for the implementation of GHG measures, including committed timelines. Ambitious strengthening of existing energy efficiency provisions (SEEMP and EEDI), an analysis of speed reduction (to include impacts on SIDS and LDC) and National Action Plans (NAPs) are all supported in the document.

The co-sponsors support research and development arrangements, calling for such efforts to be targeted at all levels of shipping, in particular smaller vessels serving vulnerable states. The co-sponsors request that SIDS and LDC countries are represented on any research board and call for an independent permanent technical body to be established with members appointed by IMO but appointees would not represent any IMO delegation.

The co-sponsors call for an analysis of MBM to be included within the candidate short term measures and that a timeframe for their implementation should be included within the action plan. The co-sponsors strongly request that preparatory work in agreeing MBMs be an immediate and high priority and consider that this MBM should take the form of a fuel levy, the levy would be reviewed regularly and increase over time. Although the co-sponsors accept that initially the money raised would stay in-sector to fund research

and development activities, they also consider that in time the money raised could be used to fund climate change mitigation measures.

The proposals to strengthen the existing energy efficiency framework are consistent with the proposals of ICS, however we agree with Norway in document 2 that this would obviate any need to consider separate speed reduction measures, which is advocated in this document. We would further re-iterate that mandatory speed reduction will only exacerbate existing port congestion issues which are a barrier to improving port optimisation.

We consider the call to open discussions on the subject on an MBM to be premature, and would note that the call to include a timeframe for their implementation within the action plan would appear to prejudice the outcome of discussions and assume that there is already some level of consensus on the matter. Although the support for a fuel levy as the favoured MBM is positive, along with support that the money raised would initially remain in sector we are concerned at the proposal to use funds raised through the bunker levy to fund wider climate change mitigation measures.

ICS thanks the co-sponsors for their submission, and welcomes proposals to concentrate efforts on strengthening the existing energy efficiency framework. We reiterate our note of caution with respect to speed reduction, in particular we would advise that such a measure would only make existing port congestion worse. On the subject of an MBM for shipping, we would suggest that any discussions on this matter should be deferred until a future session of the ISWG following MEPC 73, after progress has been made with regard to developing short term measures that will deliver immediate additional CO2 reductions before 2023. Discussions on potential MBMs would include consideration of substantial amendments to MARPOL, potentially even development of a new Convention, along with the administrative and governance arrangements required for the collection of payments and to administer their use. This would divert limited administrative resources within Member States that are available for the development of additional technical GHG reduction measures that could deliver genuine environmental benefit quickly and would be counterproductive at this time.

**2/4 Creation of a Guidance for Good Practice for Panama
the implementation of national maritime action
plans as a measure of short-term application**

Panama calls on the meeting to consider the development of Guidance for Good Practice for the implementation of national maritime plans for the reduction of GHG and provides examples from their own experience of identifying opportunities to reduce GHG emissions.

The proposals of Panama would benefit some member states and are supported.

**2/5 Alternative fuels, energy saving potentials and CESA
candidate measures**

CESA draws attention of the working group to documents MEPC 73/7/2 and MEPC 73/7/3 which have been submitted directly to the Committee for consideration.

The ICS position and proposed interventions for these documents are provided below.

MEPC 73/7/2 Implementation programme for effective uptake of alternative low-carbon/zero-carbon/fossil-free fuels CESA and EUROMOT

The co-sponsors propose definitions for certain aspects related to GHG reduction and consider some of the challenges associated with making the transition to low and zero carbon shipping fuels.

The proposed terms to be defined are:

- Energy carriers;
- Zero-carbon fuel;
- Fossil free fuel;
- Low-carbon fuel; and
- GHG intensity.

ICS agrees that defining these terms would assist the Organisation to conduct future discussions on GHG reductions and as such development of definitions is supported. The definitions proposed by the co-sponsors are reasonable but require careful scrutiny by a working group.

ICS thanks the co-sponsors for their submission and agrees that defining key terms would aid the Organisation in future discussions on the matter of GHG reductions. As such we support development of such definitions and would request that the definitions proposed are passed to the Working Group on Reduction of GHG Emissions from Ships for further consideration.

MEPC 73/7/3 Energy saving potentials for existing ships and candidate measures CESA

CESA provides proposals to promote the uptake of technologies to reduce GHG emissions from ships, primarily focusing on measures for existing ships. These measures are:

- Introduction of an existing fleet improvement programme along with IMO funded research and development activities to develop alternative fuels and technologies. An IMO Maritime Research Board would coordinate and oversee these efforts;
- Introduction of a mandatory EEDI for existing ships, with phase

reductions to improve efficiency of the existing fleet; and

- Energy efficiency auditing, based on the SEEMP and including mandatory goal setting.

ICS supports strengthening the SEEMP, however we would urge caution with respect to mandatory target setting. ICS can support use of ship specific improvement targets however, should the CESA proposal be taken forward it could result in standardised improvement targets equivalent to those used in the EEDI regulation. Such targets could be impractical for many ships, it should be noted that the most vulnerable ships would be the most efficient ships since they would have the smallest margin for improvement.

The proposals regarding an existing fleet improvement programme are effectively a means to force technology retrofitting onto the industry. This would be supported by a mandatory EEDI for existing ships, which would impose a huge administrative and cost burden on the industry whilst delivering no initial benefit whatsoever.

ICS welcomes the proposal to strengthen the SEEMP, delegates will be aware that the industry has already proposed strengthening of both the SEEMP and EEDI regulation as effective short term GHG reduction measures which could be quickly agreed. However, we are concerned at the proposal to introduce mandatory goal setting, how would this work in practice? Should inappropriate goals be defined then this would penalise the most efficient ships which already operate at, or close to, the limits of what is achievable with current technology after having already invested in efficiency improving technologies. Similarly, we are concerned that introducing a mandatory EEDI for existing ships would impose a huge administrative and cost burden on the industry with little resulting environmental benefit. Promoting improvements for existing ships can be addressed by strengthening the SEEMP. Developing an EDI for existing ships. We consider that such a measure would take a prolonged period and would absorb time and resources which would be better expended developing long term GHG reduction measures. Similarly, while we support improving the efficiency of existing ships we would urge caution about introducing what would in effect be a mandatory technology retrofit programme which would absorb funds and effort which would be better utilised developing long term GHG reduction measures. In particular, there is a lack of independent and impartial information on many new technologies and their claimed benefits. Currently it is unclear how much, if any environmental benefit, some technologies actually deliver in the real world of ship operations. We would draw the attention of the working group to document 3/ 4 submitted by RINA that addresses this important point. We do, however, consider that the concept of an IMO research board merits further discussion. We consider that it would be most sensible to agree short term measures which can be quickly implemented before moving onto this longer term measure.

Therefore, we would urge caution and recommend to the Committee that the proposed existing fleet improvement programme, EEDI for existing ships and SEEMP target setting should not be supported and that discussions for an IMO maritime research board be deferred to a future session.

**2/6 Proposal on the follow-up actions of the China
Initial IMO Strategy on reduction of
GHG emissions from ships**

China provides proposals intended to promote effective, durable and balanced measures to implement the initial IMO strategy. China identifies a number of challenges facing efforts to develop measures to reduce GHG emissions, including:

1. The work needs to be structured to prioritise candidate measures based on agreed criteria and expedite progress;
2. Potential conflicts between efforts to achieve quick progress and the three-step approach;
3. More information will be necessary to support the work, in particular common understanding for concepts such as carbon intensity and transport work;
4. Reconciling the principles of CBDR&RC and no more favourable treatment.

To address these challenges, China proposes categorising the candidate measures into three groups:

1. Measures that are work in progress and can be addressed under the existing IMO framework;
2. Measures that are not work in progress, and which are subject to data analysis; and
3. Measures that are not work in progress, and which do not require data analysis.

The proposals of China are pragmatic and positive, and it is recommended to offer support for the submission.

ICS thanks China for their submission, which identifies a number of key challenges which will need to be addressed as we move forward and develop GHG reduction measures. In particular it will be essential to balance short term ambition and the already agreed three step process, and to be cognisant of the CBDR&RC principles without compromising the principle of no more favourable treatment which underpins all of the

Organisations regulatory instruments. China offers a reasonable and pragmatic way forward based on categorising candidate measures. Delegates will be aware of our proposals to move forward quickly by strengthening the existing IMO energy efficiency framework along with other measures which we consider could be implemented quickly and deliver genuine GHG emission reductions. However, looking beyond these initial potential quick wins, as we move towards mid-and long-term measures we consider that the proposals made by China provide an excellent foundation for further work.

2/7 Further proposal on National Action Plan China

China shares its view that the development and implementation of National Action Plans (NAPs) would encourage rapid action promote the sharing of best practices to reduce GHG emissions from ships. Based on their experience from the GloMEEP Project, they suggest that the guide document *Development of a national ship emissions reduction strategy* could be used as a starting point for the development of voluntary NAP guidance for member states. China also proposes that a new module should be developed for the IMO Global Integrated Shipping Information System (GISIS) platform to allow member states to voluntarily submit NAPs.

China's proposal is pragmatic and reasonable and would help some member states.

2/8 The regulation of ship operational speed: an immediate GHG reduction measure to deliver the IMO 2030 target CSC

The CSC proposes mandatory speed reduction measures by establishing speed baselines for ship types, further sub-divided by size, and then defining limits for average speed over the course of a year. The baseline speeds would be established based on historic data and then verified using data submitted to the IMO Data Collection System (DCS). The CSC claims that use of an average speed limit value would enable ships to operate at higher speeds at certain times of the year when required to carry perishable cargo, and compensate by operating at lower speeds at other times of the year. This, it is claimed, would avoid market distortion. An initial reduction of 10% below the baselines is indicated, with further reductions to help IMO meet its 2030 GHG emissions reduction target

The document includes defines speed optimisation as follows:

"Speed optimization – under the official SEEMP guidelines "optimum speed means the speed at which the fuel used per tonne mile is at a minimum level for that voyage". In order to identify an optimum speed, reference should be made to the engine manufacturer's power/consumption curve and the ship's propeller curve." (ISWG-GHG 4/2/8 paragraph 22)

As can be seen, the above definition would indicate that it is taken from the SEEMP guidelines. The actual text from the SEEMP guidelines is provided below, text underlined is deleted from the version included within the CSC document:

“Speed optimization can produce significant savings. However, optimum speed means the speed at which the fuel used per tonne mile is at a minimum level for that voyage. It does not mean minimum speed; in fact, sailing at less than optimum speed will consume more fuel rather than less. Reference should be made to the engine manufacturer's power/consumption curve and the ship's propeller curve. Possible adverse consequences of slow speed operation may include increased vibration and problems with soot deposits in combustion chambers and exhaust systems. These possible consequences should be taken into account.” (MEPC.282(70) - 2016 Guidelines for the Development of a Ship Energy Efficiency Management Plan (SEEMP), paragraph 5.2.6)

The deleted text is crucial in terms of defining speed optimization and the selective extract used by the CSC fundamentally alters the meaning of this phrase.

Establishing baselines from historic speed data is problematic since it cannot account for regional conditions, nor for the fact that ship speeds may alter because of weather conditions. The document also assumes that ships will only carry perishable cargo at certain times of year, when in fact a reefer ship or reefer container ship will be deployed to carry time sensitive and perishable cargo throughout the year. We are concerned that the system will use the IMO DCS, a system of anonymised data collection agreed based on it being an exercise to collect data to inform decision making. This is contrary to assurances offered when IMO member states agreed to mandatory fuel use reporting. We would also highlight the disingenuous selective quoting from the IMO SEEMP Guidelines, which fundamentally alters the meaning of speed optimisation.

ICS thanks the CSC for their document. We would refer back to our comments to document ISWG-GHG 4/2 and re-iterate our position that strengthening the existing IMO energy efficiency would obviate the need to consider separate speed reduction measures and deliver rapid reductions in GHG emissions without the complexities and complications associated with attempting to develop mandatory speed limits. The paper highlights certain perishable fruit exports and proposes that ships could operate at higher speeds in the season for these fruits and compensate for this by operating at reduced speed for the remainder of the year. This fails to appreciate that refrigerated vessels, including reefer container ships, are deployed to carry perishable cargo all year round and that there is generally a demand for such transport at all times of the year as a result of the diverse nature of global agriculture. We thank the CSC for referencing the 2016 Guidelines for the Development of a Ship Energy Efficiency Management Plan in order to define speed optimisation, however we would point out that the

text quoted excludes the key phrase “It does not mean minimum speed; in fact, sailing at less than optimum speed will consume more fuel rather than less” and other text which fundamentally alters the definition of speed optimisation quoted in paragraph 22 of document 4/2/8. We would also re-iterate that port congestion is already a major challenge and a principal reason for uneven voyage speed profiles, slowing the global fleet down without expanding port capacity would only make this worse and would in fact be counterproductive. We cannot, therefore, recommend support for the proposals provided, and would urge the working group to instead concentrate on further developing the existing energy efficiency framework.

**2/9 Review of candidate measures to reduce GHG ICS, BIMCO,
 emissions from international shipping INTERTANKO**

ICS and the co-sponsors provide a comprehensive review and evaluation of all the candidate GHG emissions reduction measures contained within the Initial IMO Strategy on reduction of GHG emissions from ships and provides comments for the consideration of the working group. The evaluation provided informed document ISWG-GHG 4/2/10 and formed the basis of the short term GHG reduction measures proposed by that document.

ICS will introduce the document with the following intervention:

Thank you chair, ICS is pleased to introduce document ISWG-GHG 4/2/9 on behalf of the co-sponsors. Sir, the document provides an evaluation of all of the candidate measures included within the Initial IMO Strategy on reduction of GHG emissions from ships, this analysis is intended to assist the working group to evaluate each of these measures and assist the deliberations of those attending this week’s meeting. Any review of the candidate measures should be balanced, and consider all attributes in order to identify those which would be effective, implementable and minimise negative impacts on member states and world trade. We consider that the analysis of measures provided in the document represents a considered analysis and that it clearly identifies those measures which are most likely to be effective, implementable and which would minimise negative impacts for member states. This analysis supports strengthening the existing IMO energy efficiency framework as the most effective way forward in the short term, along with measures to improve port optimisation, promote shore power supplies and to prevent methane slip from gas engines. The analysis also highlights the complexities, potential unintended consequences and risk of market distortion associated with measures such as mandatory speed reduction and the use of operational energy efficiency indicators. As such we would recommend that the working group accords it careful consideration.

**2/10 Short-term measures to reduce GHG emissions Liberia, ICS,
 from international shipping BIMCO,**

**INTERTANKO,
INTERCARGO,
IPTA**

ICS, along with the co-sponsors, proposes short term measures to reduce GHG emissions from ships. These measures are to strengthen the SEEMP, implement EEDI phase 3 for some ship types ahead of schedule, development of measures to reduce methane slip from engines and improving the efficiency of ports.

The co-sponsors consider it important that IMO reaches quick agreement on short term GHG reduction measures in order to minimise the risk that national and regional GHG reduction measures could be developed unilaterally. A combination of strengthening the SEEMP and early implementation of EEDI phase 3 for some ship types would reduce GHG emissions, be implementable and would minimise negative impacts for international trade and for the industry. The proposals would make it unnecessary to consider separate measures for speed optimisation and reduction along with operational energy performance indicators since these would be included within the strengthened SEEMP.

Separate speed optimisation and reduction measures could result in mandatory speed limits which would be difficult to implement and enforce, and which would impose a significant administrative burden on the industry. Should operational energy efficiency performance indicators be considered as a separate GHG reduction measure then there is a risk that this could be a precursor to mandatory operational efficiency indexing of ships.

ICS will introduce the submission with the following intervention:

Thank you chair, Liberia (ICS) is pleased to introduce document ISWG-GHG 4/2/10 on behalf of the co-sponsors. Sir, the co-sponsors consider that it is important that IMO agrees effective short term measures to reduce GHG emissions from shipping quickly. We consider that it is essential that short-term measures should be effective; be implementable; minimize negative impacts on member states and global trade; and not divert time and resources from the development of longer term solutions such as zero-carbon fuels.

Measures which are relatively simple to implement, verify and enforce are more likely to deliver early reductions to GHG emissions than more complex measures which will require prolonged work to develop and agree. Should the Organisation enter prolonged negotiations over short term measures then it will only delay efforts to develop the necessary mid- and long-term solutions which will be needed to decarbonise the industry. The co-sponsors therefore propose strengthening the existing energy efficiency framework by making the SEEMP subject to a

mandatory review and improvement cycle, and that this could be achieved by making the SEEMP part of the SMS as required by the ISM Code. We offer some possible regulatory amendments for consideration which could achieve this. We also propose early implementation of EEDI phase 3 for some ship types, improving port efficiency and reducing methane slip from engines and other fugitive methane emissions.

Sir, we consider that the measures proposed would be effective and need only relatively minor amendments to existing regulatory instruments to be implemented. They would avoid the necessity of developing separate speed reduction measures and operational efficiency indicators since they would be addressed by the strengthened SEEMP. They would avoid the risks of market distortion associated with measures such as mandatory speed reduction and use of operational efficiency indicators. Most importantly, they would allow the Organisation to quickly implement measures to reduce emissions of GHGs without delay, allowing us all to focus on long term solutions to decarbonise the industry.

2/11 Proposal to include work on Market-based Measures in the programme of follow-up actions of the Initial IMO GHG Strategy France

France proposes including preparatory work to develop market based measures (MBM) in the programme of follow up actions in order to encourage the transition to low-/zero-carbon fuels and technologies. Potential MBM measures include a levy, an emissions trading scheme or offsetting, collectively referred to as carbon pricing. France does not advocate a preferred mechanism at this stage, but considers that an MBM could be used to fund the transition to low/zero carbon fuels and to incentivise use of low carbon technologies. The document argues that an early introduction of carbon pricing would allow such a scheme to commence with relatively lower carbon price, followed by escalation, avoiding a price shock.

ICS thanks France for their submission, we would refer delegates to our intervention which commented on document ISWG-GHG 2/2/3. Discussions on the matter of an MBM should be deferred until a future session of the ISWG following MEPC 73, after progress has been made with regard to developing short term measures that will deliver immediate additional CO2 reductions before 2023. Discussions on potential MBMs would necessitate prolonged and intensive discussions, potentially involving either substantial amendments to MARPOL or even development of a new Convention, along with the administrative and governance arrangements required for the collection of payments and to administer their use. This would divert limited administrative resources within Member States that are available for the development of additional technical GHG reduction measures that could deliver genuine environmental benefit quickly and would be counterproductive at this time.

2/12 Views on follow-up actions towards revised Strategy

**Argentina,
Brazil, China,
India,
Indonesia and
the Philippines**

The co-sponsors provide views on how to progress a programme of follow-up actions of the Initial Strategy. These views are primarily concerned with reducing uncertainties associated with emissions estimates and scenarios in the planned Fourth GHG study and with assessing the impact of candidate measures on member states. The document provides an annex containing timelines for proposed technical work.

The co-sponsors suggest that the Committee should establish a steering committee to supervise whichever body is awarded the contract to undertake the study. This steering committee should be geographically balanced and equitably represent both developing and developed countries. It is suggested that the steering committee should be comprised of representatives of eight member states, four from developing, and four from developed countries. Two-co-chairs would be appointed.

Additionally, the Committee should organise an expert workshop in conjunction with MEPC 74 to discuss terms of reference for the study. This workshop should give particular emphasis to methodologies which may be used to estimate emissions and emission scenarios.

The co-sponsors also propose that the study should be subject to a peer review process, involving a wide range of academic and research organizations. The outcomes of this peer review should be considered by MEPC before the study is made publicly available.

With respect to the impact of candidate measures on member states the co-sponsors propose a two-track process. The first track would be economy-level assessments concerned with the impact on member states from a macroeconomic and sustainable development perspective. This could use marginal abatement cost curves (MACC), economic models and other relevant policy tools. The second track would involve measure-specific assessments.

ICS fully supports the proposal to subject the Fourth IMO GHG Study to a peer review process. This is a standard process for academic papers, given the importance of this study we consider it is essential that it is completed to a high standard and in a transparent and impartial fashion. A peer review process would give all stakeholders increased confidence in the final study. The proposed two track process includes some positive ideas and suggestions however these should be subject to a detailed review by the working group.

ICS thanks the co-sponsors for their views, and we support the proposal that the Fourth IMO GHG Study should be subject to a robust peer

review process. This is a standard process for academic papers, given the importance of this study we consider it is essential that it is completed to a high standard and in a transparent and impartial fashion. A peer review process would give all stakeholders increased confidence in the final study.

2/13	Proposal for a programme of follow-up actions of the Initial GHG Strategy	Belgium, Denmark, Finland, France, Germany, Ireland, Netherlands, Spain, Sweden and United Kingdom
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The co-sponsors propose milestones for inclusion in the programme of follow-up actions, which would be alongside those from the Roadmap, reflecting the Initial Strategy agreed at MEPC 72.

The initial strategy provides a basis for further work at IMO to reduce GHG emissions, the co-sponsors consider that to make credible steps towards meeting the vision and agreed levels of ambition of the initial strategy it must deliver a tangible reduction in GHG emissions before 2023. This is considered by the co-sponsors to be critical to keeping the 1.5°C temperature goal alive. As such it would be beneficial to plan and sequence activities in order to achieve the most effective and efficient outcomes, balancing evidence-based decision-making with the precautionary approach, as set out in paragraph 3.2.4 of the initial strategy. A programme of follow-up actions should be developed with timelines prioritizing potential early measures which could achieve GHG emissions reductions before 2023 and which should include commencing work before 2023 on any mid- and long-term measures that would need significant time to develop and implement and/or that might be critical in achieving the necessary emissions reductions.

With respect to assessing and taking into account the impacts on member states of GHG reduction measures, the co-sponsors consider that this should demonstrate both positive and negative impacts. The document considers that it is unlikely that a single "one-size-fits-all" methodology to assess impacts on States will be appropriate. Therefore, it is proposed that any parties submitting proposals for a new measure should undertake a preliminary assessment of the potential impacts (both positive and negative). This impact assessment should consider the potential impact of the measure, the need to aim for early actions and the programme of follow-up actions set by the Committee. MEPC or the Working Group would then decide if a further assessment is necessary. The co-sponsors state that such an approach would be streamlined, simple, scalable and with low administrative burden.

The co-sponsors propose that work to enhance the existing energy efficiency framework (EEDI & SEEMP) should continue in the short-term before 2023 however they do not consider that these measures alone will be able to deliver the emissions reductions needed in the short-term and beyond. They therefore propose that IMO should continue to build on previous discussions on those measures before 2023, and to make progress in achieving the level of ambition of the Initial Strategy. These measures include:

- Speed optimization and reduction;
- Technical and operational energy efficiency measures for existing ships;
- Measures to address emissions of methane and volatile organic compounds; and
- An Existing Fleet Improvement Programme.

The co-sponsors propose that there should be agreement on an ambitious package of measures by MEPC 76 for adoption by MEPC 77 which will achieve the 2030 level of ambition. The priority for mid- and long-term measures should be on those that show promise to achieve significant GHG emissions reductions but will need more substantial work to be developed. Work should begin imminently with a view to reaching agreement on an ambitious package of mid- or long-term measure(s) that will achieve the 2050 levels of ambition, by MEPC 80 at the latest. This will include consideration of a range of measures, including MBMs and alternative fuels. Since this will require a large amount of work it will be necessary to organise frequent intersessional working group meetings, or alternative working structures, subject to endorsement by Council.

The following milestones are proposed:

1. Further enhancement of the existing IMO energy efficiency framework;
2. Agree the approach for assessing and taking into account the impact of measures related to international shipping on States at MEPC 73;
3. Agreement by MEPC 76, with adoption at MEPC 77, of an ambitious package of short-term measures;
4. Start discussions on revisions to text of the Initial Strategy at MEPC 77, this should be informed by the IPCC 1.5°C report, the IMO DCS and balanced with the precautionary approach, to progress towards the levels of ambition of the initial strategy; and
5. Agreement on an ambitious package of mid- and long-term measure(s) that will achieve the 2050 levels of ambition, by MEPC 80 at the latest.

ICS welcomes the emphasis on strengthening the existing IMO energy efficiency framework, however we are disappointed that the document still advocates separate speed reduction and operational efficiency measures. We are also concerned that the proposals to achieve GHG reductions before

2023 would in effect introduce additional targets beyond those agreed in the initial strategy and that this could risk undermining the delicate consensus achieved at MEPC 72. Whilst we agree that it is important to move onto mid- and long-term measures quickly, we consider that the proposals to develop further short term measures at the same time as developing mid- and long term measures would tax the resources of the Organisation and member states, notwithstanding the proposals for "frequent" intersessional working group meetings. As such the proposed schedule is considered to be optimistic, particularly given the potentially contentious nature of assessing the impacts on member states and agreeing long-term measures.

ICS thanks the co-sponsors for their submission. We welcome the proposals in the document to strengthen the existing IMO energy efficiency framework and to develop measures to reduce emissions of methane and volatile organic compounds, these are consistent with the preferred approach of shipowners. We consider that if properly implemented strengthening the SEEMP would obviate the need to consider separate speed reduction and operational efficiency measures. We are also concerned that the proposals to achieve GHG reductions before 2023 would in effect introduce additional targets beyond those agreed in the initial strategy and that this could risk undermining the delicate consensus achieved at MEPC 72. Similarly, while we support improving the efficiency of existing ships we would urge caution about introducing measures which could in effect mandate technology retrofitting and which would absorb funds and effort which would be better utilised developing long term GHG reduction measures. In particular, there is a lack of independent and impartial information on many new technologies which have been proposed, currently it is unclear how much, if any environmental benefit, some technologies actually deliver in the real world of ship operations. We would draw the attention of the working group to document 3/ 4 submitted by RINA that addresses this important point. We fully support proposals to accelerate work to develop mid- and long-term measures, indeed that is why we consider that strengthening the SEEMP along with further strengthening of the EEDI provide the most appropriate short term measures, measures which could be quickly agreed and deliver real emissions reductions and facilitate us all moving onto consideration of long-term measures. However, we need to be mindful of the resources of the Committee and member states and international organisations. We would urge the Committee to make a realistic assessment of the amount of work which will be needed to resolve all of the issues raised at this meeting with regards impacts on member states and to reach agreement for GHG reduction measures, and also to retain the three step approach, and to make a realistic decision on future timelines. These timelines should be established based on what will be necessary to achieve the 2030 and 2050 targets of the initial strategy.

2/14 Possible approaches to improvement of SEEMP

**Belgium,
Denmark,
Finland,**

**France,
Germany,
Ireland,
Netherlands,
Spain and
United
Kingdom**

The co-sponsors propose possible approaches to improve the SEEMP, including:

- Mandatory goal setting in the SEEMP, this could either take the form of a company setting targets or it could take the form of IMO defining an indicator and setting goals based on that indicators (or indicators);
- Mandatory SEEMP audits, based on the mechanisms used in the ISM Code;
- Require ships to measure speed – fuel curves in a standardised way; and
- Require retrofitting of energy efficiency improving technologies.

ICS thanks the co-sponsors for their submission, in particular we welcome the proposals to introduce mandatory SEEMP audits. As delegates are aware, industry co-sponsored a document proposing regulatory amendments to introduce such mandatory SEEMP auditing. We are however, concerned that two proposals offered in the submission are impracticable and should not be supported. Firstly, the co-sponsors propose mandatory SEEMP goal setting using defined indicators and goals to be set by the Organization. As has been pointed out repeatedly in many meetings and for a, the indicators proposed such as EEOI, AER, ISPI etc) will not measure operational efficiency of a ship, they will measure the efficiency of trade. This is a fundamental difference that cannot be stressed too highly since if the proposal was to go ahead it would distort markets and damage countries which are removed from the principal shipping lanes and population centres. Consider this, if a shipper knows that a cargo will damage the operational indicator of their ship, perhaps because it is to a remote South Pacific port and where there will be no return cargo, why would they want to carry it? To do so may risk regulatory penalties from poor indicator scoring, and it would damage the commercial value of the ship by suppressing its supposed operational efficiency. Shipowners do not control the location of markets, the weather, trade patterns or the other variables which will determine the scoring of indicators such as AER. Even for those variables within the power of a ship to influence it will be the charterer, not the shipowner, who is responsible for making the relevant decisions.

Secondly, the idea to impose mandatory retrofitting is highly problematic. Who would decide whether or not a technology is effective for a given ship? The proposal indicates that the responsibility would be with the shipowner to prove that a technology was not effective, imposing a huge administrative and legal burden on shipowners. Document 3/4 (RINA) highlights issues related to the efficacy of technologies, and shipowners regularly discover that technologies for which much has been claimed do not deliver these claimed benefits in the real world of ship operations. Mandating such retrofitting would divert funds from longer term solutions and it should be noted that the time necessary to agree amendments to MARPOL could be protracted given the technical problems which would face such an endeavour. Finally, although we would not object to the development of a standardised way of measuring speed – fuel curves, we would counsel the working group that this would be of limited value since ships can already do this. Much is made of the split incentive between owners and charters (although the role of the charter never seems to be identified in discussions on operational efficiency indicators), all of which ignores the obvious and simple point that the charter rate of a ship will already account for fuel costs, a more efficient ship is more attractive to charterers and will secure better charter rates.

ITEM 3: FURTHER CONSIDERATION OF HOW TO PROGRESS THE MATTER OF REDUCTION OF GHG EMISSIONS FROM SHIPS

Papers:

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| 3 | Relating short-term measures to IMO's minimum 2050 emissions reduction target | Greenpeace International, WWF, Pacific Environment and CSC |
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The co-sponsors provide proposals for short term measures to reduce GHG emissions from ships. The document is supported by 3/Inf.2, which summarises an ICCT study on the matter of reducing GHG emissions from ships.

The co-sponsors propose that technical efficiency standards should be accelerated by five years and reducing ship speeds by 10% in order to improve the probability of achieving the target of a 50% reduction in GHG emissions below 2008 levels by 2050. The co-sponsors call for across the board early implementation of EEDI phase 3 in 2022 along with further reductions in 2025.

The submission recognises the difficulties associated with operational efficiency indicators, and concludes that speed reduction would be the most appropriate means to reduce emissions from existing ships even after accounting for additional ships being needed to maintain transport supply.

The co-sponsors also claim that mandatory speed reduction would avoid a rebound effect which could result from an operational efficiency standard.

There are difficulties associated with mandatory speed reduction which are not recognised by the co-sponsors of this submission. They advocate a 10% speed reduction, 10% of what? If using speed trends for a period before introduction of such a measure it was in effect penalise ships which are already operating at low speed for commercial reasons or because of corporate responsibility policies by forcing them to further reduce speed and potentially rendering such ship uncompetitive. There are also issues around practical enforcement which are not addressed.

The co-sponsors accept that measures should be designed so as to avoid market distortion and perverse incentives, however ICS does not agree that rebound effects should be prevented. Investment in developing new technologies is largely driven by efforts to establish a commercial or operational advantage, if that is prevented then it will remove a particularly powerful and effective mechanism which promotes technology development.

ICS thanks the co-sponsors for their paper. Industry supports using the existing energy efficiency framework in order to promote real reductions of GHG emissions and delegates will be aware of our own support for early implementation of EEDI phase 3 for some ship types. We also consider that safety is important and that outstanding concerns over minimum power must be resolved before we can consider early implementation of EEDI phase 3. With respect to further EEDI phase reductions, this will be considered by the correspondence group which is reviewing the matter but the position of industry is that the five year cycle should be maintained, i.e. the next reduction beyond phase 3 should take effect in 2030. We are unable to support mandatory speed reduction and agree with the comments of Norway in document 4/2 that strengthening the existing energy efficiency framework makes it unnecessary to develop separate speed reduction measures. We would also offer two further points for consideration:

- **Mandated speed reduction will only make existing port congestion problems worse and could actually be counterproductive; and**
- **What would be the basis of a 10% speed reduction? This could end up punishing ships which already operate at reduced speed by imposing a further 10% reduction whilst competitor ships are able to operate at higher speeds, distorting the market.**

We cannot agree with the co-sponsors on the matter of preventing a rebound effect. Preventing ships from exploiting advanced technologies in order to operate more quickly whilst also lowering emissions would actively disincentivise investment in research and development of new technologies. Allowing ships to exploit the opportunities offered by new technologies will be an important lever to encourage research and

development in such technologies, technologies which will be essential to decarbonise the industry.

**3/1 Short-term measures to reduce GHG emissions Cyprus
from ships**

Cyprus reviews the list of candidate short term measures in the initial IMO strategy and based on this review recommends short term measures to reduce GHG emissions from ships. The measures positively received are to strengthen the existing energy efficiency framework and reduce methane slip from gas engines. Importantly, Cyprus identifies the same negative attributes of operational efficiency indicators and mandatory speed reduction as the joint industry submission reviewing short term measures co-sponsored by ICS (ISWG-GHG 4/2/10).

ICS thanks Cyprus for its submission and considers that their document provides balanced analysis and recommendations. We would urge all delegates to give careful consideration to the analysis provided by Cyprus and to keep its recommendations in mind when considering candidate GHG reduction measures.

**3/2 The optimization of routes as a short term Panama
measure**

Panama proposes inclusion of route optimisation as a candidate short term measure to reduce GHG emissions.

Route optimisation is an effective measure to reduce fuel consumption, as such it could be an effective short term measure. However, this could be incorporated within the SEEMP, rather than develop the proposal as a separate measure it would be more effective to ensure it is satisfactorily addressed in the SEEMP guidelines. Following with, a strengthened SEEMP as proposed by ICS et al in document ISWG-GHG 4/2/10 would obviate any need to consider route optimisation as a separate measure.

Sir, we agree with the suggestion of Panama that route optimisation is an effective means of reducing GHG emissions from ships. However, we would recommend to the working group that it could be more effectively addressed by strengthening the SEEMP as per the proposals provided in documents 4/2/10 and 4/3/1, followed by reviewing the SEEMP guidelines to ensure that route optimisation is properly addressed. Route optimisation could then form part of a strengthened SEEMP which would be subject to a mandatory, external, review and audit process.

**3/3 Criteria for the application of measures of the Panama
Initial IMO Strategy on reduction of
GHG emissions from ships**

Panama proposes criteria to be used when considering GHG reduction measures. Additionally Panama calls for discussions to concentrate primarily on operational and technical measures for the reduction of GHG emissions.

The criteria proposed are that an assessment of measures should:

- i. So far as is possible neither imply costs to States or industry, or increase the cost of cargo, particularly for developing States, LDCs or SIDS;
- ii. Not result in negative impacts to States, in particular developing States, SIDS and LDCs;
- iii. Find that a measure will result in tangible and direct reduction of GHG emissions;
- iv. Establish that measures can be applied within the expected periods; and
- v. Be supported by studies regarding their potential for delivery, safety and relevance.

The criteria proposed by Panama are relevant and supportable.

ICS thanks Panama for their proposal, and agree that it is important to establish criteria for assessing potential GHG reduction measures. We consider the criteria proposed by Panama to be reasonable and balanced and recommend support for them.

3/4 Verifying percentage improvements of energy saving methods RINA

RINA highlights the uncertainties and inaccuracies associated with claims which have been made for percentage savings for energy saving techniques which have been advocated as solutions to help reduce GHG emissions from ships. They further comment that this makes it difficult to compare the effectiveness of energy saving techniques and that their effectiveness may have been overestimated.

RINA calls for the creation of a robust framework which would be used to verify claims made for energy saving techniques.

ICS thanks RINA for their submission, which highlights a significant gap in the debate on reducing GHG emissions from ships. Many technological solutions are being advocated to assist the industry in reducing carbon emissions, accompanied by claims regarding their effectiveness. Some of these technologies are gaining significant support amongst regulatory stakeholders and are being embraced by policy makers as good solutions for the industry despite a lack of independent verification of their effectiveness. We consider that it will

be essential for policy makers to be guided by robust, impartial and technically expert analysis of the effectiveness of any energy saving technologies which may influence decision making, as such we recommend support for the document.

3/INF.2 Relating short-term measures to IMO's 2050 minimum emissions reduction target

**Greenpeace
International,
WWF, Pacific
Environment
and CSC1**

The co-sponsors provide an ICCT paper which considers short term measures to reduce GHG emissions from ships. The ICCT paper considers a number of possible future scenarios and their effects on the probability of achieving the 2050 target in the initial IMO strategy. The modelling uses a business as usual scenario (BAU) as a reference line for various pathways but it is unclear what this BAU scenario is and the input assumptions and modelling methodology are not clearly explained therefore it is difficult to establish the veracity (or otherwise) of the modelled analysis and results. The submission supports document ISWG-GHG 4/3.