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REDUCTION OF GHG EMISSIONS FROM SHIPS

Report of the third Intersessional Meeting of the working group on greenhouse gas emissions from ships

Note by the Secretariat

1.1 The third Intersessional Meeting of the Working Group on Greenhouse Gas Emissions from Ships took place from 28 March to 1 April 2011 under the chairmanship of Mr. Andreas Chrysostomou (Cyprus). More than 200 representatives from Member Governments and observer organizations participated in the meeting.

1.2 The third Intersessional Meeting was attended by delegates from the following Member Governments:

ARGENTINA
AUSTRALIA
BAHAMAS
BELGIUM
BRAZIL
CANADA
CHILE
CHINA
CYPRUS
DENMARK
FINLAND
FRANCE
GERMANY
GREECE
INDIA
IRAQ
JAPAN
LIBERIA
MALTA
MARSHALL ISLANDS
MEXICO
NETHERLANDS
NORWAY
PANAMA
PERU
POLAND
REPUBLIC OF KOREA
RUSSIAN FEDERATION
SAUDI ARABIA
SINGAPORE
SOUTH AFRICA
SPAIN
SWEDEN
TURKEY
UNITED KINGDOM
UNITED STATES
VANUATU

by representatives from the following United Nations and specialized agencies:

UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP)
UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC)

by observers from the following intergovernmental organizations:

EUROPEAN COMMISSION (EC)
INTERNATIONAL MOBILE SATELLITE ORGANIZATION (IMSO)
MARITIME ORGANIZATION FOR WEST AND CENTRAL AFRICA (MOWCA)
WORLD TRADE ORGANIZATION (WTO)

by observers from the following non-governmental organizations:

INTERNATIONAL CHAMBER OF SHIPPING (ICS)
BIMCO
INTERNATIONAL ASSOCIATION OF CLASSIFICATION SOCIETIES (IACS)
OIL COMPANIES INTERNATIONAL MARINE FORUM (OCIMF)
INTERNATIONAL COUNCIL OF MARINE INDUSTRY ASSOCIATIONS (ICOMIA)
INTERNATIONAL FEDERATION OF SHIPMASTERS' ASSOCIATIONS (IFSMA)
INTERNATIONAL ASSOCIATION OF INDEPENDENT TANKER OWNERS (INTERTANKO)
SOCIETY OF INTERNATIONAL GAS TANKER AND TERMINAL OPERATORS LIMITED (SIGTTO)
CRUISE LINES INTERNATIONAL ASSOCIATION (CLIA)
INTERNATIONAL ASSOCIATION OF DRY CARGO SHIPOWNERS (INTERCARGO)
WORLD WIDE FUND FOR NATURE (WWF)
THE INSTITUTE OF MARINE ENGINEERING, SCIENCE AND TECHNOLOGY (IMAREST)
INTERNATIONAL SHIP MANAGERS' ASSOCIATION (INTERMANAGER)
INTERNATIONAL PARCEL TANKERS ASSOCIATION (IPTA)
THE INTERNATIONAL MARINE CONTRACTORS ASSOCIATION (IMCA)
INTERFERRY
INTERNATIONAL BUNKER INDUSTRY ASSOCIATION (IBIA)
INTERNATIONAL TRANSPORT WORKERS' FEDERATION (ITF)
WORLD SHIPPING COUNCIL (WSC)
CLEAN SHIPPING COALITION (CSC)

TERMS OF REFERENCE

1.3 The meeting had the following Terms of Reference (ToR) adopted by MEPC 61 (paragraph 5.84 of document MEPC 61/24 and annex 7):

"Based on comments and decisions made by the Committee and building on work already undertaken, as well as new submissions, the third Intersessional Meeting of the Working Group on GHG Emissions from Ships (GHG-WG 3) is instructed to:

.1 examine and provide the Groups' opinion on the compelling need and purpose of Market-based Measures (MBM) as a possible mechanism to reduce greenhouse gas (GHG) emissions from international shipping;

.2 group the proposed MBMs in accordance with the reduction mechanism they use (e.g., in-sector/out-of-sector, etc.) and other relevant features; and identify and list strengths and weaknesses for each of the MBM groups;

.3 examine the MBM proposals relation to the principles and provisions of relevant conventions such as the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol, as well as their

compatibility with the World Trade Organization (WTO) Rules and customary international law, as depicted in the United Nations Convention on the Law of the Sea (UNCLOS);

.4 having in mind the discussion in paragraph 3 and building on the work of the Expert Group on Feasibility Study and Impact Assessment of Possible Market-Based Measures (MBM-EG), further assess each of the MBM groups mentioned above against the same criteria as used by the MBM-EG (paragraph 5 of annex 8 to MEPC 60/22), using the analyses already undertaken by the MBM-EG to avoid duplication, for a more clear input to the Committee in relation to the policy issues;

.5 continue the analysis of the MBM-EG Study (MEPC 61/INF.2), evaluate the impact of the proposed MBMs on international trade, and the maritime sector of developing countries, least developed countries (LDCs) and small island developing states (SIDS), and the corresponding environmental benefits; and

.6 submit a written report to MEPC 62."

OPENING SESSION

1.4 In welcoming the participants on behalf of the Secretary-General, the Director of the Marine Environment Division, Mr. Jo Espinoza-Ferrey, recalled that the Working Group's deliberations would concentrate on the third pillar of IMO's Assembly-mandated work plan on greenhouse gas emissions from ships, namely, Market-Based Measures (MBMs). Recalling further the deliberations of the Marine Environment Protection Committee (MEPC) leading to the establishment of the terms of reference for this third Intersessional Meeting of the Working Group, he underlined the importance of the work to be carried out as the Committee would, at its sixty-second session, depend heavily on the advice drawn up by the Group in order to culminate, on schedule, its specific work plan for further consideration of MBMs. The Director was confident that the spirit of co-operation for which the Organization was renowned would prevail in the quest for sound and balanced decisions on which to base the Group's advice to the Committee. He was sure that, under the able leadership of the MEPC Chairman, the meeting would make good progress and arrive at solutions that would serve well the cause of protecting the global climate and atmospheric environment; he closed his remarks by wishing the meeting every success.

1.5 In thanking the Director for his guidance, the Chairman noted that a good framework for progress had been provided by the Members and organizations that had submitted documents and the Secretariat, thus enabling the meeting to complete its mandate in a timely manner. He underlined that the meeting was expected to provide MEPC with clear advice on the need and purpose of an MBM, and on what MBM or what elements should be included in an MBM to bring forward for further consideration. He did not expect the work to be easy, on the contrary, the meeting would have to deal with a number of very challenging issues, but he was hopeful that the renowned IMO spirit of flexibility, cooperation and willingness to reach compromises would prevail and guide the work.

Statements

1.6 The delegation of Brazil provided a general statement at the opening session, which is set out in annex 1 to this document.

Adoption of the agenda

1.7 Following the opening of the meeting, some delegations requested clarifications of the ToR attached to Circular letter No.3121 and the Provisional Agenda issued as document GHG-WG 3/1. In this respect, views were expressed in the same vein on how the ToR should be understood and adhered to, the Organization's competence and mandate to regulate GHG emissions from international shipping, in particular in the context of a possible MBM, the scope of the work for the meeting, what should and should not be emphasized in the deliberations, principles to be observed and how the meeting should be conducted.

1.8 The delegations of China, India and Saudi Arabia, supported by other delegations, expressed the view that if no compelling need for an MBM to reduce GHG emissions from international shipping under IMO could be established under agenda item 2, there was no need to consider the other items on the agenda.

1.9 The Chairman made it clear that the ToR in Circular letter No.3121 were as agreed by MEPC 61 and that the Provisional Agenda reflected them correctly. He further clarified that there were no caveats or conditions in the ToR indicating that the other items on the agenda should not be considered unless the meeting confirmed a compelling need for an MBM under agenda item 2. Accordingly, the Chairman stated that the meeting would address all its agenda items and comply with its entire ToR as time and progress would allow, noting that all delegations could fully participate in the debate without prejudice to their positions on the issue of the compelling need for an MBM.

1.10 The third Intersessional Meeting of the Working Group on Greenhouse Gas Emissions from Ships (GHG-WG 3) adopted its provisional agenda as set out in document GHG-WG 3/1.

1.11 The Intersessional Meeting agreed to consider document GHG-WG 3/INF.3 (European Commission) under agenda item 3 and not under agenda item 2 under which it was submitted.

1.12 The Intersessional Meeting noted document GHG-WG 3/1/1, Annotations to the provisional agenda, which also contained the meeting's provisional timetable and list of documents as well as other useful information, and agreed to use it as a guide for its work.

2 NEED AND PURPOSE OF AN MBM

2.1 The Intersessional Meeting recalled that MEPC 61 instructed it to examine, and provide its opinion on, the compelling need and purpose of an MBM as a possible mechanism to reduce GHG emissions from international shipping.

2.2 As an introduction to the agenda item, and to link the Intersessional Meeting's work to the world community's wider effort to combat climate change, presentations were given by a representative of the United Nations Environment Programme (UNEP), on "The Emissions Gap and Potential Role of Shipping", and a speaker from Det Norske Veritas (DNV), on "Technical Solutions and Abatement Potential". The handouts of the presentations are set out in document GHG-WG 3/WP.2.

2.3 In the following question and answer session, the delegation of China questioned whether the UNEP GAP Analysis study had been endorsed by the UNEP Governing Council (GC). The representative of UNEP confirmed that the GAP report was neither an IPCC nor UNEP mandated report, but that it had been welcomed by Small Island States and several other governments, and that the paragraphs on the gap assessment along with other

assessments were omitted from the decision by the drafting group at the UNEP GC because the Members considered the GC was not obliged to take a decision on each and every assessment report produced by UNEP, as well as due to time limitations to review and negotiate the draft decision text.

2.4 The Intersessional Meeting recalled that the IMO Assembly had, in resolution A.963(23), urged the MEPC to identify and develop the mechanisms needed to achieve limitation or reduction in GHG emissions from international shipping. In developing the needed mechanisms, MEPC was urged to give priority to the evaluation of technical, operational and market-based solutions.

2.5 The Intersessional Meeting recalled also that in response to the call for action in resolution A.963(23), MEPC 55, building on previous work, had approved the work plan to identify and develop the mechanisms needed to achieve the limitation or reduction of CO_2 emissions from international shipping. The work plan reiterated the call to consider technical, operational and market-based methods for dealing with GHG emissions (action 1(d) of resolution A.963(23)).

2.6 The Intersessional Meeting recalled further that MEPC 59 had held an in-depth MBM discussion, including on the need and merit of such mechanisms. Having considered a large number of views and contributions on the subject, MEPC 59 had agreed by overwhelming majority that an MBM was needed as part of a comprehensive package of measures for the regulation of GHG emissions from international shipping. In this same context, a few delegations had recommended IMO to concentrate its work on the elaboration of technical and operational measures.

2.7 The Intersessional Meeting recalled finally that MEPC 59, on the basis of its in-depth discussion, had adopted the Work plan for further consideration of MBMs, a plan that will culminate with MEPC 62 reporting progress to the twenty-seventh session of the Assembly. In adopting a work plan for MBMs, MEPC 59 recognized the need for further consideration of such measures that could complement the technical and operational measures.

Documents for consideration

2.8 The Intersessional Meeting considered the parts of document GHG-WG 3/2 (Bahamas) relevant to the debate on the need and purpose of an MBM. The document states that MBMs, in contrast to technical and operational measures, could not achieve direct reductions of emissions as they depend on a market mechanism to deliver reduction. In order to have an immediate effect upon CO_2 emissions, operational and technical measures are the only means by which a vessel can achieve the desired results.

2.9 The Intersessional Meeting considered document GHG-WG 3/2/1 (Cyprus, Denmark, the Marshall Islands and Nigeria), which emphasized that a global MBM for international shipping was needed to ensure that international shipping does its part to reduce the total amount of anthropogenic CO_2 emissions. Although technical and operational measures could deliver CO_2 reductions for individual vessels, the co-sponsors considered that these measures were not sufficient as the combined reduction effectiveness would rely on economic growth and, even in a moderate growth scenario, it would not be possible to achieve combined CO_2 reductions for the sector. Therefore, in the view of the co-sponsors, additional measures were needed to ensure that the shipping sector could deliver actual reductions.

2.10 The Intersessional Meeting considered document MEPC 61/5/19 (India), which had been referred to it by MEPC 61. The document provided information on two MBMs for GHG reduction introduced by India on a voluntary basis, as part of India's national action plan.

While India supported IMO's technical and operational measures, it, however, had serious concerns regarding the introduction of MBMs for international shipping on the no more favourable treatment basis of IMO, due to the disparity in economic and social development status between developed and developing countries. India was of the view that GHG reduction targets for international shipping under IMO should be in consonance with those being set by the UNFCCC.

Debate

2.11 Following introduction and consideration of relevant documents, the Intersessional Meeting held a debate on the need and purpose of an MBM for international shipping under IMO. The Intersessional Meeting agreed that matters of policy, such as the debate on the relation to the principles and provisions of the UNFCCC, would be considered under agenda item 3.2, based on relevant documents as described in the annotated agenda.

2.12 Several delegations supported the views of the Bahamas and India, reiterating that an MBM could negatively impact world trade and development as it could disadvantage consumers and industries in developing countries. The delegations of Brazil and India expressed the view that an MBM under IMO as proposed would not be compatible with the UNFCCC principle of common but differentiated responsibilities and respective capabilities (CBDR) and could further result in an increase in price of food, so hampering food security in developing countries. Another delegation expressed concerns over the indiscriminate manner in which technological improvements would be required and that the situation could be worsened by a lack of transfer of available and cost-effective technology.

2.13 A number of delegations, noting that the Cancún Agreements identified an unquestionable need for rapid and deep cut in emissions, expressed the view that there was a compelling need for an MBM for international shipping under IMO, that its purpose should be to provide the most cost effective emission reduction strategy for the sector, and that it would provide an incentive to adopt new technology and make further efficiency gains. Still other delegations, in supporting the view that there was a compelling need, also stated that there was a need to adopt an MBM sooner rather than later otherwise the cost to society and, specifically, to developing countries, would be greater.

2.14 The delegation of Germany noted and supported the Bahamas' view, in document GHG-WG 3/2, that an element of compulsion in energy efficiency improvement is needed and that any measure adopted needed to be applied to all ships. However, Germany did not support the Bahamas' view that technical and operational measures in the shipping sector, along with high fuel costs, could alone result in the required emission reductions. As such, the delegation supported the view of several other delegations that there was a compelling need for an MBM. Germany also pointed out that existing MBMs had proven to deliver emission reductions and that an ETS would also lead to in-sector reductions due to its price signal.

2.15 The delegation of Australia, supported by the delegations of Belgium, Finland, Sweden, the United Kingdom and other delegations, noted that the emissions from international shipping were greater than those from many countries, and that there was an expectation that the sector should play its part in stabilizing the climate at below 2°C. Australia expressed appreciation for the willingness industry had shown in contributing to the global efforts and considered that the commercial nature of the shipping sector will make an MBM the most effective and efficient means to achieve reductions. Australia also noted that it will be one of the countries whose industries are likely to be impacted by an MBM due to its isolation and markets, and is supportive of looking at compensation measures to assist developing countries with impacts. Australia did not support waiting for the completion of further studies before making a decision on an MBM, and considered that the resolution of

this issue was a critical and urgent test of the competency in GHG issues for the IMO. At the request of the aforementioned delegations, the statement given by the delegation of Australia is reproduced in annex 1 to this document.

2.16 Noting the Australian delegation's intervention, a large number of other delegations supported the view expressed in document GHG-WG 3/2/1 that there is a need to act fast and effectively. A postponement in implementing an MBM for international maritime transport will lead to increased costs over time, as the reduction requirements for the sector to contribute to the 2°C commitment will be relatively higher if no early action is taken by it.

2.17 The delegation of China, supported by other delegations, expressed the opinion that an MBM for international shipping should include the following objectives, with a view to:

.1 encouraging and promoting countries listed in Annex I to the UNFCCC, to pursue the limitation or reduction of GHG emissions from marine bunker fuels, in accordance with Article 2.2, of the Kyoto Protocol;

.2 using the market as a means to enhance action related to financial resources and the transfer of technology to support mitigation and adaptation activities of developing countries; and

.3 contributing to the sustainable development of the maritime industries of developing countries.

2.18 The delegation of Greece made a statement on the need and purpose, as well as design and effect, of an MBM for international shipping under IMO, which is set out in annex 1 to this document.

2.19 It was noted in the course of the debate that the need and purpose of an MBM were intertwined features and not easy to discuss separately, as the purpose would define the need and vice-versa. Another aspect was the climate change financing issue, taking into account the Cancún Agreements on establishment of the Green Climate Fund and the report of the UN Secretary-General's High-Level Advisory Group on the subject (AGF).

2.20 In considering the main purpose of an MBM for international shipping under IMO, a number of delegations recalled the first of the nine basic principles agreed by majority at MEPC 57, namely that any measures should be effective in contributing to the reduction of total global GHG emissions. These delegations invited the Intersessional Meeting to consider whether an MBM for shipping should also have a dual purpose, both mitigation and climate change financing and, if so, where the emphasis should be placed. In the context of the aforementioned nine basic principles, some delegations recalled that they had expressed reservations with regard to the principle of making GHG measures binding and equally applicable to all flag States.

2.21 The Intersessional Meeting concurred with the urgent need for global reductions in GHG emissions to support the target of limiting global temperature rise to 2°C, as agreed at COP 16/CMP 6 in Cancún, Mexico.

Outcome of debate

2.22 The debate revealed two groups of opinion. One group considered that a compelling need for an MBM under IMO had been clearly demonstrated and its purpose is to reduce GHG emissions from international shipping. The other group considered that a compelling need for an MBM for international shipping under IMO had not been clearly demonstrated and, as such, there was no purpose for it.

2.23 Although the two groups were not of equal size the Intersessional Meeting agreed to forward both opinions to the Committee with a summary of the supporting arguments put forward by each group.

Need demonstrated

2.24 Those delegations expressing the opinion that a compelling need and purpose for an MBM for international shipping under IMO had been clearly demonstrated, made, in no particular order, the following points:

.1 the Cancún Agreements, made in December 2010 by all countries party to the UNFCCC, confirm the need for deep cuts in global GHG emissions, as required by science, and commit to holding the increase in global average temperature below 2°C; maritime transport must contribute its share to this global effort;

.2 climate change is a significant global challenge that will impact all States without differentiation; as the international maritime transport sector contributes to this impact, it should take part in the global mitigation efforts;

.3 in 2007, emissions from international shipping were calculated at 2.7% of the global total; with business as usual, the forecast growth in world trade suggests this share might grow to 12-18% of global emissions by 2050; as such, technical and operational measures alone would not be sufficient in reducing shipping's emissions to contribute to achieving a global stabilisation of the climate to less than 2°C warming;

.4 there is a need to supplement emissions reductions, from technical and operational measures, with an MBM to provide an incentive for further reductions and to provide additional options to achieve emissions reductions through offsetting;

.5 there is a cost of addressing the challenge of climate change; but there may be a higher cost of doing nothing;

.6 a delay in the introduction of an MBM for international shipping would lead to more costly implementation in the future, and may foreclose opportunities to make use of some mitigation actions that can be undertaken in the short and medium term;

.7 an MBM would deliver the most cost effective solution to reduce emissions and encourage investment in low-carbon technologies;

.8 universal application of an MBM would provide a robust emission reduction mechanism for the industry and avoid market distortions; differentiating MBM's by flag, country of ownership or by final destination would undermine the effectiveness through carbon leakage (by re-flagging, change of postal address or reloading) and market distortions;

.9 with global energy prices expected to continue to rise, including for bunker fuels, an MBM would incentivize investment in energy efficiency and produce significant benefits through lower operating costs and savings, and is supported by the shipping industry organizations;

.10 introduction of an MBM may lead to a differential impact on consumers and industries in individual States, however, further analysis of those potential impacts should not prevent action being taken now;

.11 an appropriately designed compensation mechanism for the MBM could compensate developing countries for adverse impacts, with close attention and assistance to the needs of the LDCs and the SIDS given their special vulnerability; this would give full effect to the UNFCCC principle of CBDR; and

.12 a universally applied and uniformly regulated international MBM would avoid trade distortions and be fully compatible with the rules and objectives of the WTO.

Need not demonstrated

2.25 Those delegations expressing the opinion that a compelling need and purpose for an MBM for international shipping under IMO had not been demonstrated, made, in no particular order, some or all of the following points:

.1 IMO does not have a mandate to develop an MBM for GHG emission reductions, that mandate falling under UNFCCC;

.2 the MBM proposals do not incorporate the UNFCCC principles and so would not allocate responsibility adequately and reflect historical emissions;

.3 developing countries are reducing their GHG emissions in accordance with their nationally appropriate mitigation actions. At UNFCCC, the reduction in GHG emissions is still being discussed. In such a scenario, IMO should await the outcome of relevant decisions at UNFCCC to ensure that the international shipping industry does not become uncompetitive;

.4 for developing countries, one of the major priorities lies in uplifting the social and economic condition of its citizens to an acceptable level. This is not possible without increased energy use, as the per capita energy use is still very low in developing countries compared with developed countries. Any MBM requirement for reducing GHG emissions from such countries without taking into account the CBDR Principle of UNFCCC/Kyoto Protocol would adversely affect their developmental goals;

.5 MBMs would increase the cost of operating ships and this cost would be absorbed, in varying degree, within ship operating costs and freight costs depending on market condition. Developing countries export mostly low value raw material, on which the impact of increased transportation costs would be much more noticeable, thereby putting these countries and their exporters at a disadvantage;

.6 insufficient studies exist for the MBM proposals to identify and quantify the impacts of MBMs on:

.1 sustainable development of international shipping;

.2 international trade, economy and development of developing countries, particularly on LDC and SIDS;

.3 food price and food security, especially in the context of developing countries' struggle to eradicate hunger;

.4 import and export of commodities, especially at significant distance from the source and destination; and

.5 small and medium sized exporters in developing countries;

.7 the assumption that financial liability will alter the behaviour of shipowners to make their ships use less fuel was not validated by any studies;

.8 developing countries' would bear a disproportionate burden of the environmental and social-economic cost of the high GHG emitting lifestyles found in developed countries;

.9 all MBMs require use of technologies and practices for fuel efficiency enhancement, and inherently, developing countries would be adversely affected due to their lack of access to necessary finance and technology to finance such changes;

.10 the maritime industry should not be punished because its contribution to global emissions is low, when compared to the contribution of other transport modes and land based sectors, and so the potential to provide significant emission reductions is relatively low;

.11 unlike MBMs, technical and operational measures under development in IMO, that shall not adversely impact, directly or indirectly, on developing countries, could be sufficient in substantially reducing GHG emissions from the shipping sector, and thus the shortfall to be addressed by an MBM has no basis; and

.12 an MBM for international shipping under IMO would be incompatible with WTO rules.

3 REVIEW OF PROPOSED MBMs

Presentation of MBM proposals

3.1 The Intersessional Meeting benefitted from presentations by the proponents of the MBM proposals as outlined below. Handouts of the presentations and summaries of the proposals are set out in annex 2 to this document and in document GHG-WG 3/WP.3.

MBM Proposal	Base document(s)	Proponents
How technical and operational measures are the only direct and effective means to deliver cuts in CO_2 emissions	MEPC 60/4/10 GHG-WG 3/2	The Bahamas
International Fund for GHG emissions from ships (GHG Fund)	MEPC 60/4/8 GHG-WG 3/2/1 GHG-WG 3/3/4	Denmark, Cyprus, the Marshall Islands, Nigeria (and IPTA)

MBM Proposal	Base document(s)	Proponents
Achieving reductions in GHG emissions from ships through port State arrangements utilizing the traffic, energy and environment model, STEEM (PSL)	MEPC 60/4/40	Jamaica (presented by the Secretariat)
The Global Emissions Trading System (ETS)	MEPC 60/4/22 MEPC 60/4/26 MEPC 60/4/41 MEPC 60/4/54 GHG-WG 3/3/5 GHG-WG 3/3/6 GHG-WG 3/3/8	Norway, the United Kingdom, France and Germany
Consolidated proposal of the Efficiency Incentive Scheme (EIS) based on the Leverage Incentive Scheme (LIS) and the Vessel Efficiency System (VES)	MEPC 60/4/37 MEPC 60/4/39 GHG-WG 3/3/2	Japan and WSC
The Ship Efficiency and Credit Trading (SECT)	MEPC 60/4/12 MEPC 61/5/16 MEPC 61/INF.24	The United States
A Rebate Mechanism (RM) for a MBM for international shipping	MEPC 60/4/55 MEPC 61/5/33	IUCN (presented by the Secretariat[1])

3.2 Following the presentations, delegations asked questions and sought clarifications from the presenters on the design, effect and possible impact of the various proposals.

Introduction of documents commenting on MBM proposals

3.3 The Intersessional Meeting had the following additional documents or the relevant parts thereof (as other parts of some documents are covered in other parts of this report), commenting on the MBM proposals, for its consideration:

.1 GHG-WG 3/3 (Greece), proposing that the levy (Fund) and the emissions trading scheme (ETS) be taken forward for further consideration, but concluding that the levy should be the preferred option as it provides price certainty and investors' respond to price not an emissions cap; an ETS would fail to take structural, operational and contractual complexities of bulk shipping into account and is, consequently, not cost effective for many companies engaged in bulk trading; the carbon price under ETS would be likely to fluctuate significantly; the administrative costs of an ETS are likely to be substantial; and carbon leakage and fraud are likely in an ETS.

.2 GHG-WG 3/3/1 (Republic of Korea), proposing that, once the MBM proposals are grouped, the relative strengths and weaknesses for each of the MBM groups be evaluated in accordance with the reduction mechanism defined by the MBM-EG's report (in-sector and out-of-sector).

[1] Questions were responded to by the WWF observer delegation on behalf of IUCN.

.3 GHG-WG 3/3/5 (Norway), providing estimates on how emissions and costs change as a function of the level of auctioning of allowances in a global Emission Trading System for international shipping. The main findings are that, even with a limited amount of auctioning large emission reductions can be achieved. Hence, Norway identifies an ETS for international shipping as a robust emission reduction mechanism for the level of emission reductions and cost decided.

.4 GHG-WG 3/3/7 (Germany), provides information on the cost effectiveness and administrative costs of MBMs. Germany emphasizes that social cost effectiveness should be a decisive consideration when taking a policy decision. Therefore, social cost effectiveness had to be taken into account in addition to consideration of the Expert Group report. Furthermore, empirical data indicates that the administrative costs only constitute a small percentage of the total costs of the suggested MBMs. Moreover, data strongly indicates that the administrative costs of the ETS, the GHG Fund and the SECT are similar if these systems require ships to monitor and report emissions and/or fuel use. Germany concludes that the ETS is more cost-effective from a social perspective than the GHG Fund and the SECT.

.5 GHG-WG 3/3/8 (United Kingdom), identifies how an ETS could be introduced in two phases in order to facilitate timely implementation. During the first phase, vessels would offset only a specific proportion of their emissions through the purchase and surrender of international credits. This would provide time for the shipping industry to become accustomed to the ETS features without carrying the full cost, resulting in the collection of accurate emissions data, and so aid the full implementation of the ETS in phase two.

.6 GHG-WG 3/INF.2 (the Netherlands), providing information on two studies funded by the Netherlands. The first study appraises the impacts of the proposed MBMs on the shipping industry of the Netherlands. The second study compares the proposed MBMs being considered and concludes that an ETS should be the MBM for the international shipping industry because it was found to be the most cost effective.

.7 GHG-WG 3/INF.3 (European Commission) providing information about the existing international carbon market with a focus on experiences in the EU-ETS (the European Union Emission Trading Scheme), which currently accounts for 80% of that market, and international credits in a post-2012 context.

3.4 The Intersessional Meeting recalled that it had been tasked to consider relevant documents, or parts thereof, submitted to MEPC 61 (MEPC 61/24, paragraph 5.85) as follows:

.1 MEPC 61/5/19 (India), providing information on two MBMs for GHG reduction introduced by India on a voluntary basis, as part of India's national action plan. India supports IMO's technical and operational measures but, however, has a serious concern regarding introduction of MBMs on the no more favourable treatment basis of IMO. India is of the view that GHG reduction targets of international shipping should be in consonance with those being set by UNFCCC.

.2 MEPC 61/5/24 (China and India), providing information on possible uncertainties associated with MBMs, such as the carbon market *per se*, calculation of emissions from international shipping, carbon tax and the

future effect of MBMs, and key problems of existing proposals. The co-sponsors propose that all those uncertainties and problems should be carefully studied, assessed and addressed, with a view to reach a clear conclusion. All countries should be encouraged to continue studying possible MBMs and adequate time should be given, particularly to developing countries, to carry out research and submit their proposals to future sessions.

.3 MEPC 61/5/28 (Republic of Korea), providing information on a possible challenge associated with the use of credits, i.e. Certified Emission Reductions (CERs), generated by the Clean Development Mechanism (CDM) for offsetting emissions from shipping. The Republic of Korea concludes that the GHG fund is a better measure for international shipping compared with ETS, as it meets the nine fundamental IMO principles for a GHG reduction framework, as agreed at MEPC 57, and is simple to implement.

Consideration of policy advice to the Committee

3.5 The Intersessional Meeting recalled that the MBM-EG concluded that its evaluation of the MBM proposals had been complicated by the different levels of maturity of the proposals; due to a lack, to various degrees, of sufficient details for the necessary evaluation; and because certain policy issues required further consideration in order to be properly addressed (MEPC 61/24, paragraph 5.76).

3.6 The Intersessional Meeting also recalled that MEPC 61 exchanged views on which MBM it should develop further or what elements should be included in such a measure, and tasked the Intersessional Meeting to provide the Committee with clear advice in accordance with the agreed ToR.

3.7 The Intersessional Meeting noted that its ToR agreed by MEPC 61 instructed it to build on the work of the MBM-EG. To that end, the Intersessional Meeting, in replicating or building on some of the MBM-EG work, should further assess and evaluate the MBM groups against the same criteria as used by the MBM-EG.

3.8 The Intersessional Meeting also noted that the MBM proposals under consideration use different mechanisms to achieve emission reductions, and the merits of these mechanisms will depend on reduction ambitions as well as on the desired priorities, such as certainty in reductions, certainty in future cost for the industry or certainty in efficiency improvements.

3.9 The Intersessional Meeting noted further that document GHG-WG 3/3/5 (Norway) identifies three issues that should be considered apart when evaluating the MBM proposals: design features, delivery of the system, and policy ambition.

3.10 With the foregoing background, the Intersessional Meeting agreed to debate policy issues along the lines given in the annotated agenda (GHG-WG 3/1/1, annex 2, paragraph 3.8), taking into account earlier comments made by the sponsors when introducing their documents and the debates previously held.

Debate on certainty in emission reductions or price certainty

3.11 Following an exchange of views, the Intersessional Meeting noted that some delegations indicated a preference for certainty in emission reductions whilst other delegations opted for certainty in price (future cost to the shipping industry). Some delegations considered certainty in emission reductions and certainty in price to be equally important, and other delegations considered that some of the MBM proposals might achieve both certainty in emission reductions and certainty in price.

3.12 The Intersessional Meeting agreed that there was a need to further consider the appropriate balance between certainty in emission reductions and certainty in price to achieve optimal emission reductions and cost effectiveness.

3.13 The delegation of Brazil noted that it was still uncertain whether actions to reduce GHG emissions would be cost effective, due to the low mitigation potential of the international shipping sector, in relation to other means of transportation and land-based sectors.

Debate on the use of possible revenues

3.14 The Intersessional Meeting recalled that MEPC 59 noted that there was a general preference for the greater part of any funds generated by an MBM under the auspices of IMO, to be used for climate change purposes in developing countries through existing or new funding mechanisms under the UNFCCC or other international organizations (MEPC 59/24, paragraph 4.129).

3.15 The Intersessional Meeting also recalled that the MBM-EG report (MEPC 61/INF.2) had identified that a number of proposals for an MBM for international shipping would result in net proceeds, and noted further that the new combined MBM co-sponsored by Japan and the World Shipping Council, the Efficiency Incentive Scheme (EIS), would generate funds.

3.16 The Intersessional Meeting benefited from a briefing session on the Report of the United Nations Secretary-General's High-Level Advisory Group on Climate Change Financing with a panel of speakers from Norway's Ministry for Environment, Australia's Government Department of Climate Change and Energy Efficiency and the London School of Economics (LSE). The handouts of the presentations are set out in document GHG-WG 3/WP.8.

3.17 The delegation of Brazil pointed out to the Intersessional Meeting that the work of the AGF was initiated by the United Nations Secretary-General without basis in the UNFCCC negotiations as it was not mandated by the UNFCCC Parties, and that the AGF report had not been acknowledged by COP 16/CMP 6 but only noted in the Cancún Agreements.

3.18 The delegation of Germany stressed that the ETS, as proposed by France, Germany, Norway and the United Kingdom, does not need the revenues raised by the instrument to achieve the emission reduction target for the shipping sector. Therefore, under a global ETS, there is flexibility as regards the use of the full amount of revenues raised, in contrast to other MBM proposals.

3.19 The Intersessional Meeting noted that there were several possible uses for revenues generated by an MBM for international shipping, as identified in the MBM proposals, in no particular order, including:

.1 incentivizing shipping to achieve improved energy efficiency;

.2 offsetting – purchase of approved emission reduction credits;

.3 provide a rebate to developing countries;

.4 finance adaptation and mitigation activities in developing countries;

.5 finance improvement of maritime transport infrastructure in developing countries (e.g., Africa);

.6 support R&D to improve energy efficiency of international shipping; and

.7 support the Organization's Integrated Technical Cooperation Programme.

3.20 Some delegations expressed the view that disbursement of revenues may be an avenue to reconcile the principles under the UNFCCC with a non-discriminatory approach under IMO. The delegation of WWF support by others claimed that the RM proposed by IUCN is designed to ensure no net incidence on developing countries.

Debate on incentives for new technology and operational changes

3.21 The Intersessional Meeting noted the views expressed by a number of delegations that:

.1 all the MBM proposals provide some form of incentive for shipowners to improve their ships technically or their operational efficiencies;

.2 some of the MBM proposals, for example, the Bahamas, EIS and SECT proposals, expressly seek to incentivize the shipping sector to reduce emissions through energy efficiency improvements by the installation of new technology and implementation of improved operational practice;

.3 revenues raised through the introduction of an MBM for international shipping under IMO could be used to fund technology transfer to developing countries; and

.4 encouraging research and development to develop new technologies and practices in the maritime sector may also be a goal for the use of possible revenues.

Debate on out-of-sector emission reductions (offsetting)

3.22 The Intersessional Meeting recalled that the MBM-EG report compares and contrasts in-sector and out-of-sector mechanisms in paragraphs 1.12 to 1.19 of document MEPC 61/INF.2.

3.23 The Intersessional Meeting also recalled that the MBM-EG report concludes that the MBM proposals have different ways of reducing emissions, some focus on "in-sector" reductions and others also utilize reductions in other sectors (offsetting), and that, to the extent predictable, such reductions are detailed within the individual evaluation of each proposal in the MBM-EG report (MEPC 61/INF.2, paragraph 1.58).

3.24 The Intersessional Meeting benefited from a briefing session on "Offsetting Mechanisms – What mechanisms and expertise exists on offsetting in the UN system? Experiences and expectations related to carbon markets", with a panel of speakers from the World Bank (WB), the UNFCCC Secretariat, and the European Commission (EC). The handouts of the presentations are set out in document GHG-WG 3/WP.7.

3.25 The Intersessional Meeting noted the view of some delegations that, if an agreed cap is set on ship emissions, then, for the predicted scenarios of growth to 2050, international shipping would be required to make use of out-of-sector emission reductions, to a greater or lesser extent, depending on the stringency of the chosen MBM.

3.26 Following an exchange of views on out-of-sector emission reductions, the Intersessional Meeting noted the view of some delegations that the extent to which the shipping industry is required or chooses to make use of out-of-sector emission reductions will depend upon the MBM adopted and/or the success of in-sector reductions, as well as the access to cost effective and verifiable offsets.

3.27 The Intersessional Meeting agreed to consider further the design and development of a suitable MBM for international shipping to assist in emission reductions, although a number of delegations questioned the need and purpose of such a mechanism.

GROUPING AND EVALUATION OF PROPOSED MBMS (AGENDA ITEM 3.1)

3.28 The Intersessional Meeting recalled that the MBM-EG had concluded that the evaluation of the proposed MBMs had been complicated by the different levels of maturity of the proposals. Proposals with a high level of detail and maturity generated more discussion compared to those that were less developed (MEPC 61/INF.2, paragraph 1.54).

3.29 The Intersessional Meeting noted that it would be beneficial to move forward with a smaller number of MBM proposals for consideration, but that it was not desirable to remove any proposals, as possible vital elements could be lost, so a good solution was to group the proposals and to use the groupings in the further assessment work, as envisaged in its second ToR approved by MEPC 61, namely:

> "group the proposed MBMs in accordance with the reduction mechanism they use (e.g., in-sector/out-of-sector, etc.) and other relevant features; and identify and list strengths and weaknesses for each of the MBM groups;".

3.30 Some delegations did not agree on the benefit of grouping the MBM proposals, since many issues of utmost importance remained unresolved, including the application of CBDR, and possible negative social and economic impacts on developing countries.

Documents for consideration

3.31 The Intersessional Meeting considered relevant parts of document GHG-WG 3/3 (Greece), which proposed the grouping of the MBM proposals under the following four categories: the GHG Fund; the different ETS variations; all hybrid proposals (i.e. proposals including an EEDI element); and all other proposals. Greece had evaluated the different groups in its submission and proposed that only the first two categories should be further considered for the time being, while the further consideration of the MBMs falling in the hybrid category should be put on hold.

3.32 The Intersessional Meeting considered relevant parts of document GHG-WG 3/INF.2 (the Netherlands), identifying a study that groups MBM proposals as: ETS, GHG Fund, and a Baseline-and-Credit Trading Scheme that is similar to the SECT proposal. The study concludes that the main differences between the MBM proposals are on effectiveness and cost-effectiveness and, in that respect, the ETS proposal was found to be the most cost effective.

3.33 The grouping of the ETS proposals, submitted in document GHG-WG 3/3/6 (France, Germany, Norway and the United Kingdom), was considered useful for the discussion. It makes clear that the ETS proposals have their main features in common and that an ETS would provide precise emission control and the most cost effective reductions through emissions trading, including trading with other sectors. The mechanism will allow for further growth in the shipping sector.

Debate

3.34 In response to questions on the SECT proposal, the Intersessional Meeting noted the explanation by the delegation of the United States that, similar to the Bahamas' proposal, all ships would need to comply with the agreed efficiency standards.

3.35 Without prejudice to the considered view of the delegation of India, that no compelling need for an MBM for international shipping had been demonstrated, the Intersessional Meeting noted the oral proposal by that delegation, supported by several other delegations, that the following groupings could be formed for the MBM proposals:

.1 GHG Fund;

.2 ETS;

.3 Efficiency focused MBM proposals; and

.4 Rebate Mechanism.

3.36 The Intersessional Meeting noted an oral proposal by the delegation of China, supported by some other delegations, that the grouping of the MBM proposals should incorporate the following criteria, namely:

.1 be consistent with the provisions and principles of UNFCCC, in particular the principle of CBDR;

.2 ensure no net incidence on developing countries;

.3 if generating revenues, support mitigation and adaptation actions in developing countries, particularly those most vulnerable to climate change. No potential revenues shall be used outside the maritime sector;

.4 not constitute a disguised restriction on international trade, in accordance with Article 3.5 of the UNFCCC; and

.5 not undermine the capability of developing countries to pursue sustainable development of their marine industry.

3.37 The Intersessional Meeting noted also that some delegations considered that the time it would take to bring forward the international legislation needed to implement the proposed MBMs for international shipping, should be a consideration when selecting the proposals to consider further. Other delegations considered that this should not be a factor when considering the MBM proposals for further development but rather the efficiency in achieving reductions.

3.38 The Intersessional Meeting noted further that there were several possible high-level ways of grouping the MBM proposals and that a detailed grouping of other than the ETS proposals, which were group on document GHG-WG 3/3/6, would be challenging. It also noted that the grouping was intended to simplify future assessments and facilitate the decision making process of MEPC.

Outcome of the debate

3.39 Following an extensive exchange of views the Intersessional Meeting agreed the MBM proposals should be grouped as follows: (1) focus on in-sector; and (2) in-sector and out-of-sector, as set out in annex 3 to this document.

Debate on strengths and weaknesses

3.40 Following the grouping of the MBM proposals, the Intersessional Meeting considered, as instructed in its ToR, the strengths and weaknesses for both groups.

3.41 Subsequent to the lengthy debate on grouping, and owing to lack of time, the Chairman prepared a document listing possible strengths and weaknesses for each of the MBM groups on the basis of the submission by the Republic of Korea (GHG-WG 3/3/1) and information from the Expert Group Report in order to initiate discussion and enable finalization of the strengths and weaknesses.

3.42 In the ensuing discussion, it was noted that some of the MBM proposals under review by the Intersessional Meeting had been further developed since the finalization of the Expert Group Report.

3.43 Some delegations reasoned that it was advantageous to maintain a high-level description of the respective strengths and weaknesses of the proposed MBMs to reduce GHG emissions only in the sector or in and out-of-sector. Other delegations expressed the view that the listed strengths and weaknesses should be specific in order to assist the Committee in deciding on what type of MBM to be developed further.

Outcome of the debate on strengths and weaknesses

3.44 The Intersessional Meeting therefore agreed to include in its report to MEPC a matrix identifying and listing the strengths and weaknesses as understood by the proponents of the MBMs, which is set out in annex 4 to this document. Additionally, delegations which were not proponents of an MBM were invited to identify and list the strengths and weaknesses for each MBM group in a second matrix, which is set out in annex 5 to this document.

3.45 The delegation of WWF expressed the view that the RM proposed by IUCN is designed to ensure no net incidence on developing countries.

3.46 The Intersessional Meeting noted that delegations had the chance to submit comments on the outcome of the Meeting to MEPC 62, by 20 May 2011, which was the deadline for such submissions. It therefore encouraged delegations to use that possibility to also ensure a more elaborated debate on the strengths and weaknesses of the MBM groups at future sessions.

RELATION TO RELEVANT CONVENTIONS AND RULES (AGENDA ITEM 3.2)

3.47 The Intersessional Meeting benefitted from a briefing on relevant conventions and international rules, which included presentations by officers of the UNFCCC, WTO and IMO Secretariats. The handouts of the presentations are set out in document GHG-WG 3/WP.6

Documents for consideration

3.48 The Intersessional Meeting considered document GHG-WG 3/3/10 (MEPC 58/4/32 (China and India)), which stipulated that the CBDR principle should be fully respected in the development of MBMs for GHG reduction. The document was further arguing that the largest share of GHG emissions from international shipping originated from cumulative emissions from the historical development of the shipping industry serving developed countries and was, thus, the prime responsibility of these countries. For developing countries, whose priority was the development of the economy and the improvement of people's living standards, fuel consumption and GHG emissions from shipping should be considered as survival emissions. The document proposed that MBMs should only be mandatory for ships owned by shipowners based in UNFCCC Annex I countries and that IMO should conduct a study on the application of the CBDR principle to an MBM for international shipping, on the basis of the Genuine Control Approach.

3.49 The Intersessional Meeting considered document MEPC 61/5/19 (India), which argued that applying an MBM to all ships would place developing countries at a disadvantage. It postulated that the costs for reducing GHG emissions should be borne by States on the basis of their respective historical responsibility and capability.

3.50 The Intersessional Meeting considered document GHG-WG 3/3/3 (CSC and WWF), which considered six options on how MBMs could be designed to account for the CBDR principle. The options were divided into two groups. One group included options that would apply to the shipping activities of developed countries, only (differentiation by 1. Flag, 2. Country of Genuine Control, 3. Route of Ship, and 4. Final Destination of Cargo) and the other group included options that would apply to all shipping activities but where the revenues raised would be distributed in a differentiated manner to the benefit of developing countries (5. Global application with revenue used for climate change action in developing countries, and 6. Global application with a RM to ensure no net incidence on developing countries and with revenue used for climate change action in developing countries). The document favoured option six within the second group of options, noting that UNFCCC allowed for global measures, provided that developing countries did not incur net incremental costs and that all options in the first group raised serious concerns over data availability, enforcement or competitive distortion.

3.51 The Intersessional Meeting considered document GHG-WG 3/3/9 (Secretariat), which analysed Article 2.2 of the Kyoto Protocol, concluding that the provision should not be interpreted restrictively and that any measures that are adopted by IMO in regard to GHG emission reductions shall be applicable to all ships irrespective of flag in the same way as are other regulations adopted by the Organization. The Meeting noted that there were divergent views on the document's conclusions.

Debates and outcomes

Relation to UNCLOS

3.52 The Intersessional Meeting recalled, and concurred with, the findings of the MBM-EG that no incompatibilities exist between IMO establishing an MBM for international shipping, for the purpose of reducing GHG from the sector, and customary international law as depicted in UNCLOS.

Relation to WTO

3.53 The delegation of Denmark, supported by the delegations of Norway, Belgium, Sweden, Germany, Australia, Finland and other delegations, recalled the presentation on relation to WTO that had been previously given by a representative of the WTO Secretariat and concluded that it had clearly demonstrated that no incompatibility exists between a potential MBM for international shipping under IMO and WTO Rules as WTO regulates and solves trade disputes between WTO member states. The WTO representative had clarified that WTO could not challenge an agreement by another international organization and that it encouraged its members to pursue international standards wherever possible and with some exceptions for developing countries.

3.54 It was noted by the delegation of China that the presentation by WTO had to be viewed with caution as it expressed no official position, but the position of the WTO Secretariat. The delegation of India, supported by a number of delegations, raised several detailed concerns on the relation between an MBM under IMO and WTO rules which may be found in the statement set out in annex 1 to this document. The Intersessional Meeting recognized that those concerns could not be resolved by it and therefore invited the delegation of India to submit such possible inconsistencies and concerns regarding the relation of a potential MBM under IMO with WTO Rules to a future session.

3.55 The delegation of the United States observed that possible conflicts with WTO rules with regards to an MBM for international shipping under IMO could only arise to the extent that WTO members have made commitments to include maritime services commitments. In this respect, the United States delegation observed that India, along with the United States and others, currently had no maritime services commitments, according to the WTO website.

Relation to UNFCCC

3.56 The Intersessional Meeting recalled that several previous debates within MEPC had revealed that there was no consensus view on how Article 2.2 of the Kyoto Protocol should be understood and on how an MBM can reconcile both the UNFCCC principle of CBDR and the IMO non-discriminatory approach.

3.57 The Intersessional Meeting noted that progress could be made by exploring and identifying possible options to harmonize the two sets of principles in an MBM for international shipping under IMO.

Debate

3.58 The Intersessional Meeting noted the observation of the United States delegation that the IMO Sub-Division for Legal Affairs, in concluding that any measures that are adopted by IMO in this context shall be applicable across the board in the same way as are other regulations adopted by the Organization (GHG-WG 3/3/9), based its view, *inter alia*, on the analysis that concepts such as "common but differentiated responsibilities and respective capabilities" have limited, if any, application in IMO-based conventions.

3.59 The Intersessional Meeting also noted the view expressed by some delegations that it was necessary, and possible, to identify the elements that must be included in the design of an MBM for international shipping to address the special needs and circumstances of developing countries. Some other delegations expressed the view that it is possible to reconcile the IMO principle of no discrimination with the UNFCCC principles but diverging views existed on how this could be addressed in an MBM for international shipping. Other delegations, however, consistently argued that the CBDR principle under the UNFCCC should be fully reflected in an MBM for international shipping under IMO. The Intersessional Meeting noted the view expressed by some delegations that consumers and industries in developing countries that may be impacted by an MBM, could be financially compensated, and that this could be one option for reconciling the UNFCCC and IMO principles, thereby ensuring no net incidence.

3.60 The Intersessional Meeting noted the view of some delegations that raising revenues, not from States but from individual ships engaged in international trade, would not be discriminatory, while differentiation by the way revenues are disbursed would ensure compliance with the CBDR principle.

3.61 The Intersessional Meeting examined the MBM proposals' relation to UNFCCC principles, recalled the conclusions in the Expert Group's Report on this issue (MEPC 61/INF.2, paragraphs 8.56 to 8.58), and noted that the views expressed during the debate were the same as in earlier meetings, and in line with the conclusions of the MBM-EG.

3.62 The Intersessional Meeting noted the views expressed by the proponents of the MBM proposals raising revenues that all their proposals sought to address the special needs and circumstances of developing countries. It also noted that the proponents, to various degrees, claimed that their proposal reconciled the IMO approach of universal application with the CBDR principle of UNFCCC. However, some delegations were not satisfied with the manner in which this was addressed in the proposals.

Outcome of the debate

3.63 The Intersessional Meeting agreed that further discussion is required on the relation to relevant conventions and international rules and that focus on the goal, which is the reduction of GHG emission from ships, should not be lost.

EVALUATION OF IMPACTS (AGENDA ITEM 3.3)

3.64 The Intersessional Meeting noted that MEPC 61 agreed that it should evaluate the impacts of the proposed MBMs on international trade, and the maritime sector of developing countries, LDCs and SIDS, and the corresponding environmental benefits (paragraph 5 of ToR).

3.65 The Intersessional Meeting recalled that the MBM-EG commissioned an external consultant, Vivid Economics, to undertake detailed analysis work on the economic impact on trade due to the introduction of an MBM for reduction of GHG emissions from international shipping. The background for this work is described in paragraph 19.3 of document MEPC 61/INF.2 and the report of Vivid Economics is available on the IMO website.

3.66 The Intersessional Meeting noted a presentation made by Vivid Economics on the outcome on its assessment of the economic impact of MBMs. The handouts of the presentation are set out in document GHG-WG 3/WP.4.

3.67 Following the presentation a number of questions were asked by delegations seeking further information, clarifications and advice for further work.

Debate

3.68 A number of delegations raised concerns in respect of the impact on developing countries and expressed the view that, in the absence of a more detailed analysis of the impact on developing countries, their consumers and industries, a comprehensive evaluation of each of the proposed MBMs could not be undertaken in the context of advising the MEPC on which MBM to consider further.

3.69 The Intersessional Meeting recalled that MEPC 61 agreed that the Intersessional Meeting should further assess each of the MBM groups (annex 3), against the same criteria as used by the MBM-EG (paragraph 4 of ToR).

3.70 The Intersessional Meeting recognized that there was insufficient time to carry out a further assessment of each of the MBM groups as requested by the Committee, and, noting that the delegation of China had orally presented five further criteria (paragraph 3.36) which in its view, elaborated on the nine criteria approved by MEPC 60, the Intersessional Meeting agreed to advise the Committee that, if and when it decides to carry out such further impact assessment, it will, accordingly, need to decide on this issue.

3.71 The Intersessional Meeting acknowledged the findings and conclusions of the Expert Group's report, including its identification of the need for further study of the direct and indirect impacts on developing countries due to the introduction of an MBM for international shipping.

3.72 A number of delegations highlighted that, due to the potential adverse impacts of MBMs in developing countries, any future assessment of such measures should focus on the application of CBDR, and direct and indirect economic and social impacts on consumers and industries in developing countries. Also a number of delegations expressed the view that prior to further development of the MBMs and any further work on their possible design and effect, a full impact study should be carried out to assess the possible effects on consumers and industries in developing countries.

3.73 The Intersessional Meeting agreed that such a further impact study was urgently needed, that it should build on the MBM-EG study, and should address both the positive and negative impacts for developing countries, including possible costs if no action was taken by international shipping.[2] A number of delegations expressed concern about the inclusion of the latter element (i.e. cost of no action) in a study, as it was unclear what this term meant and what implications it could have for a future impact study.

3.74 The Intersessional Meeting agreed also that further study(ies) would be more meaningful and comprehensive when proposals are more detailed and matured, and it therefore urged MBM proponents to fully develop their proposals in the shortest possible time, preferably before MEPC 62, so that the necessary impact study could be undertaken, ideally prior to MEPC 63.

3.75 The delegation of Australia, supported by Belgium, Finland and other delegations, did not support waiting for the completion of further studies before making a decision on an MBM, and noted that the resolution of this issue was a critical and urgent test of competency for IMO.

3.76 The Intersessional Meeting considered document GHG-WG 3/3/11 (WWF) providing results of an in-depth quantitative study on an optimal rebate key for an equitable maritime emission reduction scheme, which present possible rebate keys for over 150 developing countries and attribution keys for developed countries. A country's share of global imports from non-adjacent countries is proposed as the basis for the optimal key to be used with the Rebate Mechanism (RM) or any revenue-raising MBM under consideration. WWF concludes that it is feasible to design and implement a global maritime MBM with "no net incidence" on developing countries, by ensuring these countries are compensated for the cost incurred from the global maritime MBM, through a rebate approach.

3.77 A number of delegations expressed interest over the RM proposal initiated by IUCN and elaborated upon by WWF, and supported its further development and consideration either as an integral or add-on element to a future MBM for international shipping under IMO.

4 CONSIDERATION OF THE MBM-EG STUDY

4.1 The report of the Expert Group on Feasibility Study and Impact Assessment of possible Market-based Measures, contained in document MEPC 61/INF.2, was presented at a special session with an introduction by the Chairman, presentations by the MBM-EG Task Leaders on the conclusions drawn by their respective groups and a conclusions summarized by the Chairman. The handouts of the presentation are set out in document GHG-WG 3/WP.5.

4.2 The Intersessional Meeting noted similar remarks and conclusions as those reflected in the report of MEPC 61 (MEPC 61/24, paragraphs 5.75 and 5.76).

4.3 The Intersessional Meeting agreed to continue to consider the EG Report in its deliberations under the other agenda items 3, 3.1, 3.2 and 3.3.

[2] When considering this paragraph in the draft report issued as document GHG-WG 3/WP.1, delegations at the Intersessional Meeting held differing views on the validity and value of the last part of the sentence – "including possible cost if no action by international shipping was taken." A number of delegations expressed the view that the last part should be deleted while other delegations reasoned it should be retained. Following a debate on the issue, one delegation requested a motion to be carried on the deletion of the mentioned text and the Chairman put the matter to a vote, in which, eight delegations supported the motion, 11 opposed and two abstained.

4.4 The Intersessional Meeting acknowledged the findings and conclusions of the Expert Group's report, including its identification of the need for further study of the direct and indirect impacts on developing countries due to the introduction of an MBM for international shipping.

5 ANY OTHER BUSINESS

5.1 The Intersessional Meeting noted document GHG-WG 3/3/4 (Cyprus, Denmark, the Marshall Islands and Nigeria) and, as it could not be considered under the ToR given to the Intersessional Meeting by the Committee, agreed to forward the document to MEPC 62 for further consideration.

5.2 The Intersessional Meeting also noted the relevant parts of document GHG-WG 3/3 (Greece), on elimination of certain MBM proposals, and agreed that those parts should be considered by MEPC 62 as this was outside the Intersessional Meeting's ToR.

5.3 The Intersessional Meeting further noted the relevant parts of document GHG-WG 3/3 (Greece), containing an evaluation of the MBM proposals against the same criteria as used by the MBM-EG (MEPC 60/22, annex 8, paragraph 5), and agreed that those parts should be considered further, should any evaluation of MBM proposals be undertaken.

5.4 The Intersessional Meeting noted that a number of in-session briefings and presentations were held and notwithstanding their value at this stage, where comprehensive information is needed to facilitate the debate, precedence should not be set.

6 ACTION REQUESTED OF THE COMMITTEE

6.1 The Marine Environment Protection Committee is invited to:

.1 note that the third Intersessional Meeting completed, as far as possible, the ToR given to it by the Committee (GHG-WG 3/1/1);

.2 note that there were two opinions as to whether a compelling need and purpose of an MBM for international shipping under IMO had been clearly demonstrated (paragraphs 2.22 to 2.25);

.3 note that the Intersessional Meeting grouped the MBM proposals into two groups: (1) focus in-sector and (2) in-sector and out-of-sector, based on the emission reduction mechanism used by the MBM proposals in the group (paragraphs 3.28 and 3.39 and annex 3);

.4 note the debate on relation to relevant conventions and rules (paragraphs 3.47 to 3.63);

.5 note the debate on strengths and weaknesses (paragraphs 3.40 to 3.46) and that, for the MBM proposals identified under each group, the proponents identified and listed strengths and weaknesses (annex 4) and that other delegations which are not proponents of an MBM identified additional weaknesses for the MBM proposals utilising both in-sector and out-of-sector emission reduction mechanisms (annex 5);

.6 note that the Intersessional Meeting acknowledged the findings and conclusions of the Expert Group's report, including its identification that there would be a need for further study of both the direct and indirect impacts on developing countries due to the introduction and non-introduction of an MBM for international shipping under IMO (paragraph 3.71);

.7 note that documents GHG-WG 3/3/4 (Cyprus, Denmark, the Marshall Islands and Nigeria) and GHG-WG 3/3 (Greece), or relevant parts thereof, should be considered further; and

.8 approve the report in general and take action as appropriate.

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ANNEX 1

STATEMENTS

General statement by the delegation of Brazil on MBMs

Thank you, Mr. Chairman. Good morning to all.

Brazil is of the view that all discussions on GHG reduction should be based on the UNFCCC's principle of "common but differentiated responsibilities" and that no measures should be imposed mandatorily on non-Annex I countries.

As indicated by IMO Assembly resolution A.963(23), the IMO should act in cooperation with the UNFCCC and the Kyoto Protocol, which are the appropriate fora for decisions on internationally binding and global actions for reducing emissions.

We would like to remind you that under the UNFCCC, all countries are free to choose the sectors to which they will apply GHG emission reductions. Thus, before anyone can make an educated decision on MBMs, we should discuss the compelling need and cost effectiveness of these measures, and, after that, further assessment must be undertaken on how the MBMs to be discussed this week, or any other MBM for that matter, will impact world trade and, in particular, developing countries that export low aggregate value goods and need to travel long distances internationally in order to trade.

There are just too many uncertainties for us to be rushing to judgment and making decisions that may have a tremendous economic and social impact for generations to come.

We reiterate our belief that all countries share responsibility for reducing GHG emissions, but that the burden of such reduction should be based on respective historical responsibility and capability.

This delegation therefore lends its full support to the comments made by China. All discussions must be held in Plenary so all can participate and have a say.

Thank you.

Statement by the delegation of Australian on need and purpose of an MBM (agenda item 2)

Thank you to the member states who have provided papers on this issue.

Yesterday's presentations and discussion have been very helpful in moving the issue forward. Australia looks forward to continuing to make good progress towards a consensus view on market-based mechanisms as a means to reduce green house gas emissions in the international fleet.

I would like to address the specific questions the Chair has asked of us, reflecting on the issues that have been raised in our discussion to date.

Why do we need to reduce emissions in international shipping?

A number of member states have pointed to the low contribution from international shipping as reason to delay or make soft decisions about timing to reduce the carbon footprint of the industry. By this logic, Australia could also justify delaying emissions reduction action, as our contribution to global atmospheric concentrations of CO_2 is less than half that of international shipping. Of course, we have no intention to sit back and delay action. Australian civil society would not accept this. The international community would not accept this.

Similarly, the international community will not accept the international transport sector taking no action, and has called on the sector to play its part in stabilising the climate at 2°C.

The environmental costs associated with emissions from fossil fuel use in the international maritime sector are currently being borne by governments around the world, especially those from small, vulnerable island states. It is only fair that we ask the international shipping industry to share these costs. It is extremely encouraging that the industry has risen to this challenge and expressed its willingness to contribute. In an ironic twist, it is we, the member states who are already bearing the costs that are showing reluctance to take action.

Are MBM's the right mechanism to reduce emissions in international shipping?

Australia is strongly supportive of pricing carbon to provide a market signal and incentive to reduce emissions. As the international shipping sector comprises commercial entities, a market-based mechanism will be the most effective and efficient means to achieve reductions.

Australia considers universal application of a market-based mechanism is the only way to ensure efficiency and environmental integrity, and avoid market distortions. A market mechanism will drive uptake of energy efficiency principles and incentivise re-investment in the industry. This in turn will encourage technologies that will stimulate continual improvement in fuel use and emission reductions. As global energy prices – including for bunker fuels – are expected to continue to increase, we consider any mechanism driving investment in energy efficiency will produce significant flow-on benefits through lower operating costs and savings.

Australia does not consider that a decision on an MBM for international shipping should be conditional on a detailed analysis of flow-on impacts to individual countries. This will put us in an indefinite holding pattern – we need to fully understand the market mechanism before we can accurately quantify impacts.

Let us take Australia as an example of a country that will be significantly impacted by an MBM. Australia is reliant on the shipping industry for international trade. Australia is geographically isolated and some 95 per cent of our exports are transported by sea; most of these exports are high volume/ low value commodities. Clearly, Australia would be one of the country's most affected by any increase in the cost of international maritime transport. Australia's is greatly exposed to increases in the costs of international shipping.

Clearly, Australia enters these discussions with much at stake. We appreciate better than many countries that there will be a differential impact in introducing a market-based mechanism. We can agree that while the scheme would be a common responsibility for operators under universal application, country differentiation can be achieved via a well designed compensation element. Such a compensation option would moderate cost impacts and could result in net positive impacts for affected countries.

As we have stated repeatedly, Australia is fully supportive of the UNFCCC principle of "common but differentiated responsibilities and respective capabilities". However, it makes no sense to apply CBDR to the design of a market mechanism. If you do this, it is no longer a "market" mechanism.

The fact is there is no other way to give effect to CBDR and still maintain the integrity of the MBM. I think, we, as maritime experts, know this well.

As a thought exercise, let us consider the options of giving effect to CBDR in the design of the MBM. We could give effect to CBDR by exempting certain flag states from commitments; but shipping operators would simply change their country of registration. We could give effect to CBDR based on where fuel is bought; but ships would simply refuel in countries that were exempted. An MBM based on ship ownership would also be likely to prove ineffective, given the potential for complex and confusing corporate structures.

It is for these reasons that we support giving effect to CBDR through the compensation mechanism rather than through the design of the MBM.

I think this point is worth emphasising: as the work of the AGF showed, appropriately designed compensation mechanisms could fully compensate developing countries for any adverse impact. It would give full – 100 per cent - effect to the CBDR principle. Close attention will also be needed to assist geographically isolated countries, particularly small island developing states, given their special vulnerability. And the AGF Report noted that some of the revenue could also be given to assisting the maritime industry transition to a low carbon future.

If we are going to limit climate change to 2C, everyone will have to play a part – including the international maritime sector.

And the time to make a decision is now.

We have had at least 8 years to discuss and deliberate on this issue at the request of the Assembly.

8 years! Much has been achieved in less time.

The Kyoto Protocol, a complex treaty with very significant economic ramifications for many countries, was negotiated between 191 states in 5 years.

The MARPOL Convention and each of its Annexes, all complex issues interleaved with competing national interests, were negotiated by member states in less than 7 years. The MARPOL VI decision to reduce the sulphur content of maritime fuels showed the IMO's ability to make tough decisions and to act in the best interests of the environment.

The impacts of a carbon tax on the price of fuel are likely to be significantly less than the impact of the MARPOL VI changes, which require the shipping fleet to move from heavy fuels to marineGAS oils by 2020.

We have shown leadership before and we must show leadership again.

It is – of course – not the only approach forward, but it does put lie to any suggestion that due to its particular industry circumstances, the maritime industry cannot contribute to the global effort to address climate change.

Like other member states, Australia sees this as a crucial issue and a critical test of competency for the IMO. Australia considers there is nothing stopping us formulating recommendations to MEPC this week on a market based mechanism for reducing emissions from international shipping.

The only thing stopping us is the political will to commit to action.

Statement by the delegation of Greece on the need and purpose of an MBM (agenda item 2)

The delegation of Greece, expressed the view, that a multi-disciplinary approach is needed to address ship emissions reductions. To be successful, such an approach should take into consideration the availability of technology to reduce emissions, the need to encourage innovation, and the economics of world trade. It also must avoid the negative effects associated with, an increase in, CO_2 emissions when other pollutants are reduced (such as SO_x and NO_x).

Consistent with the above position, Greece endorses the nine fundamental principles for future regulations on GHG emissions from ships agreed upon by majority at MEPC 57 (MEPC 57/21, paragraph 4.73). In view of the above nine IMO principles, Greece's, *a priori* position *vis-à-vis,* MBMs is the following:

.1 Imposing inappropriate MBMs runs the risk of moving freight from ships to other modes of transport, thereby increasing overall GHG emissions to the detriment of the environment. This would be contrary to IMO principle 1.

.2 The costs associated with the MBMs may adversely affect world trade and globalization (at this sensitive time of economic crisis), it may therefore be contrary to IMO principle 5.

.3 Some MBMs may distort competition and may therefore be detrimental to sustainable growth of the world economy, contrary to IMO principle 4 and 5.

Furthermore, Greece expressed the opinion that the legal text of any mandatory requirement regarding shipping should be in line with UNCLOS and that every effort should be made to address the concerns of developing nations in order to ensure a global system.

Statement by the delegation of India on the Compatibility of MBMs with WTO Rules

In the afternoon meeting on 30th March 2011, it was stated by some Members that the MBMs under discussion to reduce greenhouse gas (GHG) emissions from the maritime sector are compatible with the WTO rules. This conclusion was drawn based on the presentation on the subject in the morning by an official of the WTO Secretariat. India cannot accept this conclusion. The WTO presentation never stated all the MBM proposals have been examined in all their aspects and that each of these MBMs is compatible with WTO rules. On the contrary, it was clearly brought out that the dispute between the two IMO Members that cannot be resolved in IMO could be brought into WTO if the Members concerned are WTO Members and if there was a contravention of the WTO rules. India fully shares this view. Also, in response to the questions raised by India, the WTO Secretariat representative admitted in so many words that the WTO compatibility of the proposals with the GATT 1994 and other WTO instruments would need to be examined before any definite conclusion could be drawn.

India has emphasized time and again that it is premature to draw any definite conclusion at this point of time as to whether the MBMs under discussion in IMO are compatible with the WTO rules. The IMO has not yet decided as to the appropriate instrument to be adopted for reducing GHG emissions from the shipping sector; on the contrary, the fact is that Members have taken the view that all the proposals are on the table and no proposal can be discarded as of now. In the circumstances, it is not clear to us as to how one can reach a definite conclusion on the issue of compatibility of MBMs with WTO rules. As for instance, one of the MBM proposals on the table is for countries to levy a globally uniform emissions charge on all vessels calling on at their ports. It has been stated that the amount of pollution produced by the ship during the voyage would be used as the basis to levy an emissions charge. But, the moot question is how to quantify the amount of pollution in exact terms. Depending upon the type, size and tonnage of ships, their technical features, the source of energy, the speed of vessels etc. the carbon dioxide emissions in travelling a certain distance would vary across ships and countries. Given these intricacies, levying a uniform emissions charge on all vessels on a non-discriminatory basis would be administratively cumbersome and most likely contravene the non–discrimination principle of Article I of GATT, 1994.

Article I of GATT, 1994 explicitly states that any trade advantage granted must immediately and unconditionally be offered to all WTO Members. The WTO practice shows that not only actions, but also omissions, to the extent that they confer an advantage are covered by the discipline laid down in GATT Article I. The GATT Panel, in its report on US-Customs User Fee held that an exemption from the imposition of a customs fee should be considered to be an advantage in the sense of Article I, paragraph 1 of GATT. Given this position, the MBM proposals are likely to contravene this Article. As for instance, one of the proposals states that "if the ship is detected to be in violation of this Convention, the Party carrying out the inspection may take steps to warn, detain, dismiss or exclude the ship from its ports. A Party taking such action shall immediately inform the Administration of the ship concerned and the Organization." We are afraid this proposal may contravene the WTO rule book, particularly the non-discrimination principle of the GATT, 1994 and the GATS.

Further, Article VIII of the GATT, 1994, states that fees and charges on imports "shall be limited in amount to the approximate cost of the services rendered". The MBM proposals that envisage penalty, fine, fee etc. for non-compliance by Member States of IMO therefore can potentially violate Article VIII. Further, this Article states that the fees and charges on imports shall not represent an "indirect protection to domestic products or a taxation of imports for fiscal purposes". An argument can be made that imposition of any charge on imports (by way of penalty, fine, fee etc.) based on MBM proposals is a measure that represents both an indirect protection to domestic products and also a taxation of imports for fiscal purposes.

Last but not the least; the proposed measures will raise the prices of imported goods, which could affect their sales. The measures will be viewed as imposing quantitative restrictions on imports which is prohibited under Article XI of the GATT, 1994.

In the light of this, it is India's considered view that the WTO compatibility of the MBM proposals with the GATT 1994 and other WTO instruments should be examined in all their aspects before any definite conclusion could be drawn.

Thank you Sir,

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ANNEX 2

SUMMARIES AND PRESENTATIONS OF MBM PROPOSALS

SUMMARIES OF MBM PROPOSALS

Summary of the Bahamas proposal (MEPC 60/4/10, GHG-WG 3/2)

1 With the islands of The Bahamas being at particular risk from climate change we are keen to see reductions in global emissions. As international shipping is a source of emissions, we propose a practical solution to reduce these emissions set by Member States but implemented by the shipping industry. This proposal would only apply to the emissions of individual ships and not to the emissions of Member States.

2 In the paper, The Bahamas builds on our existing position (MEPC 60/4/10) and explores how it is only through operational and technical measures that CO_2 emissions can be directly cut. So The Bahamas proposes that the international community sets a mandatory reduction target to be met by all ships, as below:

Age	New Ship	0-15	15+ to 20	20+ to 25	25+
% CO_2 reduction	25%	20%	15%	10%	5%

3 The reductions in CO_2 emissions would be based upon a ship's actual operational emissions. Data on these emissions would be collected over a 3 year period. Reductions could then be achieved through a combination of design measures, technical solutions, carbon capture techniques, operational measures or if reductions are not achievable, through a mechanism to be developed by the Organization. Through this process shipowners will be free to apply the most effective measure that they know works for their ship and their trade. This will also allow innovation in reduction technology to thrive. The proposal would then be implemented in four stages:

Year of adoption to Year 3	Year 3 to Year 5	Year 5	Year 7
Data collection	Voluntary CO_2 reduction	Mandatory CO_2 reduction	Review process starts

4 In summary:

.1 The reductions will apply to individual ships and not Member States.

.2 Owners are presented with the incentive to invest in technical and operational measures.

.3 Owners have the flexibility to achieve significant, real and verifiable emission reductions.

.4 Real, quantifiable reductions will be achieved in a short period without the creation of an expensive bureaucracy.

.5 Developing States will not be faced with a penalty upon trade and development.

5 Through this we can deliver the emission reductions that are required to assist in combating climate change without them hurting developing countries. In addition, no Member State would need to sign up to emission reductions, as the reductions apply to the ship and not the State.

Summary of the International GHG Fund proposal by Denmark, Cyprus, the Marshall Islands, Nigeria and IPTA (MEPC 59/4/5, MEPC 60/4/8, GHG-WG 3/2/1, GHG-WG 3/3/4)

Aim

6 The aim of the International GHG Fund is to ensure that the shipping sector can continue to grow, whilst making a contribution towards the reduction of global GHG emissions, through a financial incentive to increase fuel efficiency and by offsetting some of the sector's GHG emissions.

7 It is proposed to be achieved via a new IMO convention which will provide a level playing field for all potential Party States and the global shipping community.

Mechanism

8 All party ships engaged in international trade and all marine fuels are included in the scheme.

9 Currently there are two options for channelling the GHG Contribution to the International GHG Fund:

.1 Option A: The convention will mandate the registration of bunker fuel suppliers located within the territory of a state party. Bunker fuel suppliers located in a non-state party will be able to be registered on a voluntary basis. When taking bunkers a GHG Contribution is due. The contribution should be made to the International GHG Fund by the registered bunker fuel supplier. Under this option ships must take bunkers from registered bunker fuel suppliers.

.2 Option B: The ship owner will be responsible for the payment of the GHG Contribution to the International GHG Fund.

10 Suppliers will provide a Bunker Delivery Note which should be kept on board for future inspections. Port State Control may request such documentation and take appropriate steps in cases of suspected non-compliance. Further, Party Flag States have an obligation to monitor and enforce convention obligations.

11 The Fund Administrator will receive the contributions, all necessary records, and monitor the information for the benefit of the Parties. It will allocate the revenues according to the Parties' decisions and keep a ship-specific registry or account. It will maintain a global list of all registered bunker suppliers and submit an annual report.

Reduction target

12 A global reduction target could be set either by UNFCCC or IMO. The target will be essential for the Parties to decide upon the size of the GHG Contribution. The industry will be rewarded for its increased fuel efficiency since the GHG Contribution should be adjusted at regular intervals to ensure that emissions above (and only above) the target line are offset. Shipping will be a partner in the global GHG emission reduction effort.

Allocation of revenues

13 Revenues should be allocated consistent with the UNFCCC objectives and be compatible with any future global climate change agreement. Allocation of revenues should ensure that emissions above the target line are offset. The shipping industry should be recognized for its contributions towards mitigation and adaptation purposes with emphasis on LDCs and SIDS. The revenues will also cover administration cost of the Fund Administrator as well as Research and Development activities, and for Technical Cooperation within the existing IMO framework.

Summary of the Port State Levy (PSL) proposal by Jamaica (MEPC 60/4/40)

14 Jamaica's proposal (MEPC 60/4/40) to Member States sets out an option for consideration that builds upon previous submissions aimed at reducing greenhouse gas emissions from ships. Environmental economists have proven that in situations where a pollutant exhibits constant marginal damage and where the marginal abatement cost is unknown, a price control mechanism such as an emission levy may be advantageous to a quantity control mechanism, e.g., a cap and trade scheme. Such a situation exists with the CO_2 emissions from shipping. Recently produced reports show marginal abatement cost curves for shipping generated CO_2 that are far from definitive – and need to be assessed by the Group of Experts proposed by the Chairman. Moreover, recent studies, such as Second IMO GHG Study (2009) are only able to estimate CO_2 inventories with a 20% margin of error that would create opportunities for leakages through any cap that is based on those inventories. Therefore, as expanded in our submission, Jamaica concludes that economic policy conditions exist that makes an emission levy more feasible than a cap and trade system.

15 Jamaica proposes in its submission that through an IMO global agreement, member States participate in levying a uniform emissions charge on all vessels calling at their respective ports based on the amount of fuel consumed by the respective vessel on that voyage (not bunker suppliers). The submission is directly aimed at reducing maritime emissions of CO_2 without regard to design, operations, or energy source. The amount of fuel consumed onboard ships is routinely monitored and recorded. Larger vessels have fuel flow meters than can record fuel consumption with an accuracy of ± 0.2% with other vessels relying on sounding tanks with a lower level of accuracy. Jamaica's proposal would be a refinement of previous international compensation fund proposals in other MEPC submissions (MEPC 56/4/9, MEPC 57/4/4, MEPC 57/INF.13, GHG-WG 1/5/1; MEPC 58/4/22). We also endorse the plan to use the funds raised for mitigation and adaptation measures to aid countries such as SIDS.

16 The fee would be structured to achieve the global reduction targets for greenhouse gases and could be leveraged in a manner as proposed by Japan to reward vessels exceeding efficiency targets. Jamaica's proposal is particularly well suited to address the multi-jurisdictional nature of shipping that would be problematic for an emission-trading scheme. The Ship itself would be targeted with an emission levy as it arrives in port, irrespective of the owner, operator or charterer, and Jamaica proposes an easily administered institutional mechanism.

17 Such a mechanism has the advantages of charging each unit of pollution, being universally applicable in all countries and ports, uniform in its fee structure, flexible adjustment mechanism, trade-related, and allow benefits to be accrued in the areas were the damage occurs. Even though the principle of common but differentiated responsibilities is not strictly applied, its tenets are captured because as a result of the majority shipping being beneficially controlled by developed countries and most of world trade taking place between developed countries, they would bear the costs in direct proportion to their emissions.

18 Additionally, technology exists that is able to audit the fuel consumption that each ship would be asked to declare at the end of every voyage and thereby the amount of CO_2 emitted during the relevant voyage may be determined by applying emission conversion factors (see MEPC 60/WP.6) for bunker fuels. Data captured in this way may possibly form the basis of an accurate target level for some future ETS.

19 Voyage models, such as the Ship Traffic Energy and Emission Model (STEEM), could audit fuel consumption and efficiency improvements declared by vessels. Such an auditing mechanism would support the EEDI and EEOI efforts.

Summary of the Global Emissions Trading System (ETS) proposal by Norway, the United Kingdom, France and Germany (MEPC 60/4/22, MEPC 60/4/26, MEPC 60/4/41, MEPC 60/4/54, GHG-WG 3/3/5, GHG-WG 3/3/6, GHG-WG 3/3/8)

Introduction

20 The Global Emission Trading System (ETS) for international shipping responds to the need for **precise emission control** through the establishment of a cap on total emissions from the sector, and at the same time provides for access to the most **cost effective emission reduction measures to meet the cap**. Hence, more emission reductions can be achieved with the invested capital. The global system meets the principles of the IMO, as well as it provides for **a Fund** which will **assist developing countries** to address their needs in their response to Climate Change. **No allocation of emissions** to Parties, or to individual ships is needed. The proposal will allow shipping to continue to provide energy efficient services for the growing world trade.

Brief outline of the proposal

21 It is proposed that States develop the global ETS for international shipping in a **new legal mechanism under the auspices of the IMO**. A Cap on the total emissions of the sector will be part of the system, as well as a target year (commitment period).) **Ships**, to which the system applies, will get **clear and simple requirements**. They need to register and have an account in an international ETS registry and **acquire emission allowances to be periodically surrendered**. The amount of allowances will have to correspond to their CO_2 emissions. Hence an annual emission report needs to be submitted to the Administration/RO for approval.

22 The system follows the **traditional and robust way of regulating shipping**. Through a survey and certification regime the Flag Administration/RO will ensure that the ships comply at the time when the ship is required to be in a balance. The ships need to **keep record of their bunker consumption**. Port State Control will be able to control both of these elements according to well established procedures.

23 The emission allowances will be auctioned (sold), and put on the market by an international entity established in the instrument. **Ships will have easy access to the emission allowances at a market place**. They will in addition have access to other UN emission credits such as those of other sectors and to CDM projects in developing countries. Hence, shipping will always have access to emission allowances. At the same time the system ensures that the requirements for ships can be met through the cheapest reduction measures. While the shipping sector can contribute effectively to combat climate change with a tool that provides for control of the emissions it can still further grow and take advantage of the most cost effective measures.

24 The system includes an **exemption clause** which can be used to exempt voyages to **some developing countries** such as SIDS/LDCs. Such exemption must be approved by the Organization and not lead to carbon leakage.

25 **A Fund** will be established by the auctioning of emission allowances. Since the quotas will be put on the market by an international entity, revenues will go directly to that entity. The Fund will be administered by the International entity which is under the control of the Parties to the system. The Fund can be used for **climate change mitigation and adaption purposes in developing countries** as well as technical cooperation activities under the IMO, but the proposal acknowledge that this topic will need be thoroughly discussed among all states at the IMO.

Summary of the Efficiency Incentive Scheme (EIS) proposal by Japan and WSC (MEPC 60/4/37, MEPC 60/4/39, GHG-WG 3/3/2)

Introduction

26 Japan and World Shipping Council (WSC) discussed the common elements between the Leveraged Incentive Scheme (LIS) as proposed by Japan in MEPC 59/4/34 and MEPC 60/4/37, and the Vessel Efficiency System (VES) as proposed by the World Shipping Council in MEPC 60/4/39, and explored the possibilities of consolidating the two proposals. Japan and WSC subsequently agreed to develop and present the consolidated proposal, referred to here as the "Efficiency Incentive Scheme" or EIS.

Objective of the EIS

27 The objective of the EIS is to achieve in-sector carbon reductions by stimulating the adoption of energy efficient marine technologies. The EIS would also serve to accelerate the rate of technology adoption in the fleet, thereby reducing fleet emissions faster than we would see in most other market-based proposals.

Type and general character of EIS as MBM

28 The EIS is a MBM that is institutionally similar to the International GHG Fund, but different in that fees are assessed only to those ships failing to meet a specific efficiency standard. For this reason, an important feature of the EIS is that it provides an opportunity for the vessel owner/operator to avoid any fees if the ship satisfies the applicable standard. For ships that do not meet the required standard, fees are assessed in proportion to the amount of the bunker fuel consumed (or purchased) and the degree to which the vessel's efficiency falls short of a specific standard. Funds collected go to an independent international fund (the International GHG Fund) established under a new legal instrument, which is developed in IMO.

29 The EIS does not include a figurative cap on the total amount of CO_2 emission from international shipping. The EIS does allow for the possibility of funding projects outside the sector, but it should be noted that the proposal is not designed to rely on "offsets" to achieve its purpose as the primary objective of the EIS is to achieve and accelerate emission reductions within the sector itself. The EIS directly encourages investment in energy-efficient marine technologies as these investments allow the owner and operator to achieve a return on investment. The return on investment produces lower operating costs through substantial improvements in fuel efficiency and lower emissions from the fleet.

30 Unlike most other MBM proposals, the standards and applicable costs in the EIS are known in advance. For this reason, the EIS provides a high level of cost predictability as well as regulatory stability.

Mechanism of EIS for energy efficiency improvement

31 "New ships" under the EIS would be those ships of which newbuilding contracts are made on or after the date of entry into force of the new legal instrument to implement the EIS. The EIS assumes that there would be mandatory EEDI requirements, as contained in Circular letter No.3128 and MEPC 62/6/3, in force: there would be the minimum requirements of EEDI for all new ships, e.g., 10% below the reference line in Phase 1. The contribution would be based on the amount of consumed or purchased bunker fuel:

Contribution ($) = contribution rate ($Y / fuel ton) * the amount of fuel (fuel ton)

The contribution rate (Y) would be in proportion to how close the EEDI of a new ship is to the Required EEDI line (10% below the Reference Line in case of Phase 1). At certain pre-set value of deviation (e.g., [5] % more efficient than the Required EEDI line), the contribution rate would become zero, i.e. reaching the exemption point of paying the contribution. This concept is illustrated in Figure 1.

32 For Existing ships, the amount of a given fee is determined by how far (or close) the EEDI of an existing ship is compared against a certain pre-set value of EEDI, i.e. exemption point for payment of the applicable fee. Such pre-set exemption point would be less stringent from the one established for new ships, in view of limited options for technical measures that can be applied to existing ships and the aging degradation of ship performance. The concept is illustrated in Figure 2. Existing ships would have opportunity of renewing their EEDI values by the installation of energy-saving devices or other technical modifications to the vessel.

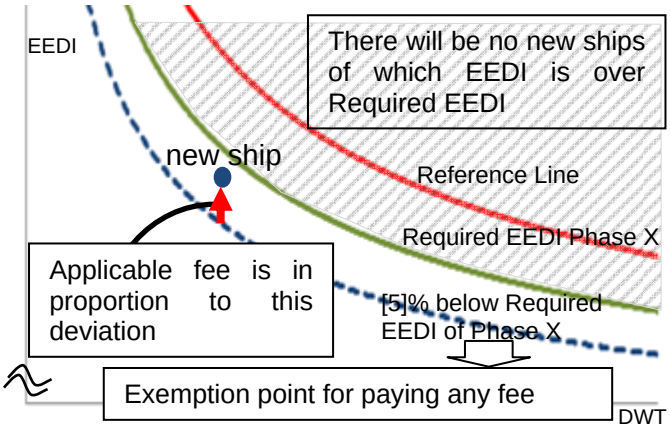


Figure 1: The concept to induce the improvement in energy efficiency for new ships

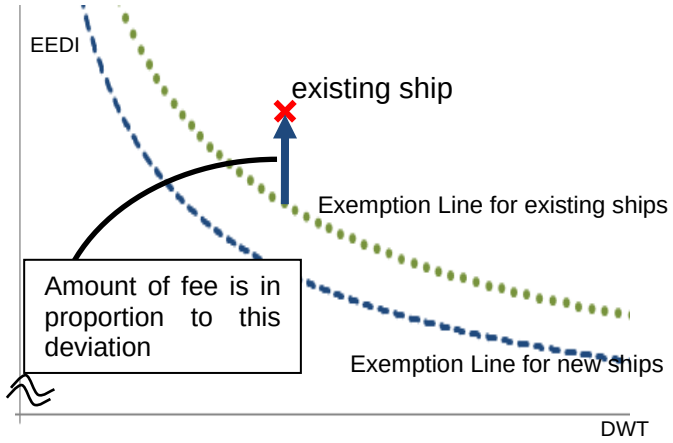


Figure 2: The concept to induce improvement in energy efficiency of existing ships

Assignment of EEDI for all ships and verification

33 The EIS would essentially utilize the EEDI for both new and existing ships as was the case in the original proposal of VES by WSC. The calculation and verification of the EEDI for existing ships under the EIS would basically follow the same procedure as new ships, namely, it would be carried out in accordance with the EEDI Calculation Guidelines and the EEDI Survey and Certification Guidelines. However, there should be some device, in order to enable the assignment of EEDI for existing ships with reasonable level of accuracy, to cope with technical difficulties inherent in EEDI calculation for existing ships such as the lack of available and verifiable data.

Collection and distribution of the revenue

34 The method of collecting the contributions from ships would follow that of the LIS, i.e. the direct transfer to the IMO International GHG Fund without passing through the bunker fuel suppliers located in the territories of the Parties as well as Non-Parties (MEPC 59/4/34 and MEPC 60/4/37). Each ship would have its own electronic account with the IMO number serving to identify each account in the IMO International GHG Fund. The revenue from GHG contributions will be allocated for: 1) further in-sector emission reductions through research and development projects to develop even higher efficiency in the fleet, and for 2) funding other projects consistent with guidance to be set forth in the new instrument. The allocation of the revenue would be determined by the Parties to the International GHG Fund. The allocation of revenues to be used outside the marine sector should take into account the share of emissions generated by international shipping relative to total global CO_2 emissions.

Summary of the Ship Efficiency and Credit Trading (SECT) proposal by the United States (MEPC 60/4/12, MEPC 61/5/16, MEPC 61/INF.24)

35 The United States proposal for a Ship Efficiency and Credit Trading (SECT) program builds on the traditional strengths of the IMO by employing technical standards to create a simple, pragmatic and cost-effective solution to reduce GHG emissions from existing ships. The world fleet, both new and existing ships, can and should be made more efficient and in many cases the technology already exists to achieve this goal at no net costs, due to associated fuel savings. This proposal focuses on how best to address emissions from existing ships and it complements the current effort within IMO to develop efficiency design standards for new ships through the Energy Efficiency Design Index (EEDI).

36 Under SECT, all ships, including those in the existing fleet, would be subject to mandatory energy efficiency standards, rather than a cap on emissions or a surcharge on fuel. The stringency level of these efficiency standards would be based on energy efficiency technology and methods available to ships in the fleet. These standards would become more stringent over time, as new technology and methods are introduced. Similar to the EEDI, these efficiency standards would be based on a reduction from an established baseline. We believe these efficiency standards are necessary because the updated IMO study notes there is significant potential to reduce emissions, but significant non-financial barriers exist.

37 Despite the number of no-cost or low-cost efficiency improvements that exist today, it may be that not all ships will be able to meet the standards cost-effectively. In order to allow ships to meet the standards at the lowest possible cost, SECT also creates an efficiency credit trading program for ships. Simply put, ships operating more efficiently than required for the compliance period could earn efficiency credits based on current ship efficiency rate and activity, which could be sold for use in the maritime sector. Ships operating less efficiently than required would have the option of purchasing these efficiency credits, as one method of achieving compliance with the efficiency standards. We believe that the trading program can be structured in a way to ensure that there is an appropriate amount of credits to trade.

Advantages of SECT

38 SECT provides incentives, beyond the business as usual case, for ship owners, operators and charterers to maximize the efficiency of their ships. This program is intended to maximize in-sector efficiency improvements and does not attempt to cap net emissions through the use of offsetting credits from outside the maritime sector. Therefore, the costs

associated with this program are directed at technologies and methodologies that would improve the efficiency of the international maritime sector. These efficiency improvements are expected to result in cost savings due to lower fuel consumption, with commensurate decreases in vulnerability to fuel price volatility. In addition to fuel savings, the ability to sell efficiency credits will likely lead to increased value for more efficient ships. The SECT approach also provides a way to build on the political viability of efficiency approaches while avoiding more politically difficult issues, allowing the MEPC to move forward.

39 The SECT proposal was originally put forward in documents MEPC 59/4/48 and MEPC 60/4/12. Further information has more recently been made available in MEPC 61/5/16 and MEPC 61/INF.24. As detailed in these documents and outlined below, SECT is favourable with respect to the nine criteria raised in Circular letter No.3121.

.1 **SECT is environmentally effective.** Analyses conducted with data from the IMO updated GHG study suggests a 10 to 30% direct reduction of greenhouse emissions in 2020 is possible and it could be as high as 40% (below business as usual) by implementing efficiency measures.

.2 **SECT is cost effective.** SECT would create, for the first time, an incentive for ship-owners to invest in efficiency measures with longer term payback periods. This is because a highly efficient ship will continue to generate efficiency credits for several years, and the value of the future stream of credits can be factored into the price of a ship should the owner decide to sell it. In addition, a focus on efficiency is inherently cost-effective for ship owners because they are lowering operating costs. The impacts on trade are expected to be minimal as there is no cap on growth of the sector and in many cases the overall transport cost would decline due to decreased fuel costs. As such, the impact on LDCS and SIDS is also expected to be minimal.

.3 **SECT provides incentives for technological change.** By setting efficiency standards and then allowing trading, there is a regulatory and financial incentive to increase ship efficiency. SECT does not prescribe what technologies to use or how to use them; instead it lets ship owners/operators decide what technologies work best for their ships. Given that SECT would be exclusive to the maritime sector; it provides the highest of incentives to employ a variety of efficient technologies.

.4 **SECT is practical.** SECT would be relatively simple to implement as it builds on the significant work already undertaken by IMO on the EEDI, EEOI, and SEEMP. The administrative systems and procedures for efficiency credit trading would have to be created, but these would be a simplified version of what is needed to implement a full cap and trade system.

.5 **SECT does not require significant technology transfer.** As the updated IMO GHG study indicates, substantial negative cost efficiency measures are available for the global shipping sector using existing commercialized technologies. By and large, technology transfer required by a developing country ship builder or ship operator can therefore be acquired through commercial means. However, in as much as SECT will require developing country administrations or ship owners to familiarize themselves with credit trading, we believe that support for capacity-building programs would be appropriate and straightforward to arrange.

As for mobilizing climate change finance, we note that the original nine criteria for greenhouse gas measures to be adopted by the IMO (agreed at MEPC 57) did not include raising revenue for external benefit. Accordingly, SECT is designed to reduce emissions within the sector at minimal cost and to the benefit of the sector only. The SECT system is self-contained in that all costs to industry are spent on investments in their own vessel efficiency.

.6 **SECT would be consistent with international law.**

.7 **SECT has minimal administrative burden.** SECT creates some additional work for owners, operators, flag states, and port states. However, we believe there is an additional burden for any market-based measure. The additional burden would be comparatively minor and would complement what is currently being undertaken under current Annex VI requirements.

.8 **SECT has minimal additional work.** SECT would require efficiency gains from ships. Although there would be additional workload to implement the efficiency measures, the efficiency gains would result in cost savings from reduced fuel consumption which would lead to positive market impacts for shipping. The credit trading program results in decreased costs and provides ship owners and operators with flexibility on their compliance approach to the proposed requirements Implementation of the SECT would present minimal burden for individual ships, and it could bring a positive impact on international trade supported by marine shipping.

.9 **SECT is compatible with existing enforcement provisions.** SECT is compatible with the existing enforcement and control provisions under the IMO legal framework as it builds on work undertaken in Annex VI.

Summary of the Rebate Mechanism (RM) proposal by IUCN (MEPC 60/4/55, MEPC 61/5/33)

40 A rebate mechanism, as proposed in MEPC 60/4/55 by IUCN, aims to reconcile the different principles of shipping and climate conventions. Through the mechanism developing countries can be rebated the cost or impact of a maritime MBM on their development. The maritime MBM is defined here as any Market-Based Instrument or Measure (MBM) for international maritime transport. The rebate mechanism can apply, in principle, to any maritime MBM, which generates revenue, such as a contribution/levy on fuel or an emission trading scheme. The mechanism cannot apply to an MBM that does not generate revenue, such as an efficiency-based scheme.

41 The mechanism calculates the rebate in a top-down manner using the global MBM costs and a simple key, country-by-country. The proposed key is a country's share of global imports by value. A developing country could forego its rebate, or part of it, and be internationally credited for such action. Developed countries are automatically credited for the amount of financing raised through the MBM, based on the same key, and are not entitled to any rebates.

42 Consequently, net revenue raised, after rebates have been issued, would come from customers in developed countries only, complying with the principles and provisions of the UNFCCC. The net revenue raised could be split between supporting developing countries in implementing climate change action, and assisting the global shipping sector to accelerate reductions of its growing emissions through technological advances.

43 This unique rebate mechanism has been integrated with the International Maritime Emission Reduction Scheme (IMERS) in order to:

.1 illustrate how it can be operationalized; and

.2 allow the proposal be comprehensively assessed according to the nine criteria of the MBM-EG Terms of Reference.

44 Under the IMERS scheme a market-driven levy is established on fuel bunkered, as an alternative for a levy on greenhouse gas emissions. The levy would apply to all ships over a predetermined size, engaged in international maritime transport, irrespective of their flag and nationality of the ship-owner. The liable entity in the scheme is ship, uniquely identified by its IMO number.

45 In order to deliver proportionality of the shipping effort to combating climate change, the levy is linked to a prevailing fee on land transport emissions, or to the rolling average market carbon price, as available. It is set constant for a quarter, at least 30 days in advance of the start of each quarter. In order to increase investment certainty, the levy is bounded by predetermined price floor and ceiling.

46 Fuel bunkered in a given quarter must be electronically reported and is subject to payment of the constant levy for that quarter. The levy is obtained centrally, bypassing national coffers, and aggregated providing gross revenue for the scheme.

47 In order to reduce the burden on the shipping industry, and guarantee a rapid deployment globally, a computer-based system and simple processes are defined. The system is based on a central emissions registry (ER), holding an emission account for each ship, and a predetermined global bank (BK), or banks, providing a payment account for each ship. The scheme operates through six processes:

.1 Reporting of fuel bunkered, by ship (manager) to ER;

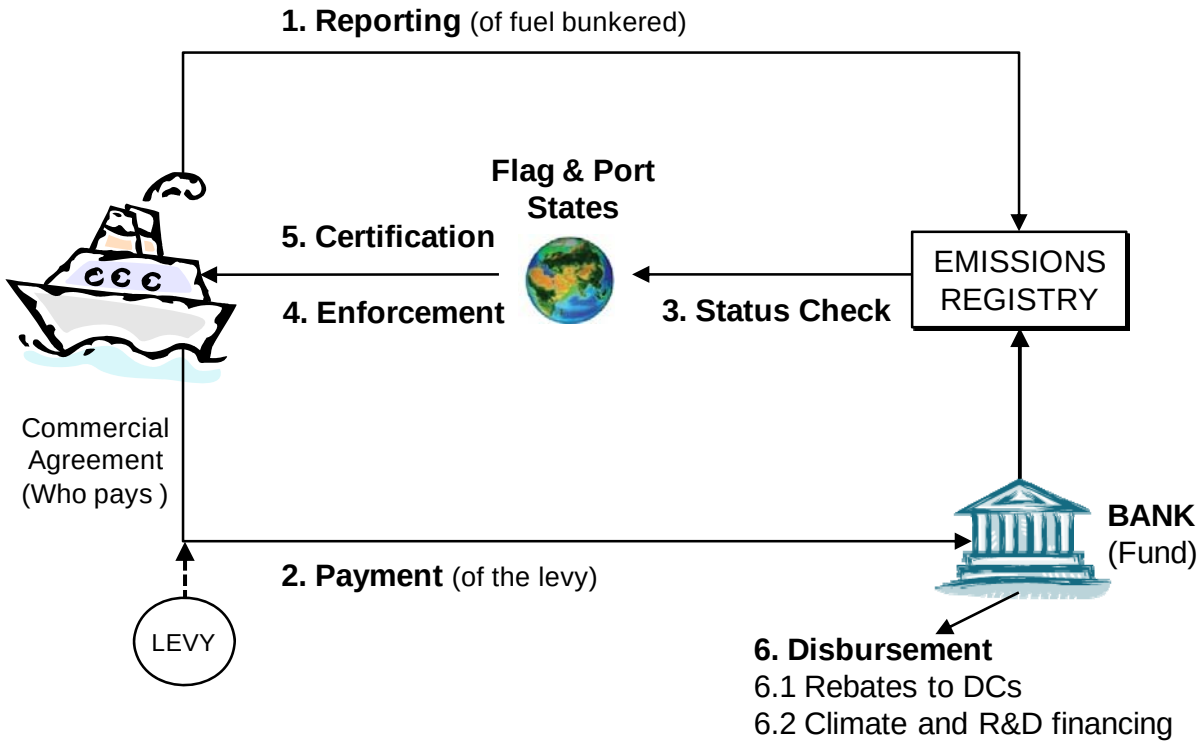
.2 Payment of the levy, by ship (charterer) to BK, directly;

.3 Status check of ship's compliance, by Port and Flag State Control (PSC and FSC) with ER;

.4 Enforcement of compliance, by PSC and FSC;

.5 Certification of ship compliance, by FSC; and

.6 Disbursement of revenue raised, by BK and/or predetermined funds.

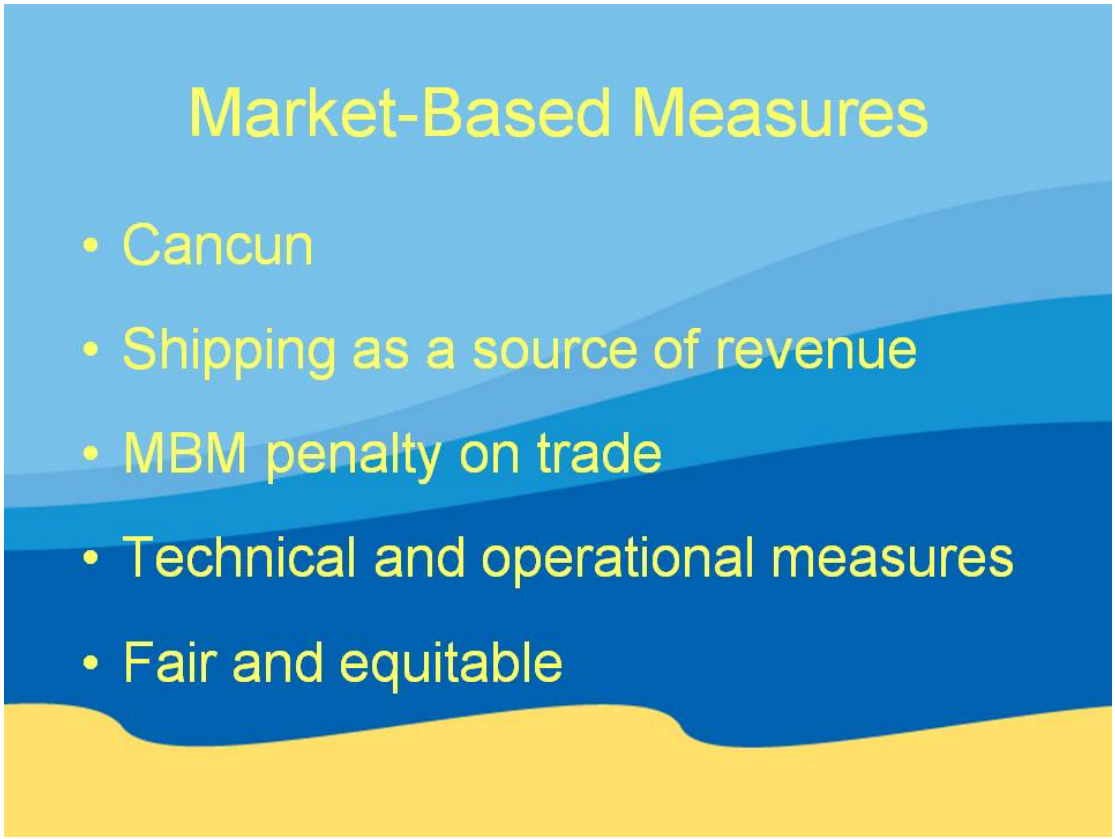


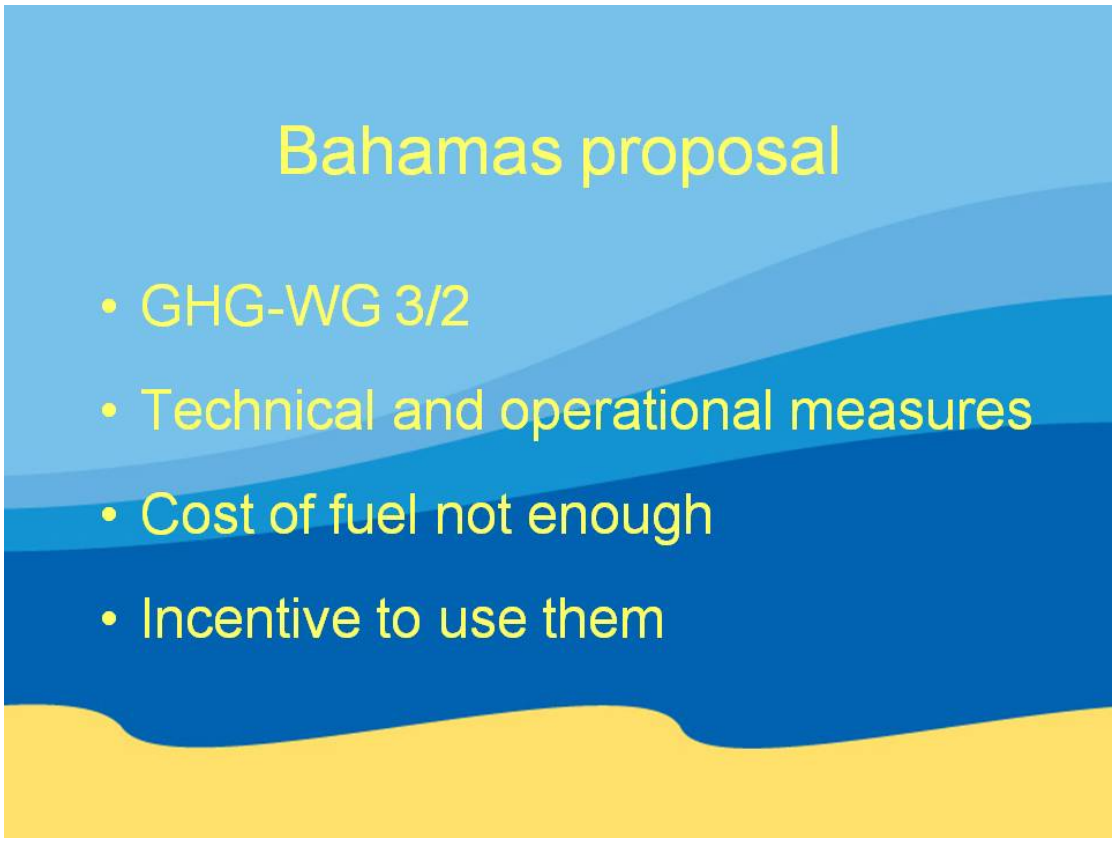
48 In order to comply with the UNFCCC principles and provisions, including the principle of common but differentiated responsibilities and respective capabilities (CBDR), the rebate mechanism as introduced above applies, and is the first step of the disbursement process (6).

49 In order to maximize environmental effectiveness and cost-efficiency, the entire net revenue raised is to be disbursed through existing institutions for: (a) Adaptation to climate change in developing countries, (b) Reduction of emissions from deforestation and forest degradation (REDD+), and (c) Technology R&D, transfer, and transformation in the shipping sector. It is proposed to reserve a significant pool of adaptation funding to the most vulnerable Small Islands Developing States (SIDS) and Least Developed Countries (LDCs). Furthermore, setting of the ship size threshold higher than 400 GT is proposed for an initial period of time.

PRESENTATIONS OF MBM PROPOSALS

Presentation by the Bahamas on alternatives to MBMs

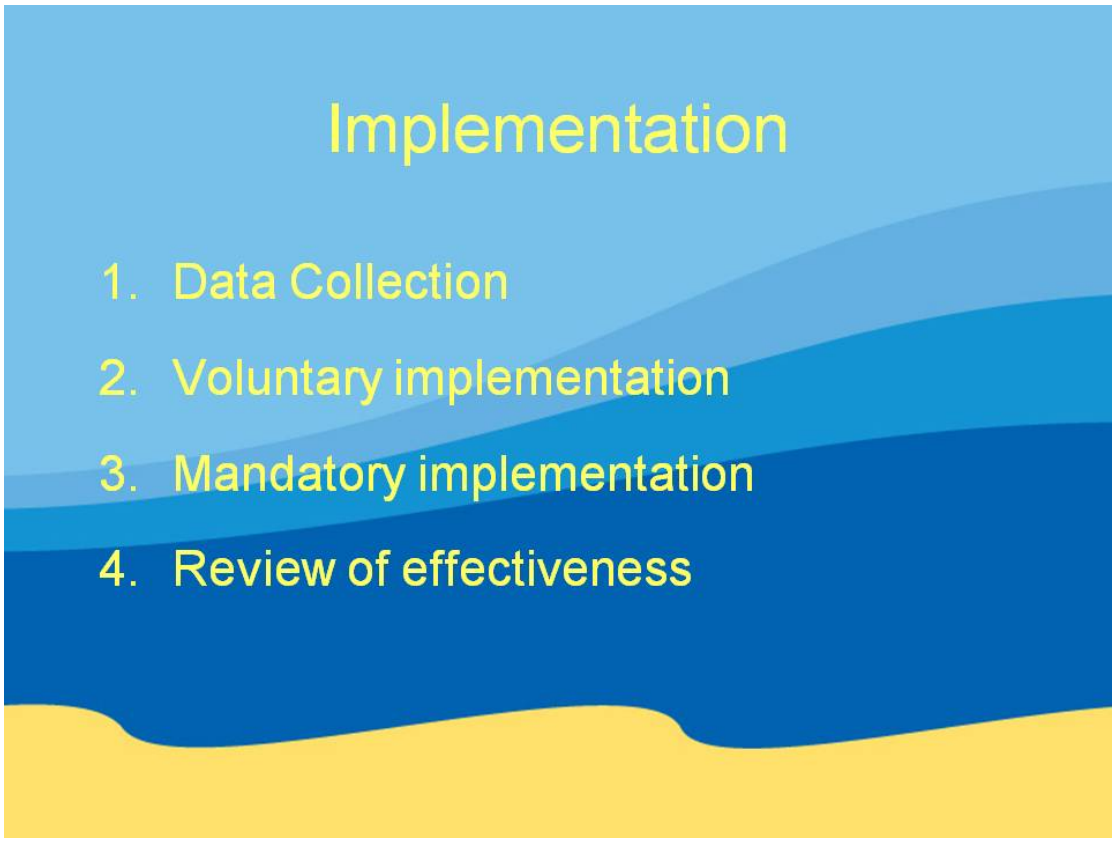


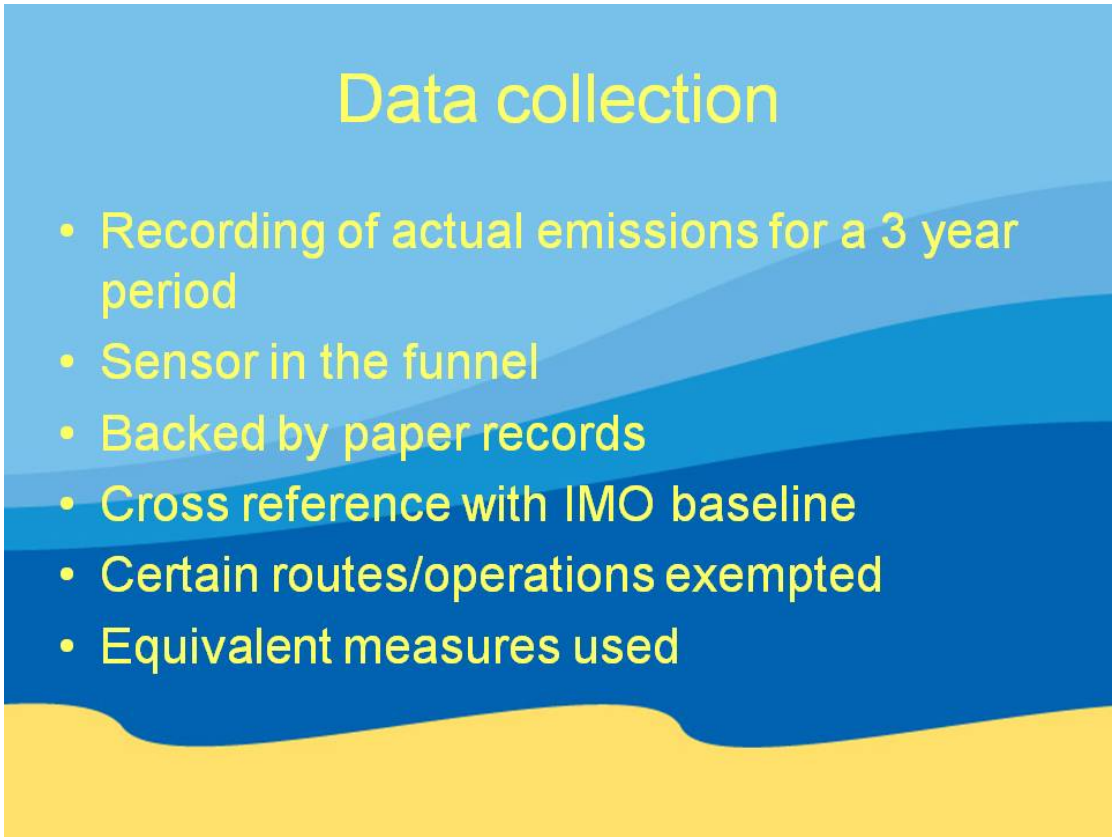


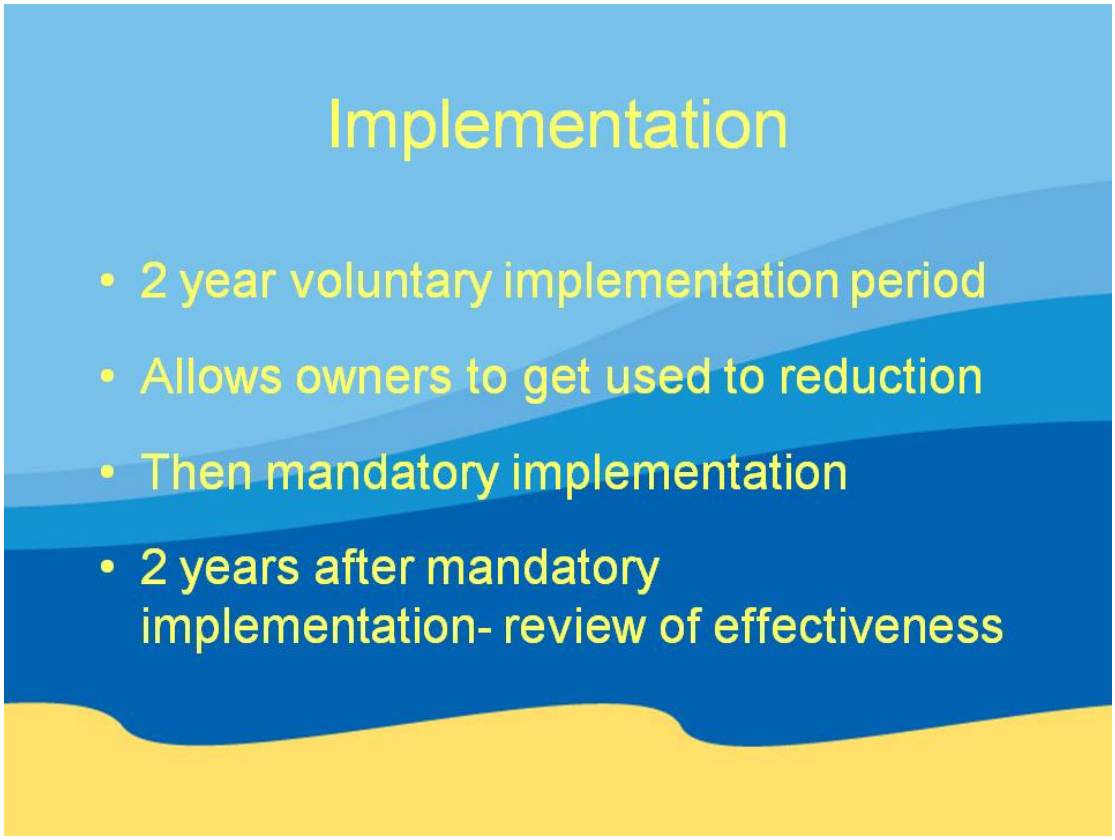
Mandatory emission cuts

Existing ship, years	0 to 15	15+ to 20	20+ to 25	25+
% CO_2 Reduction	20%	15%	10%	5%

New ship, years	< 2 years from implementation date	2 years from implementation date
% CO_2 Reduction	20%	25%


Implementation
1. Data Collection
2. Voluntary implementation
3. Mandatory implementation
4. Review of effectiveness


Data collection
• Recording of actual emissions for a 3 year period
• Sensor in the funnel
• Backed by paper records
• Cross reference with IMO baseline
• Certain routes/operations exempted
• Equivalent measures used



Timeline

Year of adoption to Year 3	Year 3 to Year 5	Year 5	Year 7
Data collection	Voluntary CO_2 reduction	Mandatory CO_2 reduction	Review process starts


Summary
• Incentive to invest
• Flexible means to comply
• Real, quantifiable reduction
• Technical solution to technical problem for a technical organisation


THE BAHAMAS MARITIME AUTHORITY
PROGRESS
HONOUR
SERVICE
The Bahamas Maritime Authority
Simply better with The Bahamas

Presentation by Denmark, Cyprus, the Marshall Islands, Nigeria and IPTA on International GHG Fund

DANISH MARITIME AUTHORITY

International Greenhouse Gas Fund

Cyprus, Denmark, Marshall Islands, Nigeria and
International Parcel Tankers Association (IPTA)

Christian BREINHOLT
Deputy Director-General, Danish Maritime Authority

GHG-WG 3
28 March – 1 April 2011

DANISH MARITIME AUTHORITY

International GHG Fund

- A global, binding, separate legal entity – a new IMO Convention
- Ships in international trade – all marine fuels
- Option A
  - Mandatory/voluntary registration of bunker fuel suppliers
  - Collection of GHG Contribution by registered bunker fuel suppliers
  - Based on the Bunker Delivery Note as evidence
  - Direct transfer to the International GHG Fund
  - Fuel must be purchased by registered Bunker Fuel Suppliers

Option B
- Direct payment of the GHG Contribution by the shipowner
- Based on inter alia the Bunker Delivery Note as evidence
- Direct transfer to the International GHG Fund

DANISH MARITIME AUTHORITY

International GHG Fund

State Parties:

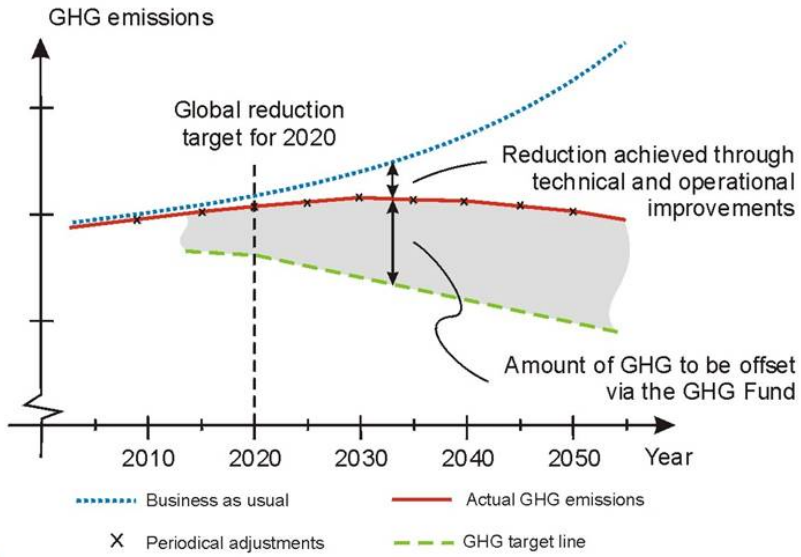
- Port and Flag State Control
- Inspections of bunker fuel suppliers (Option A)

Fund Administrator

- Ship specific Registry
- Manage revenues according to Parties' decisions

DANISH MARITIME AUTHORITY

Offsetting of GHG emissions



DANISH MARITIME AUTHORITY

Allocation of Revenues

- Shipping industry should be recognized and credited for the sector's contributions to reduce GHG emissions.
- Revenues should be allocated for purposes consistent with the objectives in the UNFCCC and be compatible with the financial architecture of a future global climate change agreement
- Mitigation and Adaptation – emphasis on LDCs and SIDS
- Remaining revenues:
  - Administration of the Fund
  - Research & Development – benefitting global ship industry
  - Technical Cooperation

DANISH MARITIME AUTHORITY

International GHG Fund - Virtues

- Meet all nine fundamental principles:
  - Contribute to reductions in global GHG emissions
  - Equally applicable to ships – regardless of flag
  - Allow growth in international shipping
  - Support technical innovation and R&D
  - Easy to administer and fast to implement
- Contribute to solving the challenges of climate change
- Revenues for the benefit of developing countries
- Embrace common but differentiated responsibilities (states) and respect no more favourable treatment (ships)
- Emission baseline established for free
- Eliminate any need for allocating GHG emissions
- Rely on well-established conceptual approaches

Presentation by Jamaica on reducing GHG emissions from ships through Port State institutional arrangements

Reducing greenhouse gas emissions from Ships through Port State institutional arrangements

By Eric E. Deans
College of Earth, Ocean and Environment
University of Delaware

Presented by: Mr. Eivind Vagslid
International Maritime Organization

OUTLINE

- Introduction and Background
- Choosing Between ETS And Emissions Fee
- Arguments For a Price Mechanism For Shipping
- Jamaica's proposal
- Proposed Institutional Arrangements
- Satisfaction of evaluation criteria

Context

- A properly designed Emissions Trading Scheme (ETS) can be an effective quantity based mechanism to reduce GHG emissions from ships.
  - However, the Second IMO GHG study estimated inventories with a 20% margin of error
  - Another recent study also calculated inventories with an accuracy of ± 20%
- A quantity based mechanism (ETS) with such a high margin of error would invite credibility questions.
- A price based mechanism can be just as effective in reducing GHG emission and is more appropriate in the shipping context.

Choosing between quantity and price mechanisms

- Cap and Trade restricts the quantity of a pollutant emitted via tradable permits.
- Emissions from ships in 2006 estimated at 1008 MT with a margin of error of 20%.
- A carbon tax or emissions fee requires a payment for every tonne of CO_2 emitted.
- Environmental economists have argued that in situations where a pollutant exhibits constant marginal damage, such as CO_2 emissions, and where the marginal abatement cost is uncertain, a price control mechanism may be advantageous to quantity control mechanism (Weitzman 1978).

ARGUMENTS FOR A PRICE MECHANISM FOR SHIPPING

- When CO_2 target unknown use carbon tax.
- Applicable to new and existing ships.
- Able to audit consumption declared by each ship and calculate emission.
- Particularly well suited to address the multi-jurisdictional nature of international shipping.

Jamaica Proposal

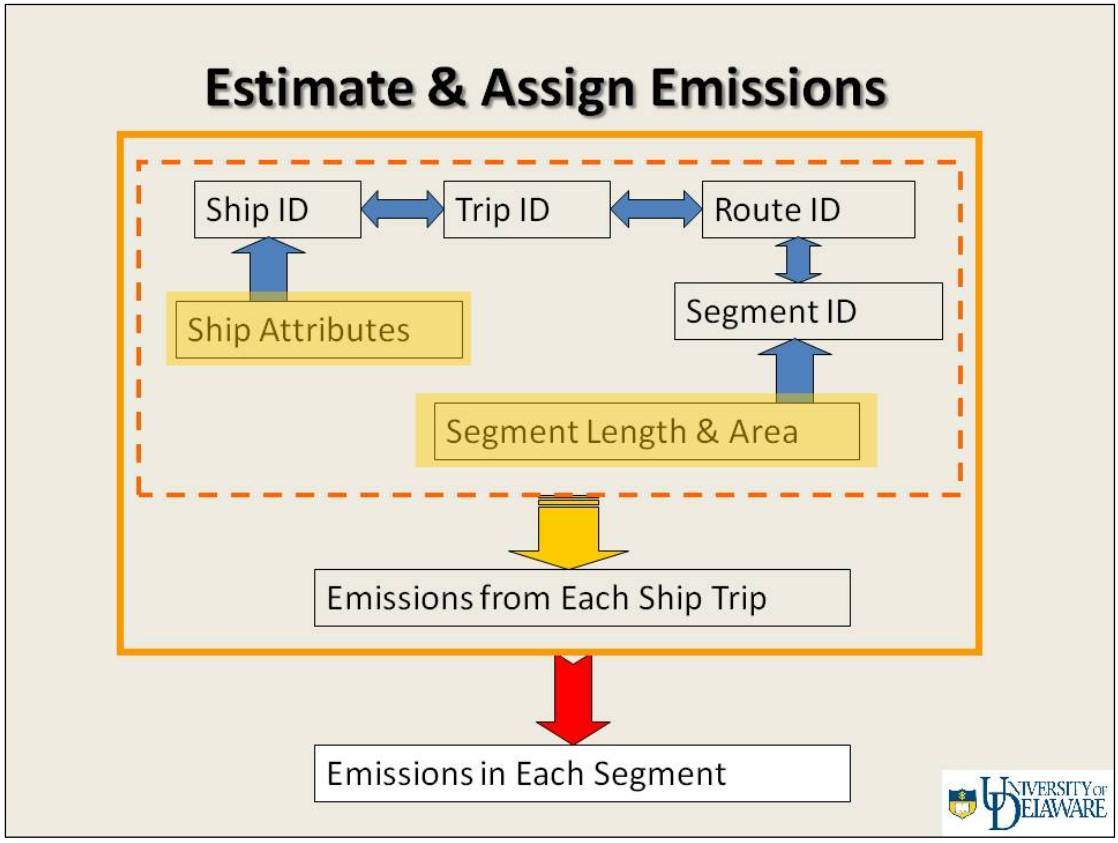
- Through an IMO global agreement , all countries authorized to levy a uniform emissions charge on all vessels calling at their respective ports.
- The fee would be structured to achieve the global reduction target for GHG.
- Ship itself targeted with an emission fee as it arrives in port, irrespective of the owner, operator or charterer, and thus provides an easily administered institutional mechanism.
- Audited by STEEM or similar model

How it would work

- The amount of fuel consumed onboard ships is routinely monitored and recorded.
- Larger vessels have fuel flow meters that can record fuel consumption with an accuracy of ± 0.2% with other vessels relying on sounding tanks with a lower level of accuracy.
- Emissions calculated based on fuel consumed during voyage to arrive at the port.
- Vessel would pay required emission fee into account established with authorized global agency.
- Amount paid would be audited to ensured reported consumption (emissions) within certain limits based on voyage parameters, vessels IMO number, ship attributes, efficiency discounts.
- Receipt would be inspected by Port State officials.

Ship Traffic Energy Emission Model

- The STEEM was developed at the University of Delaware by Wang, Corbett et al and could be modified for auditing ship emissions.
- Other models such as SeaKLIM developed by Paxian et.al may also be used.



SUMMARY AND FURTHER WORK

- Jamaica proposal (MEPC 60/4/40) seeks to **achieve reduction in GHG emissions from ships which is enforced through Port State arrangements.**
- Would apply to vessels calling at respective ports.
- **Utilizes voyage estimating software such as the ship traffic, energy and environment model, STEEM to audit compliance.**
- This Port State Levy proposal has been recognized as having some merit but it was suggested that it would be impractical for certain administrations to implement.
- To overcome this scepticism, a prototype of the STEEM concept in a Port State environment would need to be developed to demonstrate its ease of use and universality.

SUMMARY AND FURTHER WORK

- Unfortunately, a demonstration model is not ready for public display at GHG-WG 3.
- Jamaica's proposal suggests a means to audit the consumption and emissions of every vessel. It is important to note that the proposed technical and operational measures. (EEDI and EEOI) will also require some form of auditing mechanism at the Port State level to ensure compliance with any adopted standards.
- Jamaica believe the process would benefit from the completed prototype, even at a later stage.

Contact

For more information on Jamaica's proposal and its further development please contact:

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University of Delaware
Email: edeans@udel.edu
Tel: (302) 690-1210 mobile

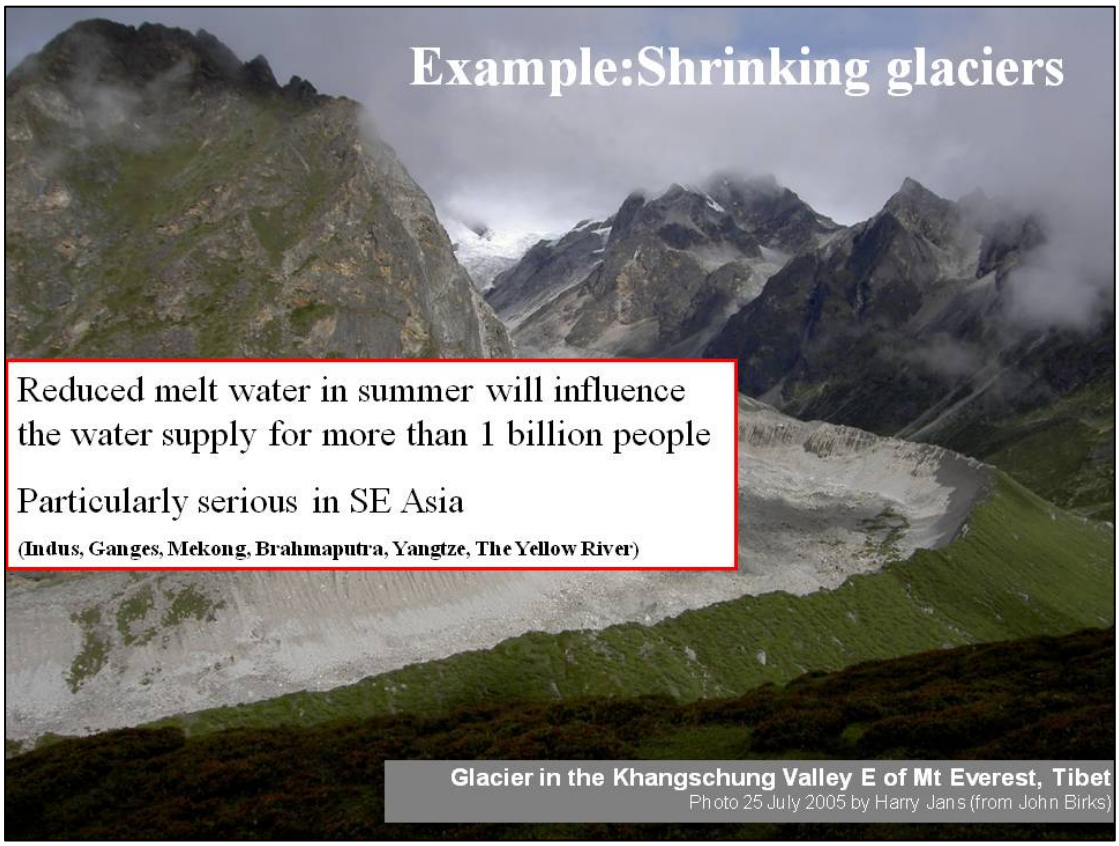
Presentation by Norway, the United Kingdom, France and Germany on a Global Emissions Trading System for International Shipping

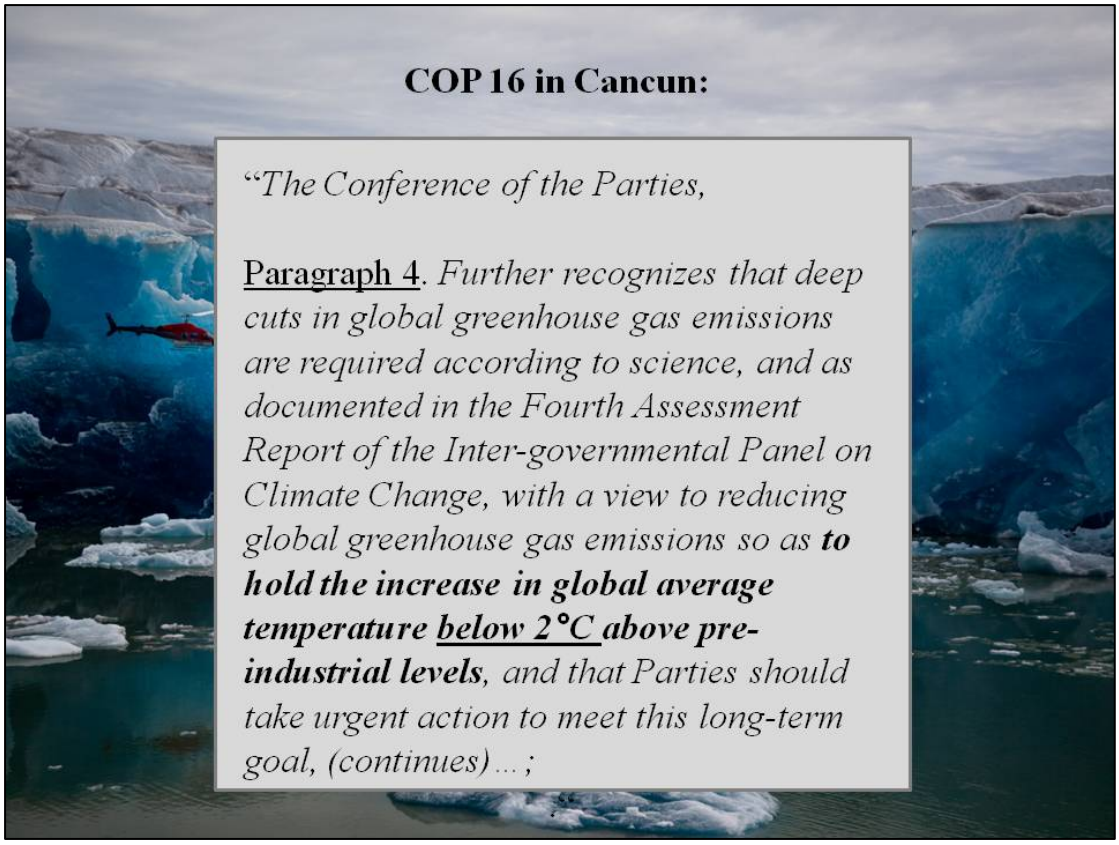
NORWEGIAN MINISTRY OF THE ENVIRONMENT

A Global Emissions Trading System for International Shipping

By
France, Germany, Norway and the UK

Why?

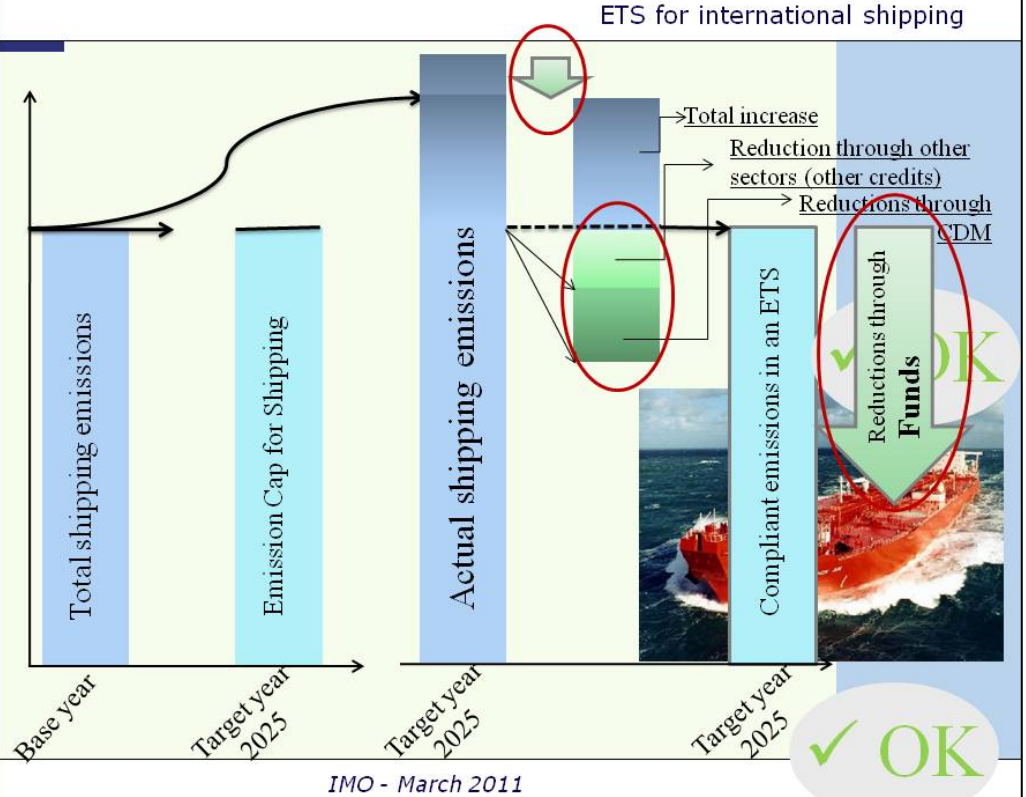

Example:Shrinking glaciers
Reduced melt water in summer will influence the water supply for more than 1 billion people
Particularly serious in SE Asia
(Indus, Ganges, Mekong, Brahmaputra, Yangtze, The Yellow River)
Glacier in the Khangschung Valley E of Mt Everest, Tibet
Photo 25 July 2005 by Harry Jans (from John Birks)

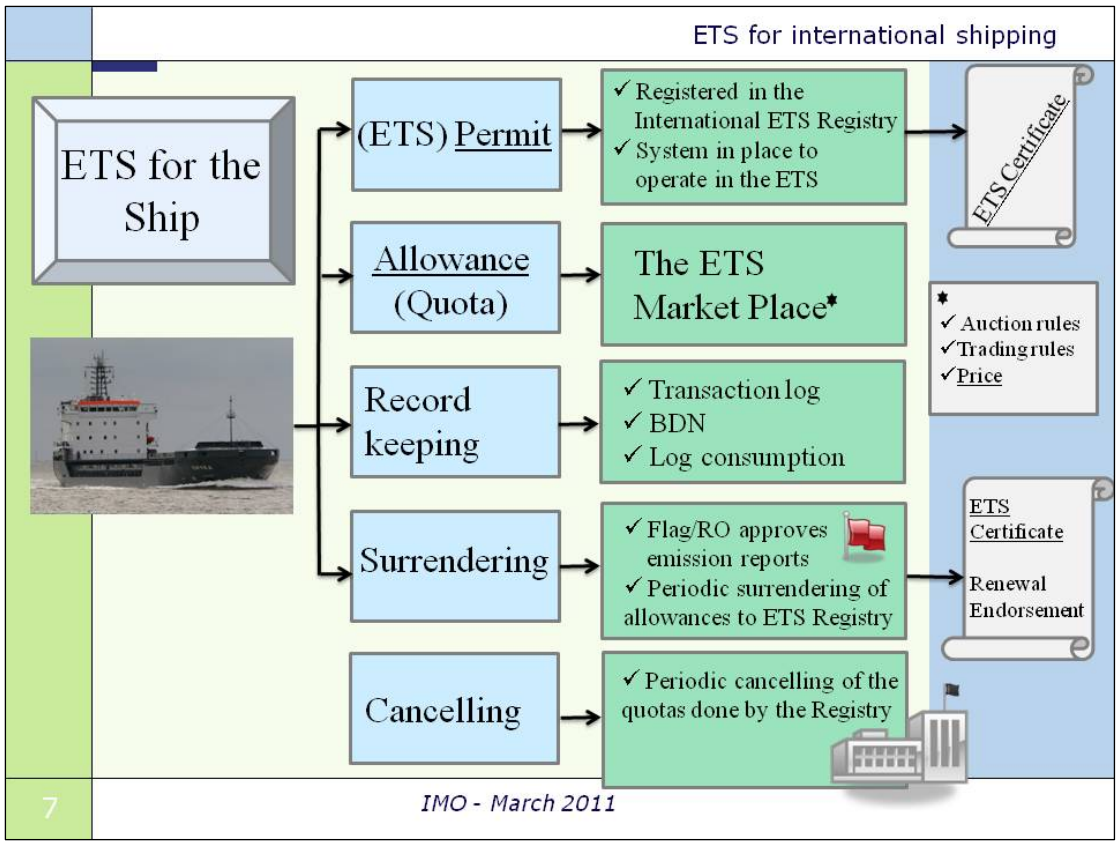

COP 16 in Cancun:
"The Conference of the Parties,
Paragraph 4. Further recognizes that deep cuts in global greenhouse gas emissions are required according to science, and as documented in the Fourth Assessment Report of the Inter-governmental Panel on Climate Change, with a view to reducing global greenhouse gas emissions so as to hold the increase in global average temperature below 2°C above pre-industrial levels, and that Parties should take urgent action to meet this long-term goal, (continues)...;

Why develop an ETS for international shipping?

- The ETS responds precisely and cost-efficiently to **the need for emission reductions**
- The ETS regulates the ship using **well established IMO principles** and approaches
- Will meet the needs of developing countries because **the ETS will generate revenues**.

- The mechanism can be designed to include various political interests ("soft" or "hard")
- Predictable ([10] year commitment period)
- Feasible
- Already introduced with success - experience gained




ETS for international shipping
ETS for the Ship
(ETS) Permit
✓ Registered in the International ETS Registry
✓ System in place to operate in the ETS
ETS Certificate
Allowance (Quota)
The ETS Market Place*
* ✓ Auction rules ✓ Trading rules ✓ Price
Record keeping
✓ Transaction log
✓ BDN
✓ Log consumption
Surrendering
✓ Flag/RO approves emission reports
✓ Periodic surrendering of allowances to ETS Registry
ETS Certificate
Renewal
Endorsement
Cancelling
✓ Periodic cancelling of the quotas done by the Registry
7
IMO - March 2011


ETS for international shipping
The Market Place
Buyer meets the Seller
NORD POOL
NORD POOL
EUA/CER
trading and clearing services
forward and spot market


ETS for international shipping
Easy access to the market!
Good experiences with effective and easiy accessable marketplaces in existing ETS which are established by private organizations. Low administrative costs.
www.ets-for-shipping.com
9
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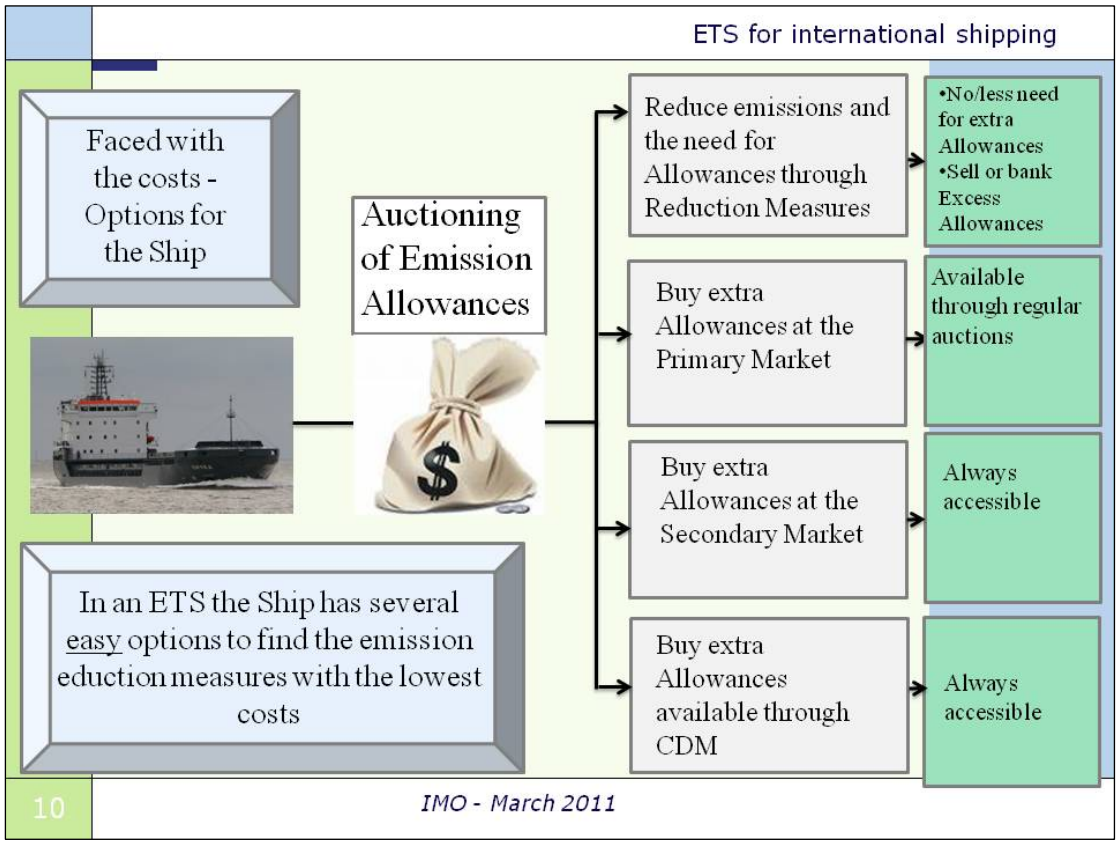
ETS for international shipping
Faced with the costs - Options for the Ship
Auctioning of Emission Allowances
In an ETS the Ship has several easy options to find the emission eduction measures with the lowest costs
Reduce emissions and the need for Allowances through Reduction Measures
•No/less need for extra Allowances
•Sell or bank Excess Allowances
Buy extra Allowances at the Primary Market
Available through regular auctions
Buy extra Allowances at the Secondary Market
Always accessible
Buy extra Allowances available through CDM
Always accessible
10
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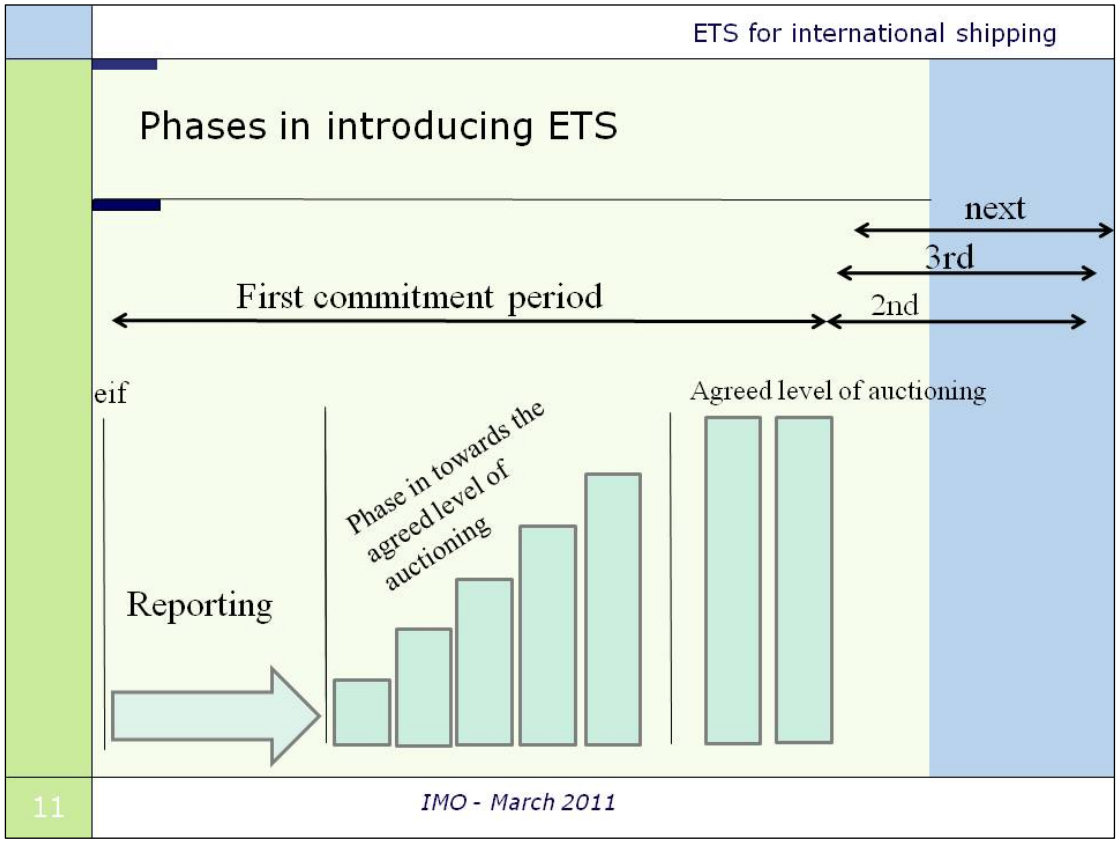
ETS for international shipping
Phases in introducing ETS
next
3rd
First commitment period
2nd
eif
Agreed level of auctioning
Phase in towards the agreed level of auctioning
Reporting
11
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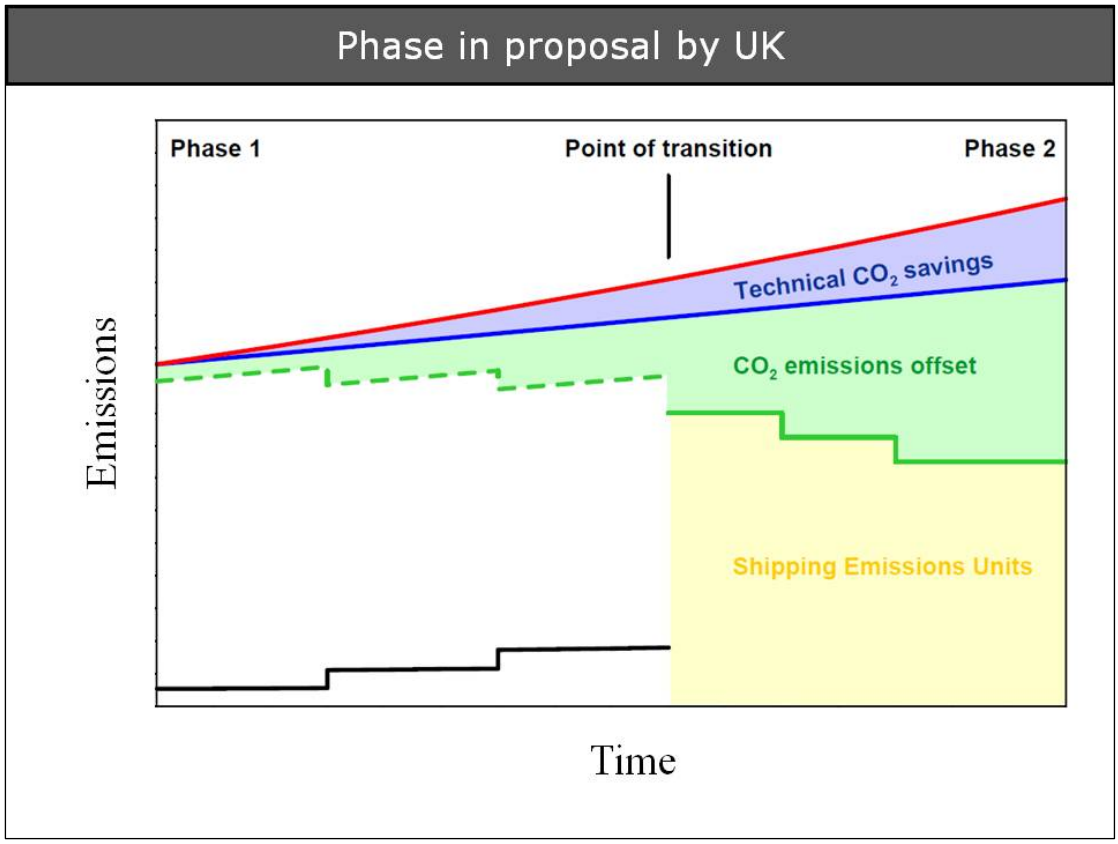
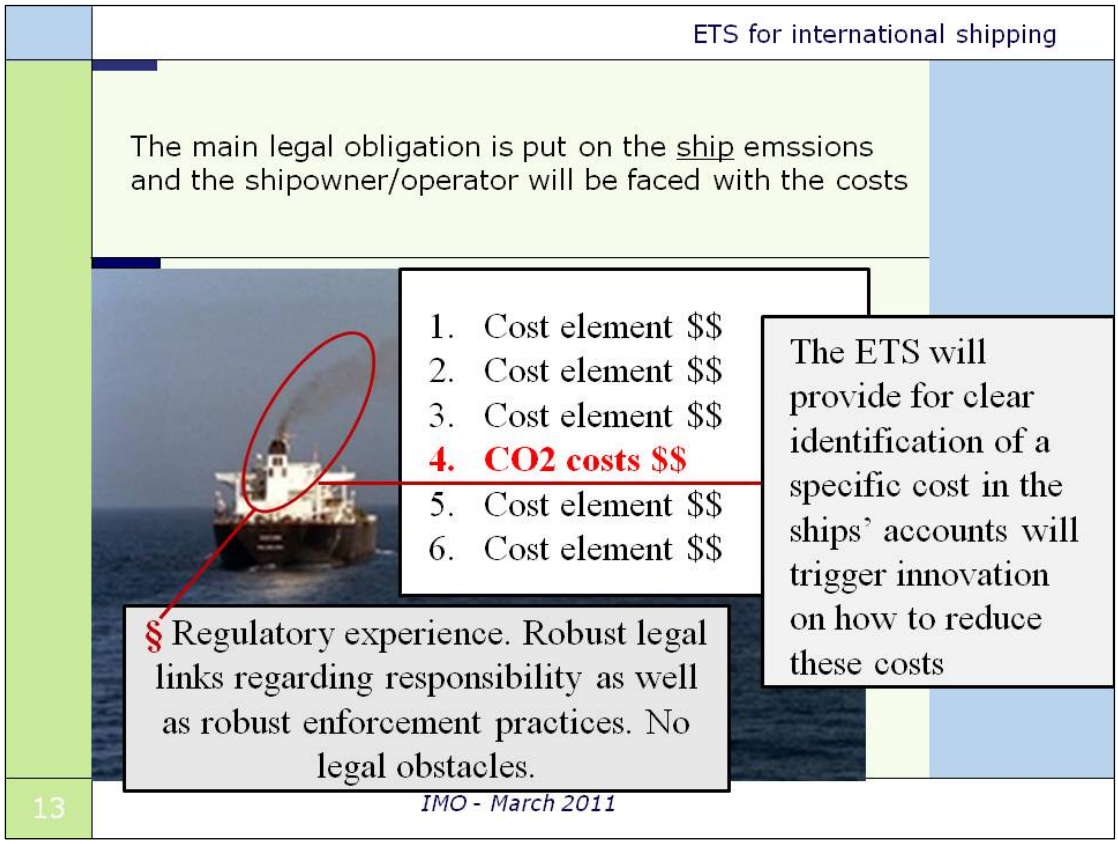
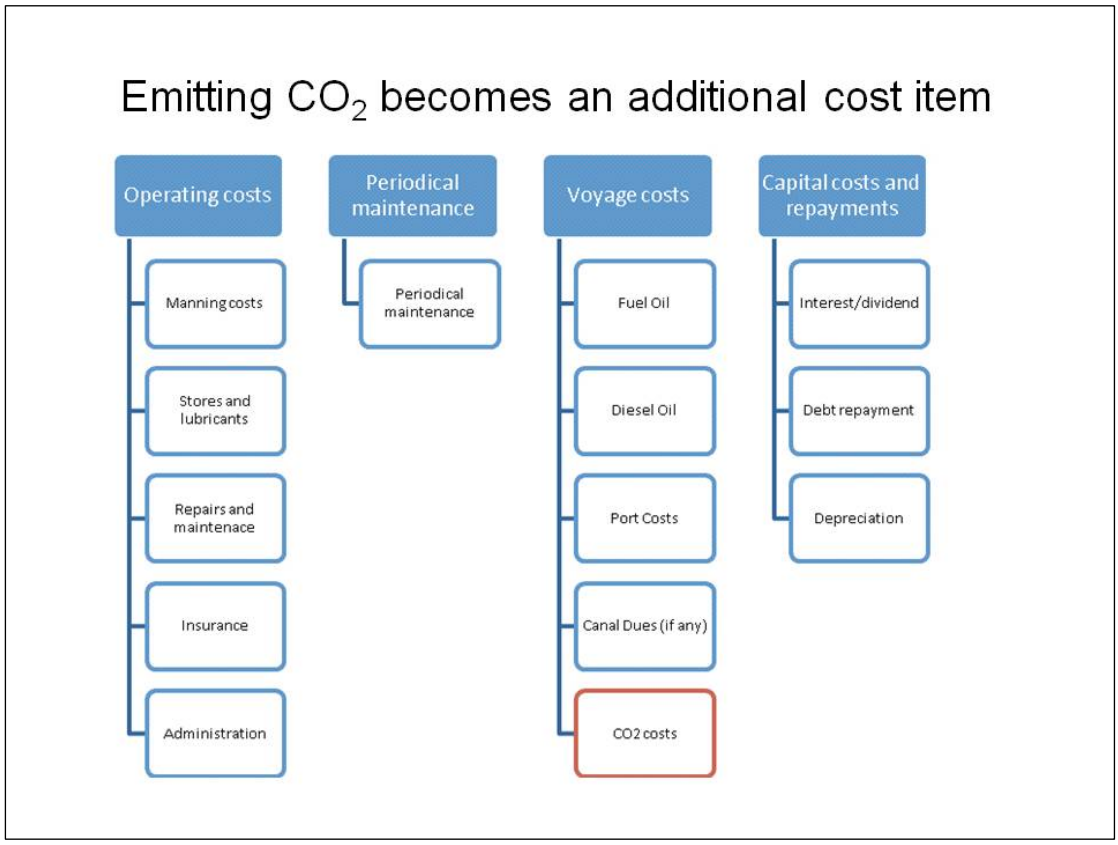
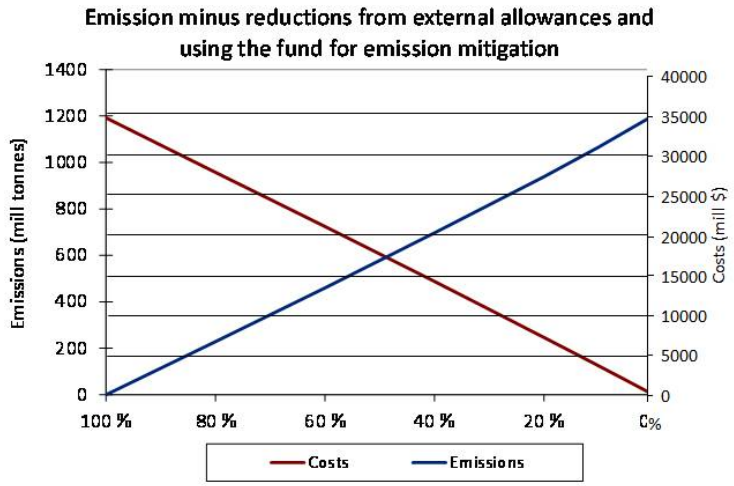

Phase in proposal by UK
Phase 1
Point of transition
Phase 2
Technical CO_2 savings
CO_2 emissions offset
Shipping Emissions Units
Emissions
Time


ETS for international shipping
The main legal obligation is put on the ship emssions and the shipowner/operator will be faced with the costs
1. Cost element $$
2. Cost element $$
3. Cost element $$
4. CO2 costs $$
5. Cost element $$
6. Cost element $$
The ETS will provide for clear identification of a specific cost in the ships' accounts will trigger innovation on how to reduce these costs
§ Regulatory experience. Robust legal links regarding responsibility as well as robust enforcement practices. No legal obstacles.
13
IMO - March 2011


Emitting CO_2 becomes an additional cost item
Operating costs
Manning costs
Stores and lubricants
Repairs and maintenace
Insurance
Administration
Periodical maintenance
Periodical maintenance
Voyage costs
Fuel Oil
Diesel Oil
Port Costs
Canal Dues (if any)
CO2 costs
Capital costs and repayments
Interest/dividend
Debt repayment
Depreciation

ETS for international shipping



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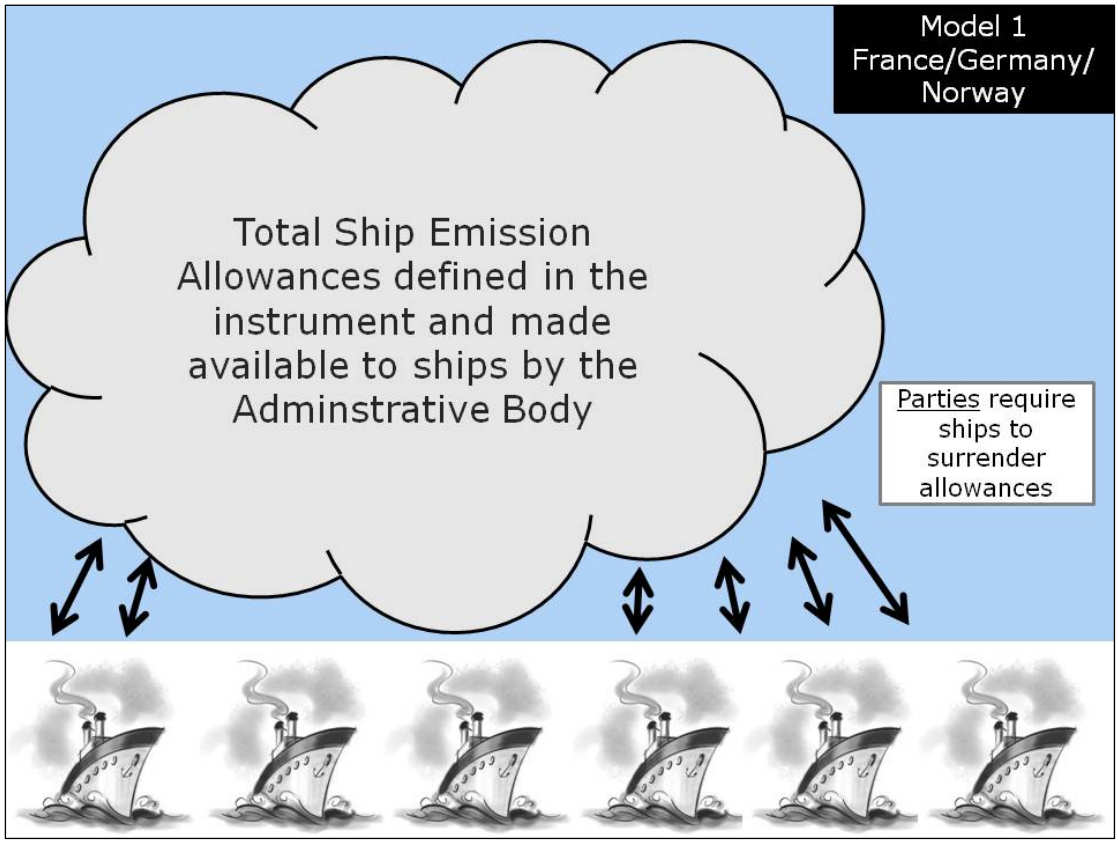
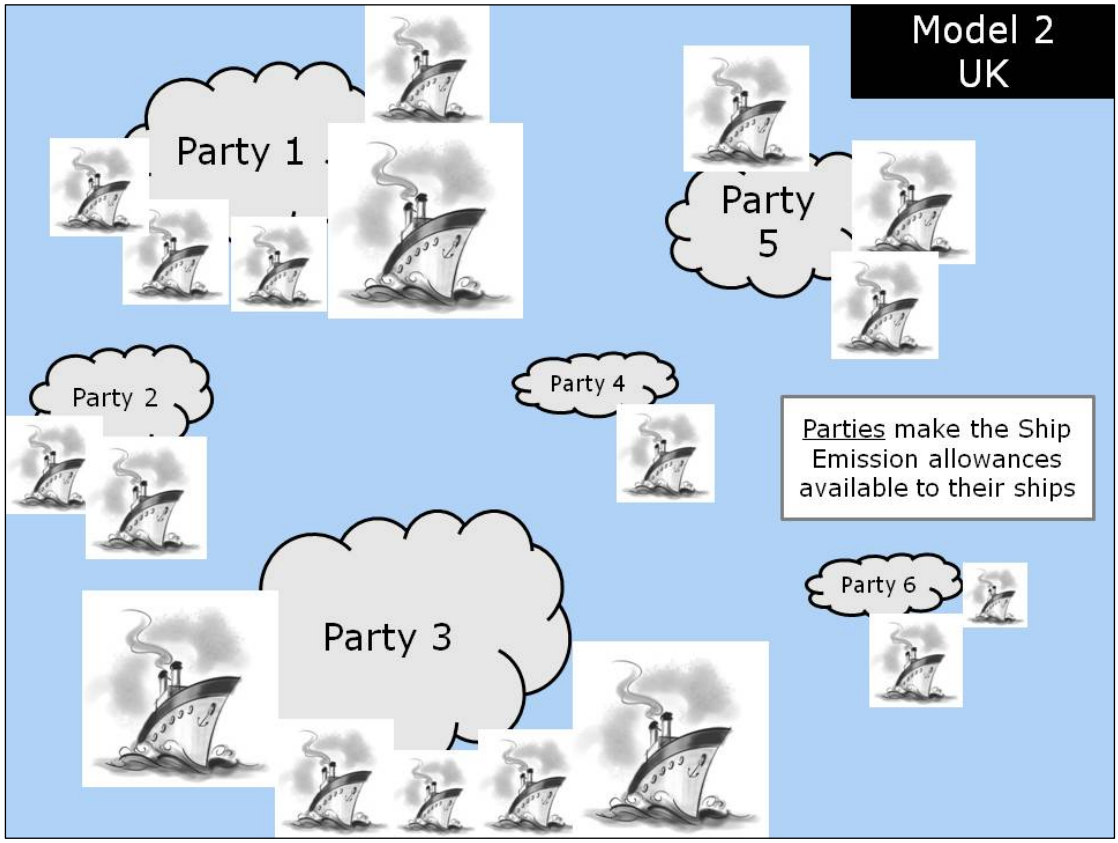




ETS for international shipping

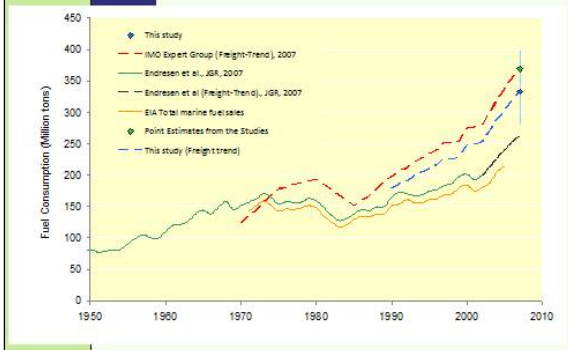
Application

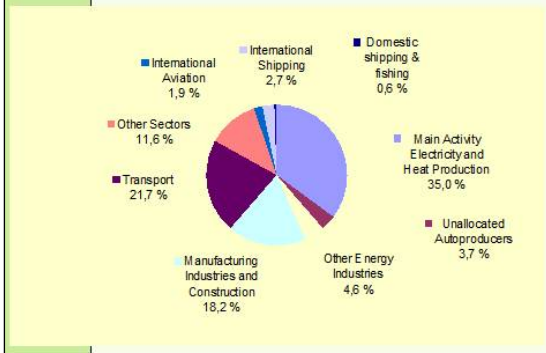
- Applies to ships entitled to fly the flag of a Party
- The Party has the right to introduce the requirements in its waters
- Do not apply to warships etc. (UNCLOS art. 236)
- Do not apply to ships below [Size] GT

  Note: A phase in regime for ships of various sizes [and types]may be established
- No more favourable treatment of non-Party ships
- Exemption clause

18 *IMO - March 2011*

ETS for international shipping





- 400 GT = 60,000 ships covering about 91% of the total CO_2 emissions
- 500 GT = 45,000 ships covering about 87% of the total CO_2 emissions
- 2,000 GT = 30,000 ships covering about 80% of the total CO_2 emissions
- 10,000 GT = 16,000 ships covering about 67% of the total CO_2 emissions

19 *IMO - March 2011*

ETS for international shipping

The Administrative Body

- Administrative tasks only (identified in the instrument).
- Establish and maintain an ETS Registry
- Establish the Market Place and ensure balance (quotas vs consumption)
  - Put the emission allowances on the Market, and
  - Register surrendered emission allowances, and
  - Emissions monitoring
- Administration of the FUND/funds
- Report to the Executive Board and the Assembly

20 *IMO - March 2011*

Funds will be generated by the ETS

- How to use the Fund/funds raised by the auctioning of emission allowances will need to be thorougly discussed, however emission reduction measures and compensation of developing countries are identifieed as reasonable options through
  - Mitigation by CDM projects, and
  - Adaption in developing countries
- In addition relevant R&D activities in the maritime sector is a candidate as well as other relevant TC-activities such as training and capacity bilding

How an ETS will serve all countries

- All countries will benefit in reduced effects of climate change because of emissions reductions caused by an ETS for international shipping. Especially developing countries because of the severe impacts of climate change in these countries.
- The more energy efficient shipping, the less pressure on the fuel market.
- If not further emission reductions are undertaken by international shipping more actions are needed within other sectors (Annex I countries and non-Annex I countries) in order to meet the temperature target agreed in Cancun.

How an ETS can serve developing countries

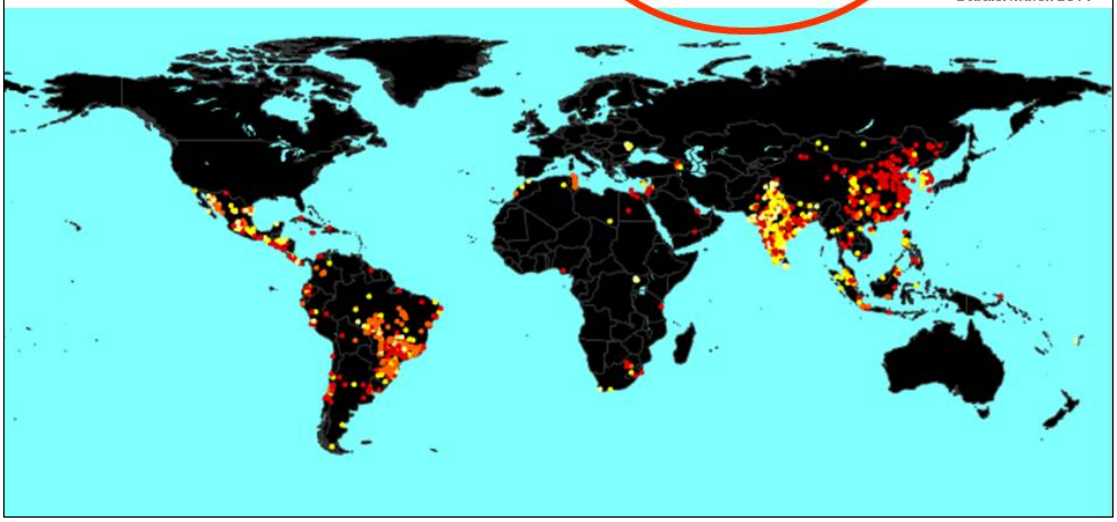
- Will directly provide for funding of climate change actions in developing countries including the use of CDM.
- Funds provided by an ETS can be used (for climate change purposes) in developing countries. In total, these countries will be a net receiver of funds.
- If so decided, the system can include an exemption clause for trades to and from some small island developing states. It must be ensured that the exemption clause does not lead to carbon leakage and distortion of competition.
- Technical cooperation.

CDM | A mechanism with global reach

2924 registered projects in
71 developing countries
Plus about **2.700** more projects in pipeline
565 million CERs issued to date

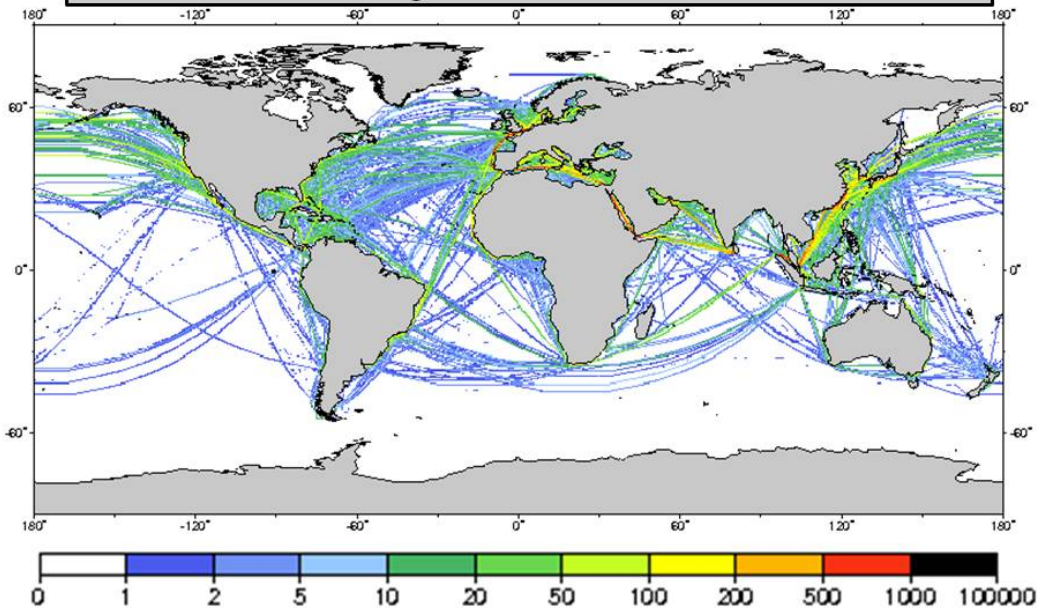
>2.7 billion certified emission reductions expected to the end of 2012 (high estimate)

Status: March 2011



Estimation of costs to various economies

Presented by Germany in MEPC 60/4/54
In general the assumptions made for these estimates are in the "high end" of the scale



ETS for international shipping

Key Assumptions

- It is important to note the assumptions for the study on Impacts on the Shipping Sector, Countries and Regions:
  - 100 % auctioning of allowances
  - Allowance price of USD 14-22 per metric tonne of CO2 which is approximately the USD value of the EU ETS in the 12 monts to March 2010
  - Fuel Price of USD 450 per metric tonne
  - Trade routes remain constant
  - All costs are borne by the importer
  - No ballast voyages
  - No efficiency improvements
  - Equal fuel prices around the world
- In reality, these assumptions are unrealistic, but it will provide for an indication of impacts on economies.

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IMO - March 2011

Region of destination	CO_2 emissions Mt CO_2	Cost increase of maritime transport USD bln. USD 15-30/tonne CO_2	Cost increase of maritime transport % of GDP USD 15-30/tonne CO_2
North America	120	1.8 - 3.6	0.01 - 0.02%
Central America and Caribbean	53	0.8 - 1.6	0.01 - 0.01%
South America	59	0.9 - 1.8	0.05 - 0.09%
Europe	277	4.2 - 8.3	0.02 - 0.05%
Africa	68	1.0-2.0	0.1 - 0.2%
Middle Eastern Gulf, Red Sea	62	0.9 - 1.9	0.08 - 0.15%
Indian Subcontinent	24	0.4 - 0.7	0.03 - 0.06%
North East Asia	194	2.9 - 5.8	0.03 - 0.06%
South East Asia	116	1.7 - 3.5	0.17 - 0.35%
Australasia	35	0.5-1.0	0.06 - 0.13%
World	1006	15.1-30.2	0.03 - 0.06%

Source: CE Delft et al., 2010

Country group of destination	CO_2 emissions Mt CO_2	Cost increase of maritime transport USD bln. USD 15-30/tonne CO_2	Cost increase of maritime transport % of GDP USD 15-30/tonne CO_2
Annex I countries	469	7.0 - 14.1	0.02 - 0.04%
Non-Annex I countries	582	8.7 - 17.5	0.08 - 0.15%
G77	465	7.0 - 13.9	0.07 - 0.14%
Least Developed Countries	13	0.2 - 0.4	0.06 - 0.12%
Small Islands and Developing States	99	1.5-3.0	0.45 - 0.89%

Source: CE Delft et al., 2010

Import value increase (assuming no improvement in fuel efficiency)

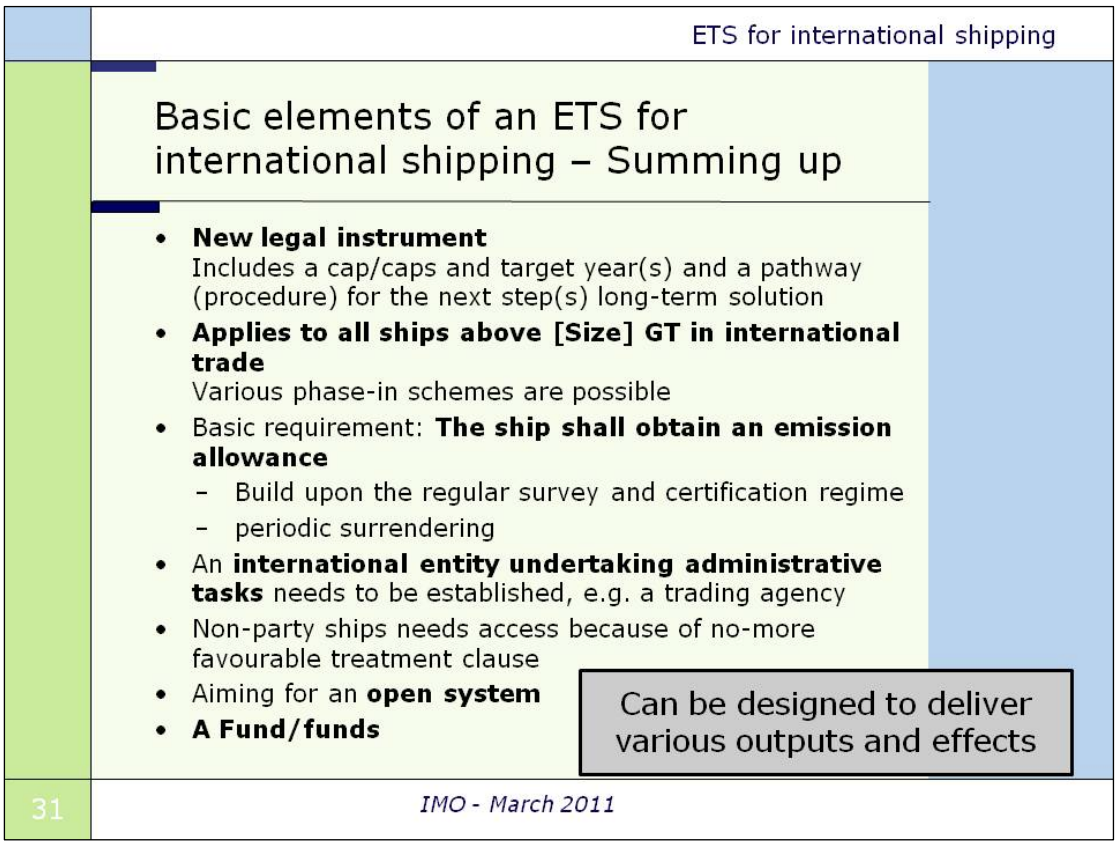
Type of commodity	Ship type	Maritime transport costs (USD/ tonne)	Value of goods (USD/ tonne)	Transport costs as a share of value of imported goods (%)	Increase in shipping costs (USD 15 per tonne of CO_2)	Percentage increase in price of goods
Agriculture	Bulker	81	741	11	4-6%	0.4-0.7%
Raw materials: ores and coal	Bulker	33	135	24	4-6%	1-1.4%
Crude oil	Tanker	18	449	4	4-5%	0.2%
Manufactures	Container	174	3404	5	4-8%	0.2-0.4%

Source: Korinek and Sourdin (2009). Note: increase in shipping costs calculated for an allowance price of USD 30 per tonne of CO_2 and a fuel price of USD 360 per tonne of fuel.

Examples of individual products:
Coffee from Brazil to Europe: 0.1 %, Cereals from Argentina to Europe: 1%

Summary – Costs to economies

- Costs of increased **import values** are in first order:
  - **Low (<0.15% of GDP)** for most regions and country groups
  - **Exceptions:** Africa, South-East Asia, SIDS
- Costs are low with regard to **different product groups** and **individual products**
- In reality, costs for developing countries are likely to be lower, due to
  - (1) Increased efficiency of maritime transport
    e.g.: CE Delft et al. (2009) estimates by 2030, 30% efficiency improvement is possible in a cost-effective way
  - (2) trade imbalance: lower costs of transport to developing economies than to developed economies
  - (3) GDP growth outpaces maritime transport volume growth
- Under most market conditions, a major share of the cost increase can be passed on to consumers


ETS for international shipping
Basic elements of an ETS for international shipping – Summing up
New legal instrument
Includes a cap/caps and target year(s) and a pathway (procedure) for the next step(s) long-term solution
Applies to all ships above [Size] GT in international trade
Various phase-in schemes are possible
Basic requirement: The ship shall obtain an emission allowance
Build upon the regular survey and certification regime
periodic surrendering
An international entity undertaking administrative tasks needs to be established, e.g. a trading agency
Non-party ships needs access because of no-more favourable treatment clause
Aiming for an open system
A Fund/funds
Can be designed to deliver various outputs and effects
31
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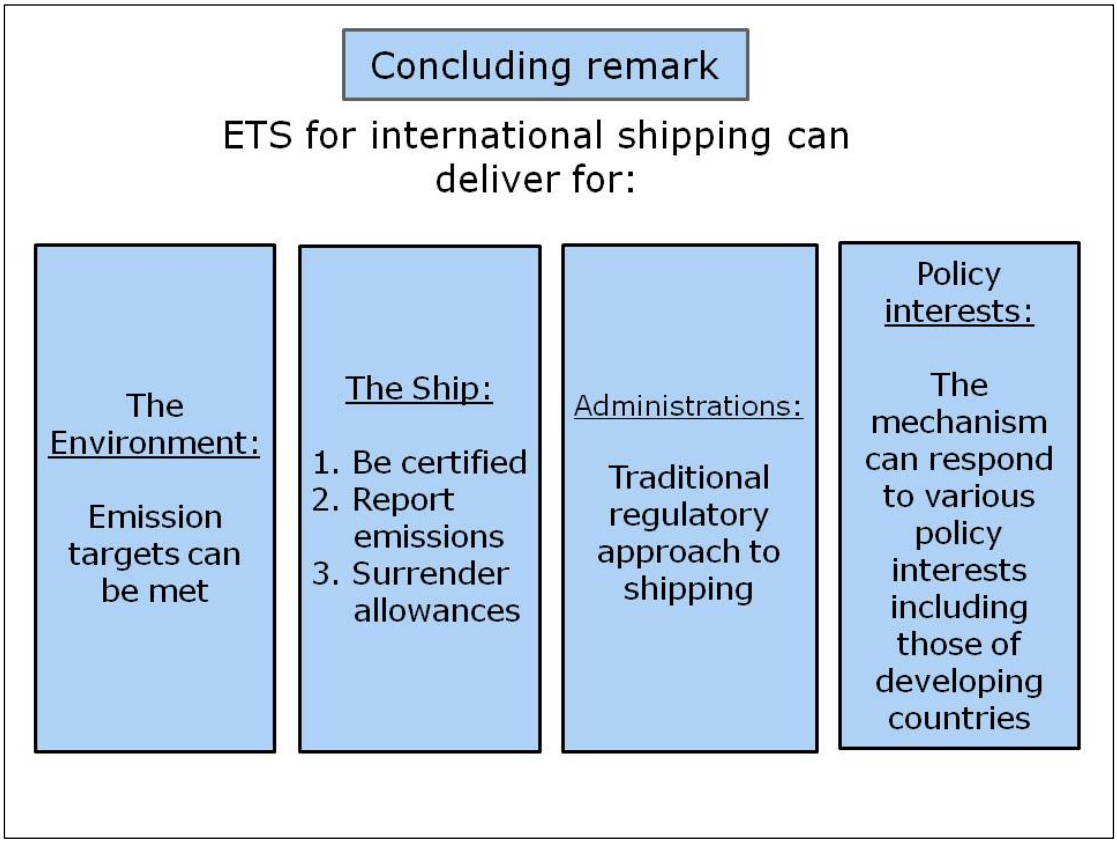
Concluding remark
ETS for international shipping can deliver for:
The Environment:
Emission targets can be met
The Ship:
1. Be certified
2. Report emissions
3. Surrender allowances
Administrations:
Traditional regulatory approach to shipping
Policy interests:
The mechanism can respond to various policy interests including those of developing countries


ETS for international shipping
Thank you
for
your
attention!
33
IMO - March 2011

Presentation by Japan and WSC on the Efficiency Incentive Scheme

WORLD SHIPPING COUNCIL
PARTNERS IN TRADE

Ministry of Land, Infrastructure, Transport and Tourism

Efficiency Incentive Scheme (EIS)

Joint Proposal by Japan and the World Shipping Council
IMO GHG-WG March 2011

WORLD SHIPPING COUNCIL
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Introduction

Ministry of Land, Infrastructure, Transport and Tourism

- Both proposals share focus on driving in-sector reductions through improvement of the fleet.
- Responsive to request from MEPC Chairman and Secretariat to consolidate proposals.
- LIS and VES proposals modified to retain most effective features and address previous criticisms.
- Consolidated single proposal is simpler with unique advantages.

2

Advantages of the EIS Proposal

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- Unlike most other MBMs proposed to date, the EIS allows the ship to fully avoid fees by achieving a given standard.
- Carbon costs are invested in company assets producing a "return on investment."
- Because of these features Japan and WSC believe that the EIS system would result in greater in-sector advances than most other MBMs.

3

Improved Energy Efficiency: Practical Mechanism to Improve Fleet

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How to reduce CO_2 emissions within the fleet ? "Reduction Measures" are limited as follows:

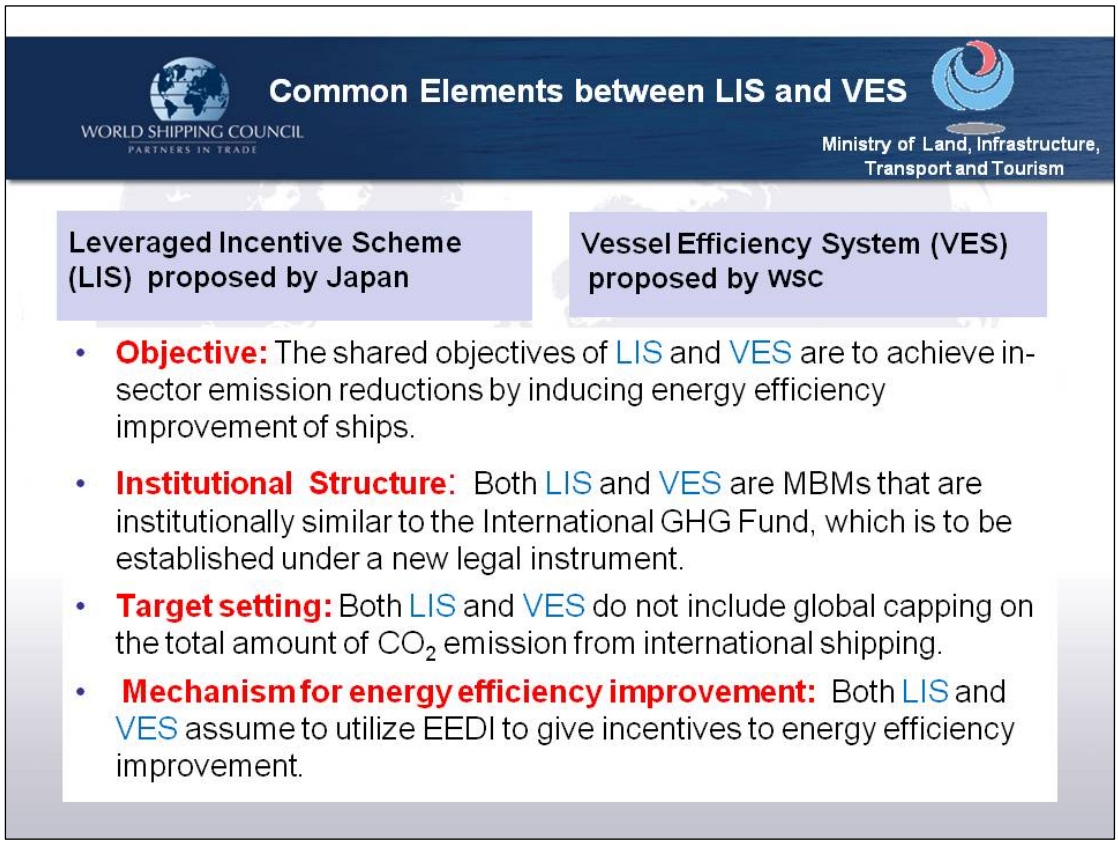
A. Reduce Activity (transport volume)

This reduction measure hampers world economic growth: Do not pursue this.

B. Improve efficiency
- B-1 Technical measures
- B-2 Operational measures

EEDI requirements induce B-1, but its effects on entire fleet take time as it applies to new ships only. SEEMP induces B-2, but to a limited extent.

MBM is NOT a "Reduction Measure" of the 3rd kind.
MBM should be a "facilitating" tool to induce B-1 and/or B-2 to improve efficiency.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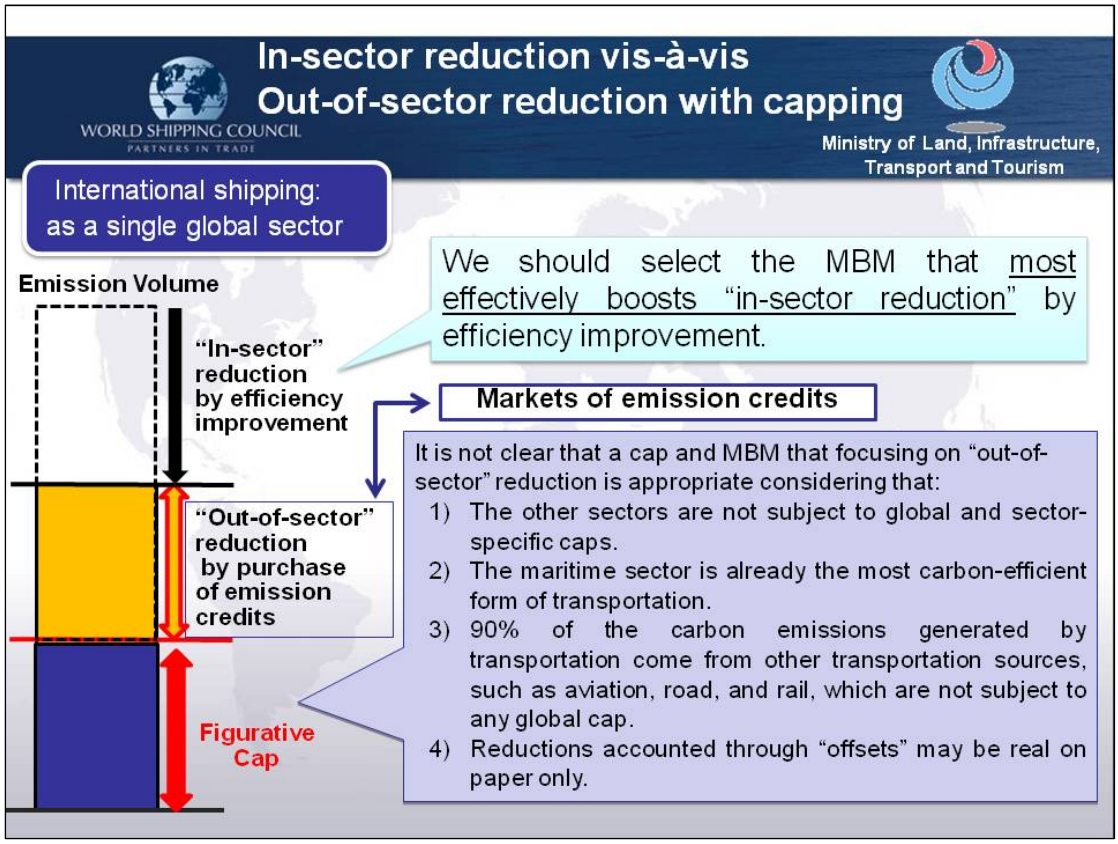
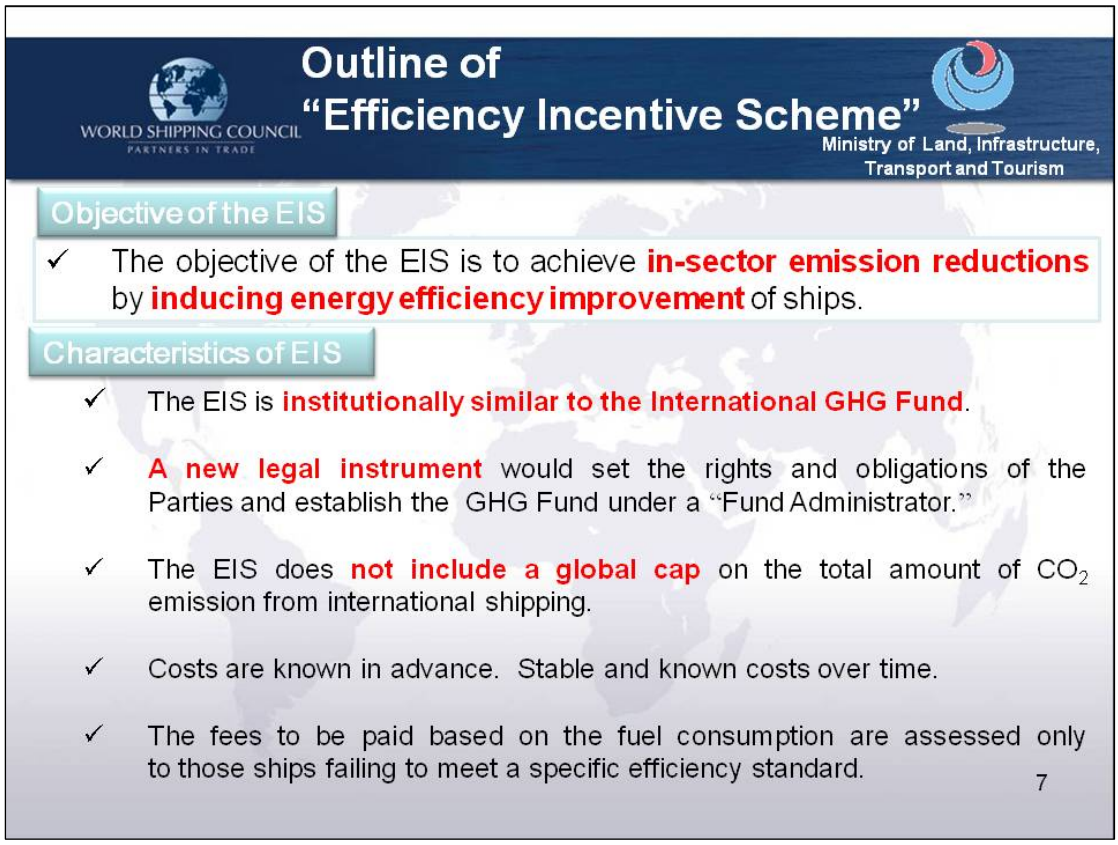
Common Elements between LIS and VES
Ministry of Land, Infrastructure, Transport and Tourism
Leveraged Incentive Scheme (LIS) proposed by Japan
Vessel Efficiency System (VES) proposed by WSC
• Objective: The shared objectives of LIS and VES are to achieve in-sector emission reductions by inducing energy efficiency improvement of ships.
• Institutional Structure: Both LIS and VES are MBMs that are institutionally similar to the International GHG Fund, which is to be established under a new legal instrument.
• Target setting: Both LIS and VES do not include global capping on the total amount of CO_2 emission from international shipping.
• Mechanism for energy efficiency improvement: Both LIS and VES assume to utilize EEDI to give incentives to energy efficiency improvement.


WORLD SHIPPING COUNCIL
PARTNERS IN TRADE
In-sector reduction vis-à-vis Out-of-sector reduction with capping
Ministry of Land, Infrastructure, Transport and Tourism
International shipping: as a single global sector
Emission Volume
"In-sector" reduction by efficiency improvement
"Out-of-sector" reduction by purchase of emission credits
Figurative Cap
We should select the MBM that most effectively boosts "in-sector reduction" by efficiency improvement.
Markets of emission credits
It is not clear that a cap and MBM that focusing on "out-of-sector" reduction is appropriate considering that:
1) The other sectors are not subject to global and sector-specific caps.
2) The maritime sector is already the most carbon-efficient form of transportation.
3) 90% of the carbon emissions generated by transportation come from other transportation sources, such as aviation, road, and rail, which are not subject to any global cap.
4) Reductions accounted through "offsets" may be real on paper only.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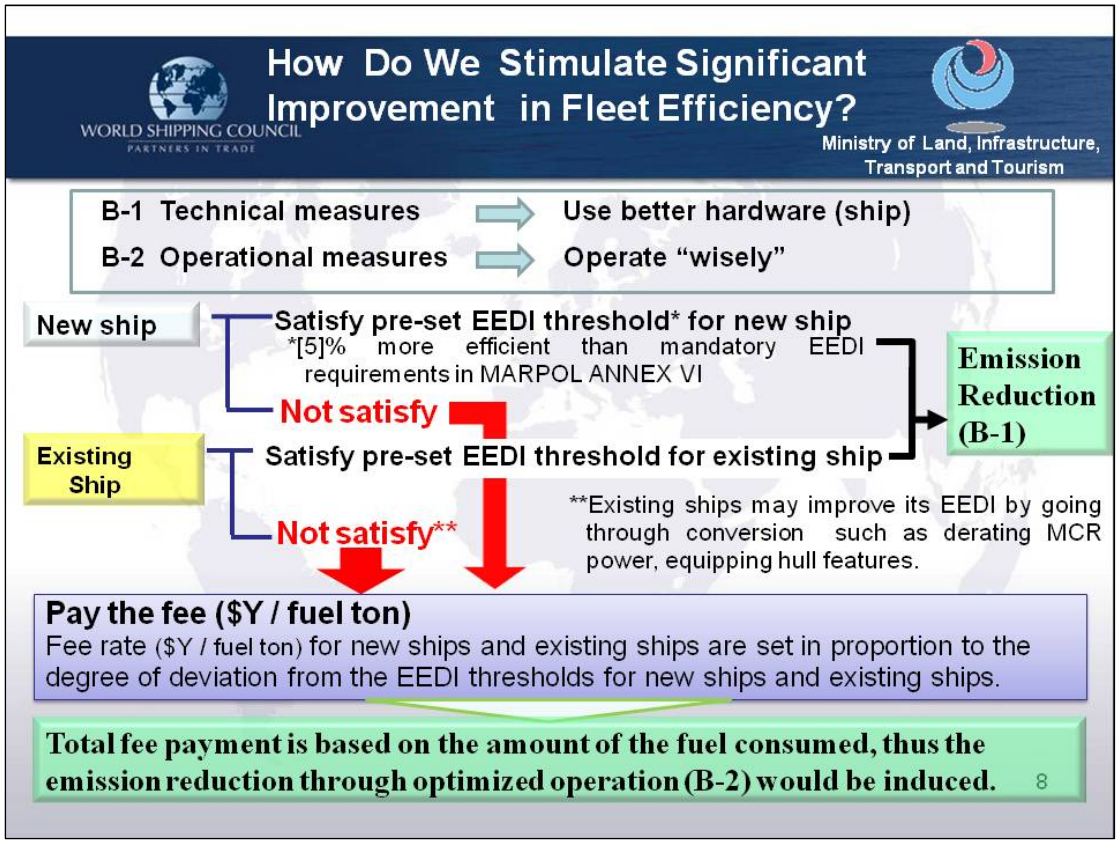
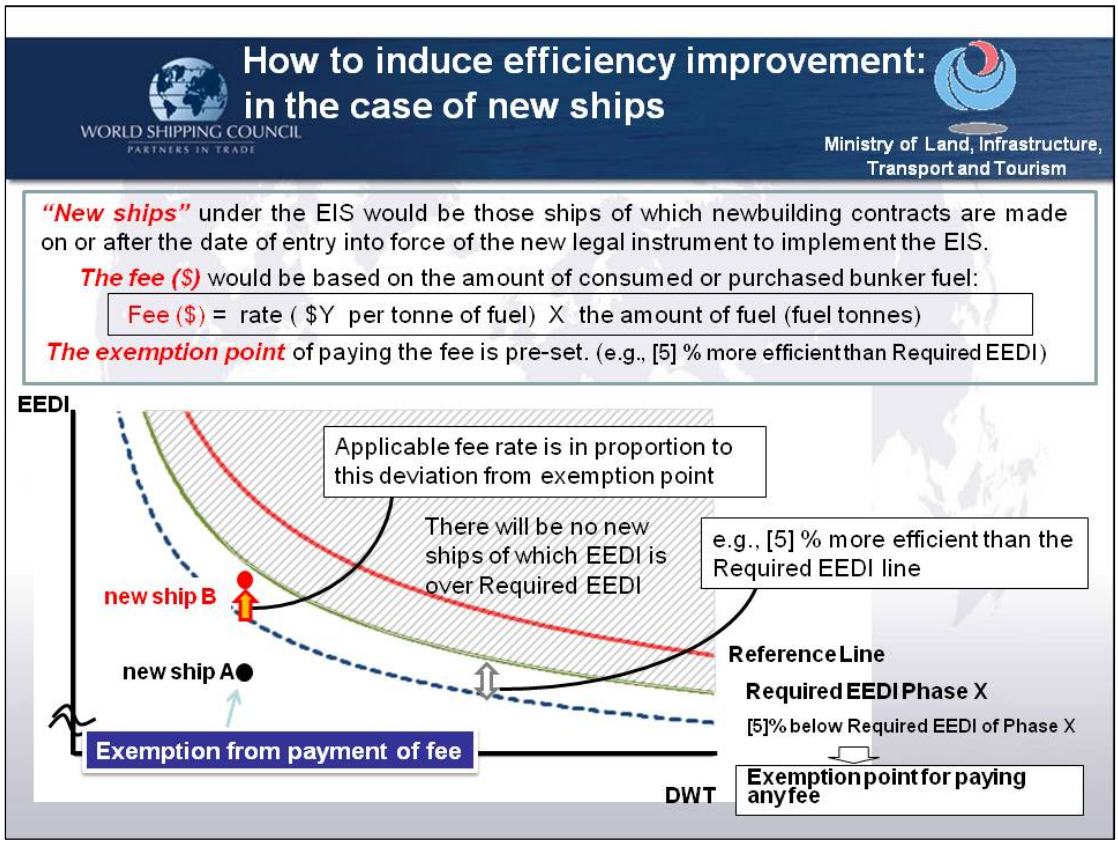
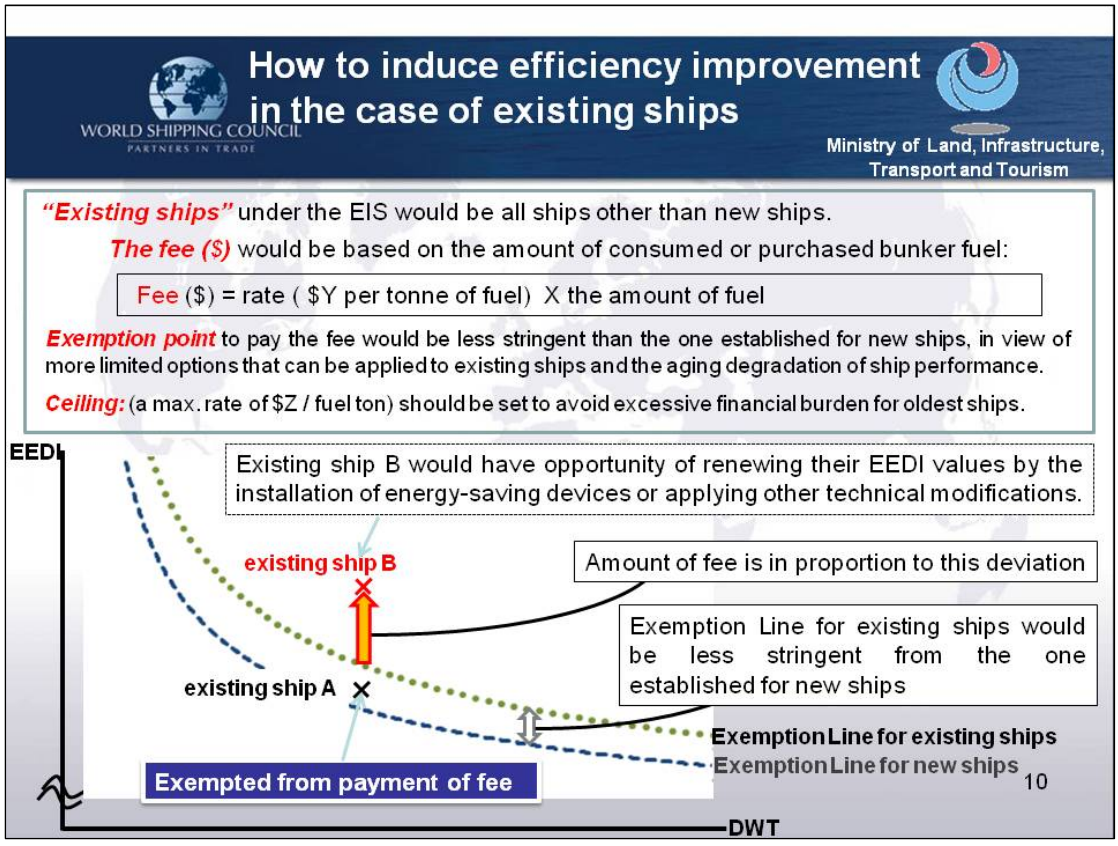
Outline of
"Efficiency Incentive Scheme"
Ministry of Land, Infrastructure, Transport and Tourism
Objective of the EIS
✓ The objective of the EIS is to achieve in-sector emission reductions by inducing energy efficiency improvement of ships.
Characteristics of EIS
✓ The EIS is institutionally similar to the International GHG Fund.
✓ A new legal instrument would set the rights and obligations of the Parties and establish the GHG Fund under a "Fund Administrator."
✓ The EIS does not include a global cap on the total amount of CO_2 emission from international shipping.
✓ Costs are known in advance. Stable and known costs over time.
✓ The fees to be paid based on the fuel consumption are assessed only to those ships failing to meet a specific efficiency standard.
7


WORLD SHIPPING COUNCIL
PARTNERS IN TRADE
How Do We Stimulate Significant Improvement in Fleet Efficiency?
Ministry of Land, Infrastructure, Transport and Tourism
B-1 Technical measures ⇨ Use better hardware (ship)
B-2 Operational measures ⇨ Operate "wisely"
New ship
Satisfy pre-set EEDI threshold* for new ship
*[5]% more efficient than mandatory EEDI requirements in MARPOL ANNEX VI
Not satisfy
Existing Ship
Satisfy pre-set EEDI threshold for existing ship
Not satisfy**
Emission Reduction (B-1)
**Existing ships may improve its EEDI by going through conversion such as derating MCR power, equipping hull features.
Pay the fee ($Y / fuel ton)
Fee rate ($Y / fuel ton) for new ships and existing ships are set in proportion to the degree of deviation from the EEDI thresholds for new ships and existing ships.
Total fee payment is based on the amount of the fuel consumed, thus the emission reduction through optimized operation (B-2) would be induced.
8


How to induce efficiency improvement: in the case of new ships
WORLD SHIPPING COUNCIL
PARTNERS IN TRADE
Ministry of Land, Infrastructure, Transport and Tourism
"New ships" under the EIS would be those ships of which newbuilding contracts are made on or after the date of entry into force of the new legal instrument to implement the EIS.
The fee ($) would be based on the amount of consumed or purchased bunker fuel:
Fee ($) = rate ($Y per tonne of fuel) X the amount of fuel (fuel tonnes)
The exemption point of paying the fee is pre-set. (e.g., [5] % more efficient than Required EEDI)
EEDI
Applicable fee rate is in proportion to this deviation from exemption point
There will be no new ships of which EEDI is over Required EEDI
e.g., [5] % more efficient than the Required EEDI line
new ship B
new ship A
Reference Line
Required EEDI Phase X
[5]% below Required EEDI of Phase X
Exemption from payment of fee
DWT
Exemption point for paying any fee


How to induce efficiency improvement in the case of existing ships
WORLD SHIPPING COUNCIL
PARTNERS IN TRADE
Ministry of Land, Infrastructure, Transport and Tourism
"Existing ships" under the EIS would be all ships other than new ships.
The fee ($) would be based on the amount of consumed or purchased bunker fuel:
Fee ($) = rate ($Y per tonne of fuel) X the amount of fuel
Exemption point to pay the fee would be less stringent than the one established for new ships, in view of more limited options that can be applied to existing ships and the aging degradation of ship performance.
Ceiling: (a max. rate of $Z / fuel ton) should be set to avoid excessive financial burden for oldest ships.
EEDI
Existing ship B would have opportunity of renewing their EEDI values by the installation of energy-saving devices or applying other technical modifications.
existing ship B
Amount of fee is in proportion to this deviation
Exemption Line for existing ships would be less stringent from the one established for new ships
existing ship A
Exemption Line for existing ships
Exemption Line for new ships
Exempted from payment of fee
DWT
10

EEDI calculation / verification for Existing Ships

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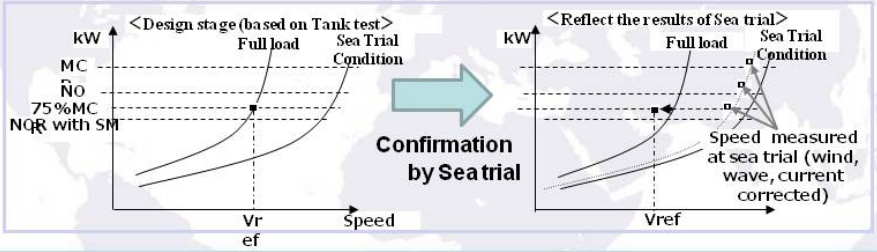
Ministry of Land, Infrastructure, Transport and Tourism

Transparency and ***Fairness*** are essential for EEDI calculation of existing ships. Objective verification should be conducted.

Speed is the key to EEDI value: Speed verification procedure for new ships



- Power curve to be checked to confirm the speed

If the data are not available for the check ⇨ Apply "uncertainty" correction factor : giving higher (more conservative) EEDI value

Ship may choose to conduct "renewed" speed trial to prove its EEDI value, without unfavorable correction factor

- Unavailable or non-verifiable factor such as SFC of engines ⇨ Use standard table

Fee Collection Mechanism

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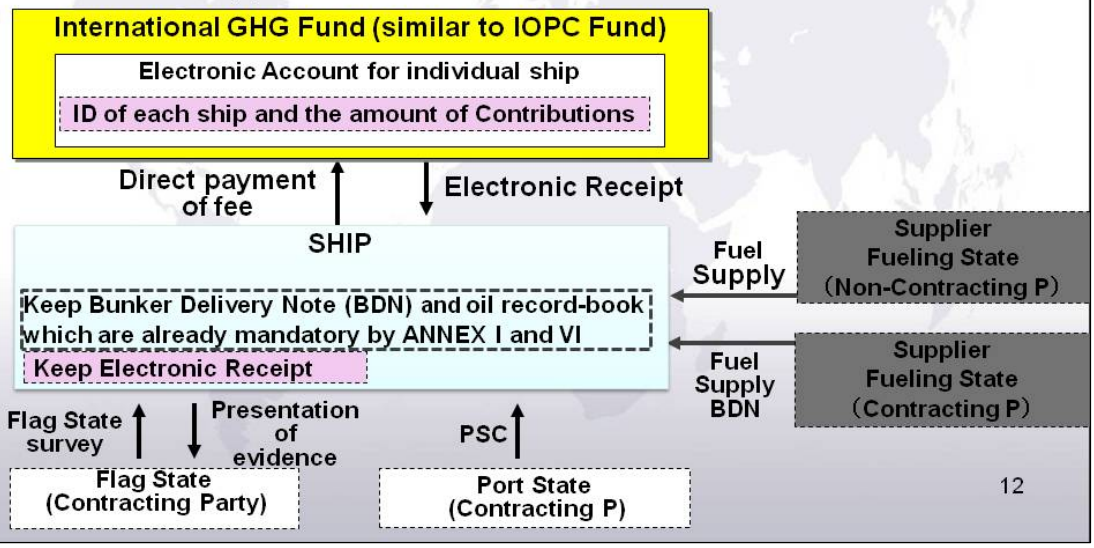
Ministry of Land, Infrastructure, Transport and Tourism

The method of collecting the fees from ships would follow that of the LIS:
Direct transfer to the IMO International GHG Fund without passing through the bunker fuel suppliers located in the territories of the Parties as well as Non-Parties.



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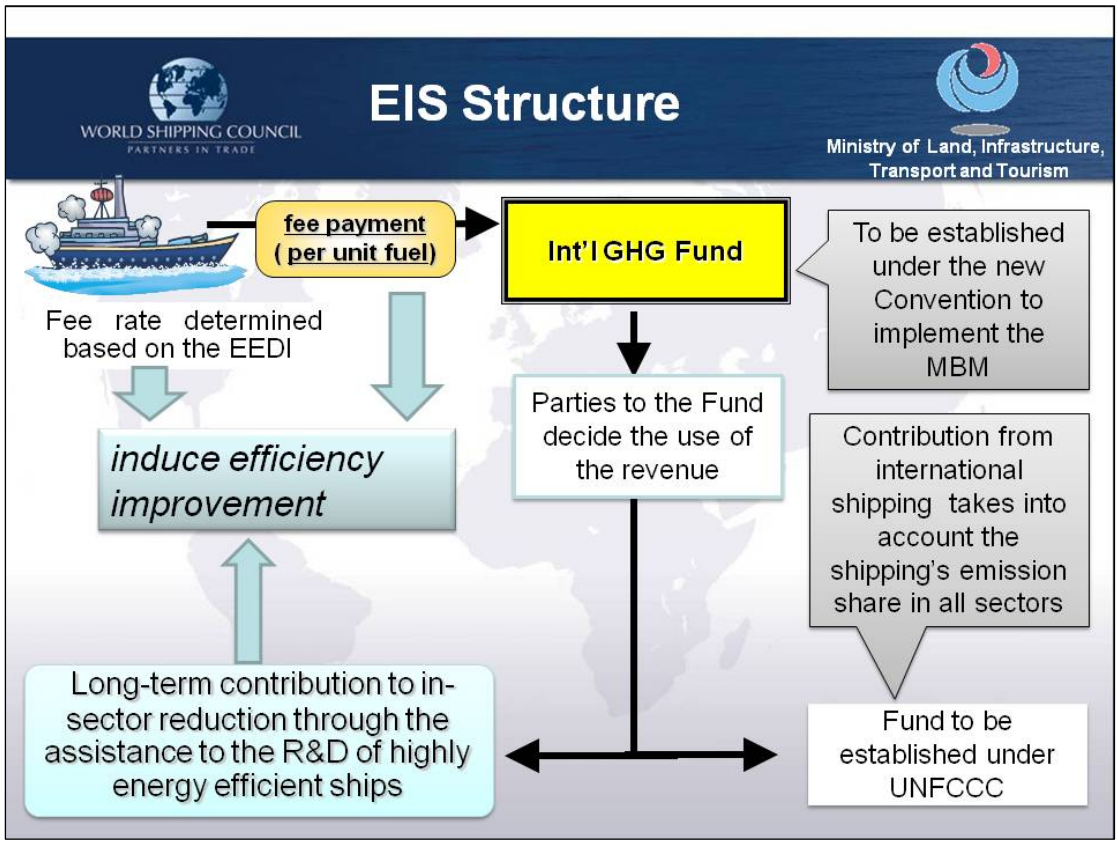
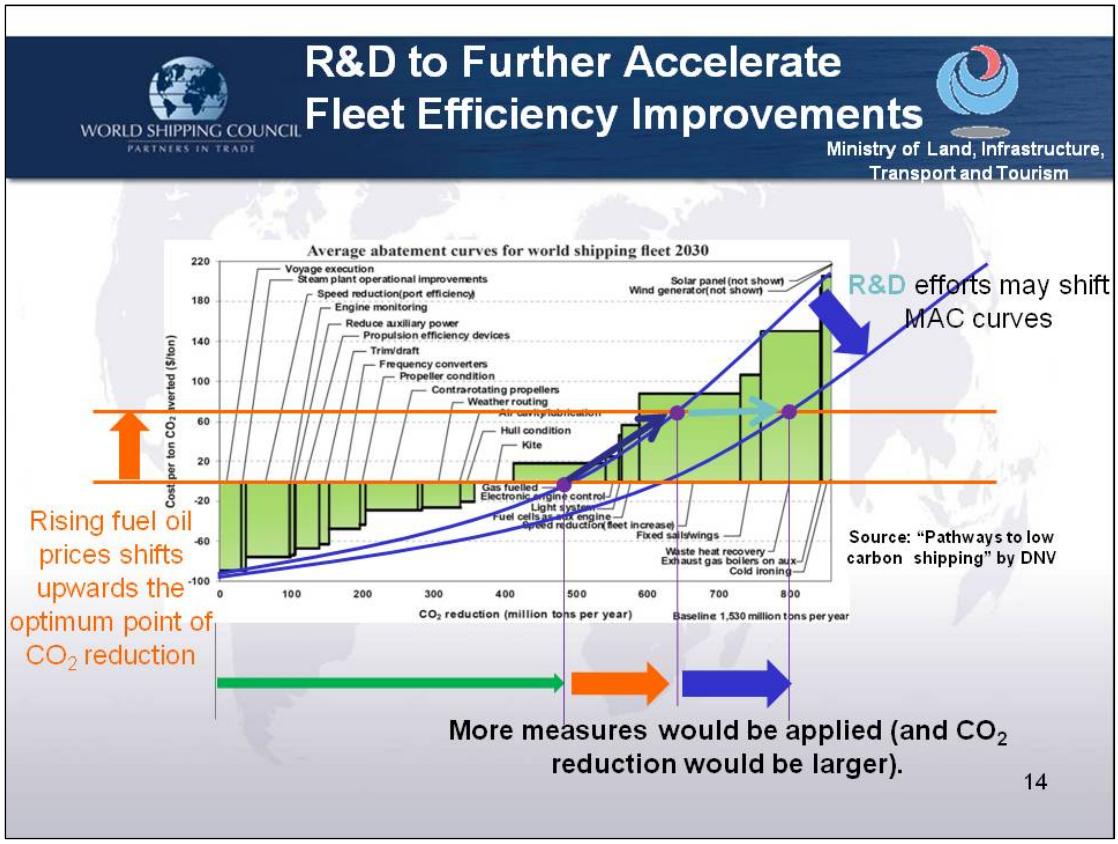

EIS Structure
WORLD SHIPPING COUNCIL
PARTNERS IN TRADE
Ministry of Land, Infrastructure, Transport and Tourism
fee payment (per unit fuel)
Int'l GHG Fund
To be established under the new Convention to implement the MBM
Fee rate determined based on the EEDI
induce efficiency improvement
Parties to the Fund decide the use of the revenue
Contribution from international shipping takes into account the shipping's emission share in all sectors
Long-term contribution to in-sector reduction through the assistance to the R&D of highly energy efficient ships
Fund to be established under UNFCCC


R&D to Further Accelerate Fleet Efficiency Improvements
WORLD SHIPPING COUNCIL
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Ministry of Land, Infrastructure, Transport and Tourism
Average abatement curves for world shipping fleet 2030
Cost per ton CO2 averted ($/ton)
CO2 reduction (million tons per year)
Baseline 1,530 million tons per year
Voyage execution
Steam plant operational improvements
Speed reduction(port efficiency)
Engine monitoring
Reduce auxiliary power
Propulsion efficiency devices
Trim/draft
Frequency converters
Propeller condition
Contrarotating propellers
Weather routing
Hull condition
Kite
Gas fuelled
Electronic engine control
Fixed sailswings
Waste heat recovery
Exhaust gas boilers on aux.
Cold ironing
Solar panel (not shown)
Wind generator(not shown)
R&D efforts may shift MAC curves
Source: "Pathways to low carbon shipping" by DNV
Rising fuel oil prices shifts upwards the optimum point of CO2 reduction
More measures would be applied (and CO2 reduction would be larger).
14

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Conclusions:

Ministry of Land, Infrastructure, Transport and Tourism

- EIS will directly stimulate reduced emissions across the maritime fleet.
- EEDI is not fixed. A ship's EEDI may be improved and recertified by an authorized organization.
- Ships meeting standards avoid fees. For those ships subject to a fee, the fee is proportional to the ship's efficiency relative to the standard.
- R&D funded through EIS funds should further accelerate improvements in the fleet.

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Conclusions (cont'd) :

Ministry of Land, Infrastructure, Transport and Tourism

- As efficiency standards are known in advance, EIS provides predictable costs over time and regulatory stability.
- Improvement of fleet assets provides a "return on investment" for the ship owner and operator.
- Only MBM (other than SECT) that provides ship with a mechanism for fee avoidance.
- No cap on ship emissions – real or figurative.
- **Should drive higher and more accelerated improvements within the fleet than most other MBMs.**

16

Presentation by the United States on Ship Efficiency and Credit Trading with Efficiency Standards

SHIP EFFICIENCY CREDIT TRADING WITH EFFICIENCY STANDARDS (SECT)

Third Intersessional Meeting of the Working Group on GHG Emissions

28 March – 1 April, 2011

U.S. Papers MEPC 59/4/48, MEPC 60/4/12, MEPC 61/5/16, MEPC 61/INF.24

Michael Samulski
U.S. Environmental Protection Agency

Impetus for SECT Proposal

- Support IMO adoption of technical efficiency standards for new ships (EEDI)
  - Creates a common metric to measure ship efficiency
  - Promotes efficiency gains using predictable timeline
  - Drives technology innovation
- It is important to address how ship efficiency may change over time
- A similar approach could be used to address potential efficiency improvements for existing ships
- A market mechanism will accelerate in-sector uptake of more efficient technologies/operations

2

Overview of Ship Efficiency Credit Trading (SECT)

- MEPC 60/4/12 contains the SECT proposal, which consists of three key elements:
  1. **Efficiency standard for existing ships (EI_R)**
  2. **Attained efficiency determination (EI_A)**
  3. **Efficiency credit trading**
- MEPC 61/INF.24 provides more information on
  - Cost-effectiveness of in-use efficiency standards
  - Administration of a credit-trading program
  - Compliance with the nine assessment criteria

3

1. Efficiency Standard - EI_R

- The required efficiency index, EI_R, would be differentiated by ship type and size, utilizing the established EEDI baselines.
- Propose EI_R to be a percent change from the respective EEDI baseline.
- The EI_R would become more stringent over time to maintain incentives while the fleet gets more efficient.

4

2. Attained Efficiency Determination - EI_A

- EEDI requires a formal sea trial
  - Uses predicted factors for efficiency
- EI_A could be completed during at-sea voyages
  - Requires robust procedure and periodic recalculation
  - Uses historical performance instead of predicted factors (f_{eff}, P_{eff})
  - Factors in ship maintenance
  - Calculates real time efficiency, useful for ship owners and operators
- What happens when $EI_A > EI_R$?

5

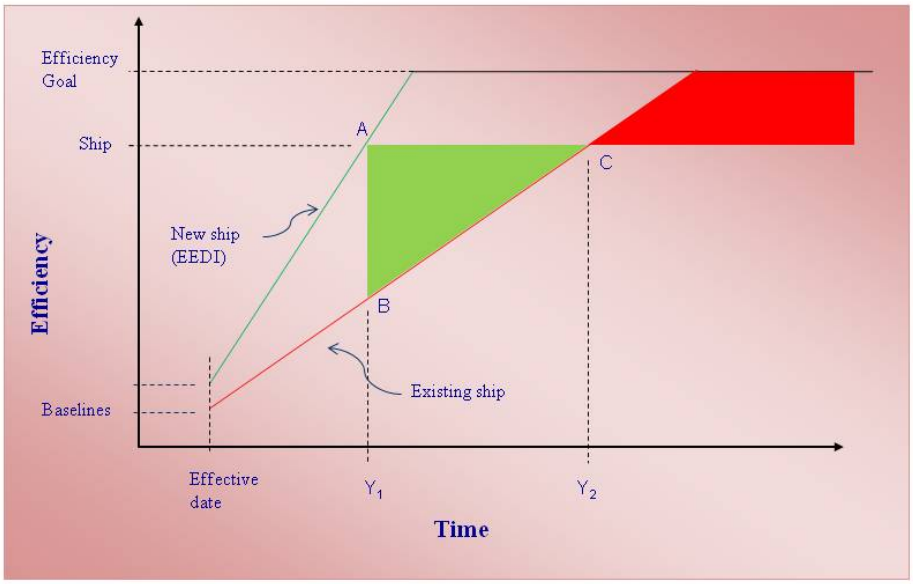
3. Ship Efficiency Credit Trading (SECT)

$$\pm Efficiency\ Credit\ (EC) = (EI_R - EI_A) \times Activity$$

- Each ship has the flexibility to determine the least cost strategy for complying with EI_R.
- Ships with lower cost EI_R compliance options can implement larger efficiency improvements than required.
- 'Extra' efficiency can be traded to those ships facing relatively higher EI_R compliance costs.
- Purchase of efficiency credits also meets EI_R, at lower cost than in case of using technology.
- Diversity of world fleet offers divergent compliance costs, thereby offering opportunity to trade excess efficiency.
- Size of world fleet ensures a veritable market.

6

Example of Lifetime Credit Determination



7

How is SECT Unique?

- SECT is intended to incentivize low-carbon actions and reduce emissions within the shipping sector only.
  - Does not limit activity or provide for outside emission offsets
  - Keeps revenues and investments within the shipping sector
- Builds on EEDI concept to provide incentives for maximizing the energy efficiency of international shipping
- Emission credit trading provides incentives for further improvements and provides lower cost alternative to some ships
- Focuses on in-sector improvements, so should not be considered mutually exclusive of open-sector MBMs

8

SECT Meets the 9 Criteria

- 1) SECT is environmentally effective
  - 10-30% efficiency improvement feasible in 2020 at a marginal abatement cost of $0/tonne CO_2 (could be as high as 40%)
  - Corresponding reductions in CO_2, NOx, SOx, and PM
- 2) SECT is cost-effective
  - Promotes efficiency improvements leading to fuel cost savings
  - Encourages ship owners to make efficiency investments with longer-term payback periods
  - Efficiency credit trading would reduce cost and improve the technological feasibility of achieving the standards

9

SECT Meets the 9 Criteria (cont'd)

- 3) SECT provides incentives for technological change
  - Regulatory and financial incentives to improve efficiency
  - Focus is on in-sector efficiency improvements, so provides highest incentives for efficient technology
  - SECT baseline offers more predictable long-term investment decisions than ETS emission credit price
- 4) SECT is practical
  - Builds on the work already undertaken for EEDI and other emission programs at IMO
  - Simplified credit trading program relative to a full cap and trade system
  - Does not rely on decisions of other international organizations

10

SECT Meets the 9 Criteria (cont'd)

- 5) SECT does not require significant technology transfer
  - Efficiency improvement measures are available for ships and can be acquired through commercial means
  - Would support capacity building for administration of credit trading program
  - SECT is self-contained and does not raise revenue to finance GHG reductions outside the shipping sector.
- 6) SECT would be compatible with international law

11

SECT Meets the 9 Criteria (cont'd)

- 7) SECT has minimal administrative burden
  - Additional burden to owners, operators, flag states, and port states less than other MBMs
- 8) SECT has minimal additional work
  - Work to implement efficiency improvements or to participate in credit trading will have a positive financial return
  - Information needed to trade credits also supports verification
- 9) SECT is compatible with existing enforcement provisions
  - Builds on work undertaken in Annex VI

12

Presentation by IUCN on a Rebate Mechanism

RM

Rebate Mechanism

Proposal submitted by IUCN
(in documents MEPC 60/4/55, MEPC 61/5/33)

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Presented by: Mr. Eivind Vagslid
International Maritime Organization

Rationale for the proposal

RM

- **Not whether, but how to reconcile**
  - Differentiated climate principles (CBDR), with
  - Uniform policies of shipping (IMO)
    - A global approach is needed, as regional or national approaches will not work
- RM is the only differentiation option being currently considered to compensate less developed countries the costs/impacts of a global MBM scheme
  - An alternative option based on exempting the less developed countries, by covering only goods carried to developed countries, is too complex, especially for container ships

1

Key Documents — RM

- MEPC 60/4/55 (IUCN) contains the RM proposal
- MEPC 61/5/33 (IUCN) further details on the two RM options:
  - RM add-on (applicable to any revenue-raising MBM)
  - RM integrated (IMERS), a standalone MBM
- MEPC 61/INF.2 (Sec.) – Chapter 18, 19.83-85, Annex 11
- MEPC 62/INF.3 (Secretariat) – The AGF Report: 'no net incidence' concept to ensure equity, which RM aims to deliver
  - The AGF's Analysis on International Transport highlights RM
- GHG WG 3/3/3 (CSC & WWF) – systematically analyzes ways to address CBDR in shipping, including RM
- GHG WG 3/3/11 (WWF) – provides details on 'optimal' attribution key for RM, including values for 190 countries

2

Add-on option — RM

All ships pay for their emissions. A developing country obtains an annual rebate in relation to its share of global seaborne imports. Remaining revenue – from developed countries – goes to climate change action.

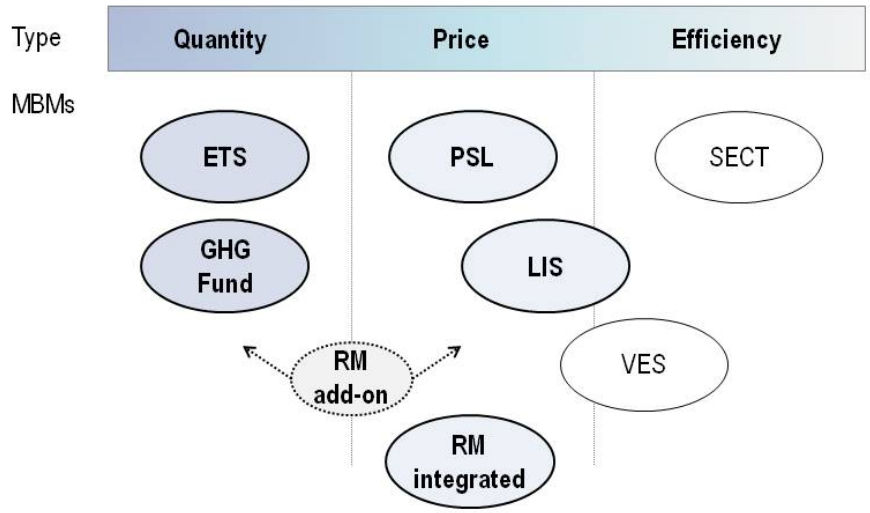
1. Ensures **no net incidence** on developing countries
2. **Reconciles a global approach**, which is required for international shipping, **with** the principles of equity and **CBDR**
3. **Can apply to any revenue raising MBM**
   1. Such as a levy/contribution and ETS
   2. Already integrated with the IMERS proposal
4. Highlighted **in the AGF report/analysis**
5. Rebates to developing countries may amount to 1/3 of revenue raised, the remaining 2/3 will be a **predictable and affordable source** of climate change financing and R&D for clean shipping

3

RM versions and applicability

RM

1. **RM add-on** can apply to any revenue raising MBM, in principle



2. **RM integrated** (IMERS) is a complete proposal with the RM built-in

4

Integrated option (IMERS)

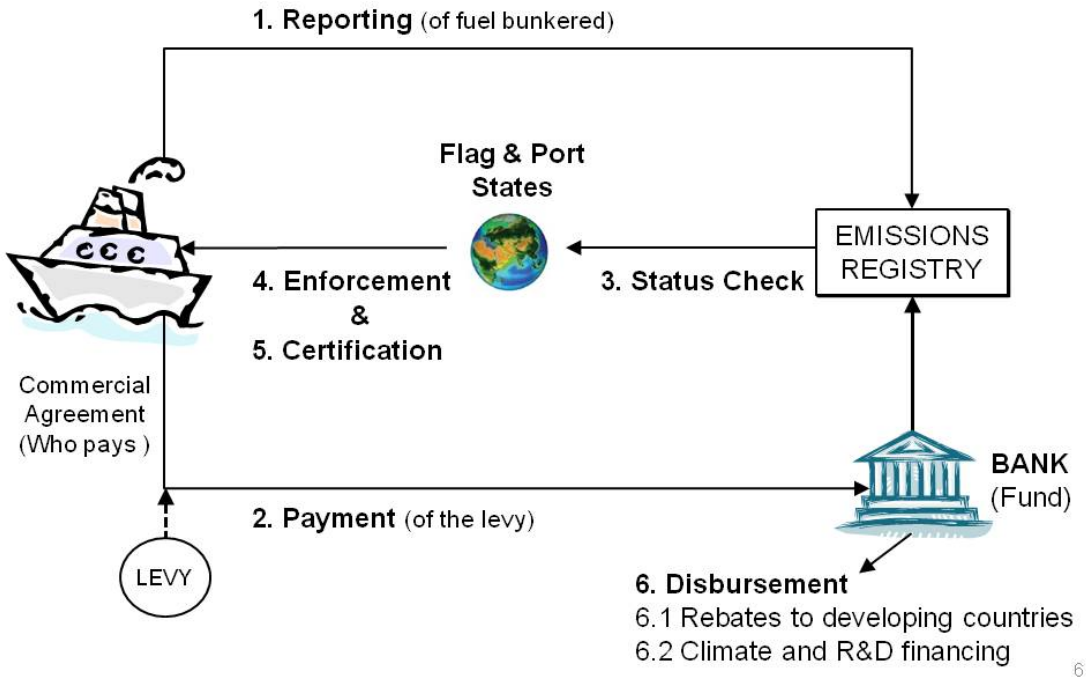
RM

A levy on fuel for international shipping with a rebate mechanism for developing countries. Applied worldwide, collected centrally – bypassing national coffers – raising predictable financing for climate change action.

1. The levy is **market-based** with shipping facing the same carbon price as other modes of transport
   - The levy is however **set constant for at least a quarter**, and bounded within a price floor and ceiling set for 20+ years
   - There is no cap on emissions
2. The proposed scheme is based on a central **emissions registry**, holding an emission account for each ship, and **a global bank providing a payment account for each ship**
3. As per RM, a developing country is entitled to an **annual rebate** in relation to its **share of global seaborne imports**, and will further benefit from financing for climate change action

5

Processes (IMERS) RM



6

Compliance with UNFCCC Convention RM

- Disbursement of MBM revenue is to comprise two steps:
  - Cost burden (incidence) incurred by a developing country Party participating in the MBM is rebated (paid) to it, unconditionally
  - The remaining revenue (net revenue), is disbursed through the operating entity of an agreed financial mechanism (UNFCCC/IMO)
- Consequently, the net revenue for climate change action would come from consumers in developed countries only, complying with the UNFCCC principles
- Developing countries would be beneficiaries of the MBM, with the most vulnerable countries to benefit most through the relevant rules and provisions applied at the 2nd step (SIDS, LDCs, African countries)
- The shipping sector would also benefit at the 2nd step, potentially through a new global Maritime Technology Fund, or similar

7

MBM Incidence on Developing Countries

RM

Developing Country/region	Share of global imports, by sea and air (%)	Share of global imports, by all transport modes (%)
	Optimal* Approach (GHG-WG 3/3/3)	Initial Approach (MEPC 60/4/54)
China	8.35	6.84
Korea, Republic of	3.68	2.55
Africa (all)	3.48	2.56
Singapore	2.36	1.88
India	1.98	1.56
Ethiopia	0.06	0.04
Guyana	0.01	0.01
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All developing countries:	**40.19**	**33.16**

Given that some developing countries may pursue the option of foregoing all or part of their rebates, it is still viable to use the previous 30% as an illustrative amount of rebates for developing countries (as used in the MEPC 61/INF.2 and the AGF Report).

* 'Optimal': striking the best balance between accuracy, simplicity of calculation and data availability.

8

Attribution Key's Usage

RM

(1) Rebates for developing countries[1]

Developing Country/region	R Key, %
China	8.35
Korea, Republic of	3.68
Singapore	2.36
China, Taiwan Province of	2.27
China, Hong Kong SAR	2.06
India	1.98
Next 30	15.31
Remaining 120+ countries	4.19
TOTAL non-Annex I	**40.19**

(2) Credits for developed countries (for climate financing raised)

Developed Country/region	Attr Key %
European Union*	28.53
United States of America	15.98
Japan	6.42
Canada	1.98
Turkey	1.64
Australia	1.60
Russian Federation	1.40
Remaining 7 countries	2.28
TOTAL Annex-I Parties	**59.81**

[1]Developing country can forego rebate or a part of it, and be recognized for such action; Thus the rebates may amount to 30% or less. Values provided in the GHG WG 3/3/11 document.

9

Add-on's key points — RM

- Reconciles CBDR with a global IMO regime, as the only proposal, through 'no net incidence' on developing countries
- Flexible to accommodate different national circumstances
  - A developing country/region may forego a rebate or part of it
  - Any country could account for its share of international shipping emissions through the attribution key, if needed
- Credits developed countries for financing raised in relation to the attribution key
- It is simple, and based on reliable data
  - Contrary to a view expressed in GHG-WG 3/3 (paragraphs 46 and 49-50) the RM is not cumbersome or complicated or costly, given that it only requires up to 150 annual rebate transactions
  - It does require though political agreement, but the Cancun Agreements and the recent G20 Communiqué points that this could be reached

10

IMERS' key points — RM

- The only proposal that integrates RM so far
- No global emission target/cap needed
- Proportionality of effort guaranteed – shipping would pay the same price as others, by linking to (transport) carbon price
- Simple constant levy (automatically adjusted quarterly or less often; thus no need for UN/governments to agree the level)
- Predictability of investment over 20+ years horizon through the predetermined levy price floor and ceiling
- Centralized, direct processes to minimize bureaucracy
- Mature (3rd generation; developed since 2007/MEPC 56)
- Proposed to be a part of the UNFCCC deal, and thus not requiring a separate IMO convention (implementation: yes)
- At least 20% of funding proposed for clean shipping R&D

11

Conclusions — RM

- The RM is practical and potentially transformative
  - It creatively reconciles the shipping and climate principles
    - All ships pay for CO_2
    - Developing countries receive rebates annually
    - Remaining funds go to climate change, and shipping
- Can be implemented as:
  - **RM add-on**, by integrating with any revenue raising MBM
  - **RM integrated** (IMERS), with the unique additions proposed (such as price floor/ceiling, direct processes,…)
- Optimal attribution keys are calculated for all countries

12

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ANNEX 3

GROUPING OF MBM PROPOSALS

	MBM PROPOSAL	GHG Fund	ETS	EIS	SECT	PSL	Bahamas	RM (integrated)	RM[1] (add on)
	MECHANISM FOR EMISSION REDUCTIONS								
GROUP A	FOCUS ON IN-SECTOR			Yes	Yes	Yes	Yes		Yes
GROUP B	IN-SECTOR & OUT-OF-SECTOR	Yes	Yes			(Yes[2])		Yes	Yes

***

1 RM (add on): can be applied to both groups but cannot be used with all MBM proposals.

2 Possible use of revenues for out-of-sector reductions, but not clearly defined in document MEPC 60/4/40.

ANNEX 4

STRENGTHS AND WEAKNESSES OF MBM PROPOSALS AS IDENTIFIED BY THE PROPONENTS OF THE MBM PROPOSALS IN EACH GROUP AS IDENTIFIED IN ANNEX 3

Focus on In-Sector		In-Sector and Out-of-Sector	
Strengths	**Weaknesses**	**Strengths**	**Weaknesses**
• Does not cap shipping sector activity in the future • Provides incentives for technical and operational change and innovation in energy efficiency technology in the shipping sector • Easier investment decision-making process because it is not necessary to predict future carbon price • More rapid improvement in energy efficiency of the shipping sector • Constitutes the shipping sector's contribution to reducing global GHG emissions • Any revenues generated by MBM is used mainly within the shipping sector • Any revenues generated by the MBM may provide for technical assistance including capacity building, and mitigation and adoption action within, developing countries • Technical and operational measures can be used to achieve significant energy efficiency improvements • Resultant energy efficiency improvements reduce operating expenses of ships • Reduction in operating expenses results in reduced cost of trade • Minimum financial outflow from the shipping sector • Development of measures tailored specifically for the shipping sector • Only data and information from the shipping industry is required • Builds on the traditional strengths of IMO • May not require a new IMO convention • Not reliant upon other international climate negotiations	• Less revenue or no revenue generated for out-of-sector offsets or activities • May require the establishment of new institutions or mechanisms	• Development of an MBM tailored specifically for the maritime sector • Does not cap shipping sector activity • Full access to the cheapest emission reduction opportunity outside and within the shipping sector to achieve emission reductions in the most cost-effective manner • Not limited to technical emission reduction options available in the shipping sector and not dependent on growth rate • Implementation would allow for the harmonized approach of an MBM for international shipping with other relevant conventions and existing schemes; • Provides incentives for technological change and innovation and for development and adoption of emission reduction and energy efficiency technology in the shipping sector • Likely rapid improvement in efficiency of maritime transport sector • Generates revenues suitable for climate change finance for mitigation and adaptation actions with a particular focus on vulnerable countries; • Provides for technology transfer to, and capacity building within, developing countries • Proceeds can be used for R & D in the shipping sector as far as revenues are not needed to achieve target • Builds on known IMO approaches • Reflects international shipping´s contribution to global greenhouse gas emissions • Provides for flexibility in achieving the defined target/cap	• Need of global agreement on the relevant rules for shipping sector to participate in the system • Potential for capital outflow from the maritime sector • Would internalise the fluctuations in the carbon price • Requires new institutions and administrative procedures to be established

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ANNEX 5

WEAKNESSES OF IN-SECTOR AND OUT OF SECTOR MBMS AS IDENTIFIED BY A NUMBER OF DELEGATIONS

1 Not compatible with UNFCCC principles and provisions.

2 Not compatible with WTO Rules.

3 Would adversely affect the export competitiveness of developing countries.

4 Impose financial burden on developing countries that are least responsible for global warming and consequent climate change.

5 Lack sufficient details for necessary evaluation.

6 Do not take into account the needs and priorities of developing countries.