



MARINE ENVIRONMENT PROTECTION  
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## PREVENTION OF AIR POLLUTION FROM SHIPS

### Immediate action and adoption of vessel speed reductions and carbon tax needed to reduce greenhouse gas emissions from shipping

Submitted by the Friends of the Earth International (FOEI)

#### SUMMARY

**Executive summary:** Carbon dioxide and other greenhouse gas emissions from shipping are increasing at an alarming rate which will have a serious impact on global warming if urgent measures are not taken to prevent and reduce them. In this document, Friends of the Earth International proposes that vessel speed reductions and a carbon tax on marine fuels be given priority as short-term measures to reduce greenhouse gas emissions from ships and seeks immediate action by the IMO to adopt a regulatory scheme in 2008. This document was produced by a coalition of environmental NGOs<sup>1</sup>

**Strategic direction:** 7.3

**High-level action:** 7.3.1

**Planned output:** 7.3.1.2 and 7.3.1.3

**Action to be taken:** Paragraph 25

**Related document:** MEPC 45/8; MEPC 47/4/3; MEPC 52/4/5; BLG 11/5/5; MEPC 56/4/8; MEPC 57/4/2, MEPC 57/4/5 and MEPC 57/INF.15

#### Introduction

1 During 2007 evidence about human induced climate change has increased substantially. The most recent report by the Intergovernmental Panel on Climate Change (IPCC) recognizes that the “warming of the climate system is unequivocal” and “most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations”<sup>2</sup>. In addition, the Stern Review

<sup>1</sup> Friends of the Earth-US, Clean Air Task Force, North Sea Foundation, Bellona Foundation, European Federation for Transport and Environment, and Swedish NGO Secretariat on Acid Rain.

<sup>2</sup> IPCC, Fourth Assessment Report. Climate Change 2007: The Physical Science Basis.

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contained the first overall estimate of the costs associated with climate change and stated that “*if we don’t act, the overall costs and risks of climate change will be equivalent to losing at least 5% of global GDP each year, now and forever,*” and concluded that this major economic loss would have disproportionate impacts since “*the most vulnerable – the poorest countries and populations – will suffer earliest and most, even though they have contributed least to the causes of climate change*”<sup>3</sup>. The 2007 Nobel Peace Prize, given to Al Gore and the IPCC, underlines the importance of this issue and the contribution unabated climate change will make to global conflict.

2 The message from the experts is clear: the increased emissions of greenhouse gases into the atmosphere are already showing adverse effects. This means that every source has to take its share of responsibility and adopt ambitious reduction strategies.

3 Even though the parties of the Kyoto Protocol requested more than a decade ago that the IMO ‘limit or reduce’ greenhouse gas emissions from international shipping, these emissions have so far been excluded from any regulatory or other programmes to reduce climate change gases. Over the past 10 years, as a result of lack of action combined with industry growth and increasingly powerful ships that use more energy, a rapid increase of greenhouse gas emissions from ships has been observed. So, it is not surprising that policymakers around the world are now calling for the global shipping industry to be included in international and national regulatory schemes.

4 At MEPC 57 and subsequent meetings this year, governments need to show that IMO is serious about the problem and adopt concrete measures to address greenhouse gas emissions from maritime transport. If government representatives at IMO fail to agree on measures in 2008, they should clearly recognize that regional or national action is necessary and seen as acceptable by IMO.

5 The MEPC Correspondence Group on GHG emissions from ships co-ordinated by Australia and the Netherlands identified a number of short- and long-term operational, technical and market-based measures that could reduce GHG emissions from ships, as outlined in its report, MEPC 57/4/5. These measures provide a foundation for developing a GHG reduction scheme.

6 With these realities in mind, we urge the IMO to adopt and impose a mandatory greenhouse gas emissions reduction scheme for international shipping as soon as possible and to take action during 2008, as urged by the Secretary-General in Briefing 39 in November 2007<sup>4</sup> and supported by the Chairman of MEPC, and as suggested in MEPC 57/4/2 by several nations and industry organizations.

### **Global Ship CO<sub>2</sub> emissions summary**

7 As reported in document MEPC 56/4/8 (FOEI), carbon dioxide emissions from shipping worldwide are estimated to be about 800 million tonnes per year, or as much as 5 per cent of worldwide carbon dioxide emissions. Recent studies, using improved methodology, project that shipping emissions of CO<sub>2</sub> and other pollutants from shipping will increase by over 4% per year, compounded annually, over the next few decades – resulting in a doubling of shipping emissions from 2002 levels by 2020 and a tripling of such emissions by 2030.<sup>5</sup>

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<sup>3</sup> Stern Review: The Economics of Climate Change.

<sup>4</sup> See [http://www.imo.org/Newsroom/mainframe.asp?topic\\_id=1472&doc\\_id=8704](http://www.imo.org/Newsroom/mainframe.asp?topic_id=1472&doc_id=8704).

<sup>5</sup> BLG 11/INF.3, annex, at pp. 14-21.

8 These rapid increases clearly support the need for urgent action to reduce these emissions in an international scheme implemented by the International Maritime Organization.

### **Non-CO<sub>2</sub> emissions summary**

9 In addition to CO<sub>2</sub>, ships produce significant volumes of non-CO<sub>2</sub> emission including smog-forming nitrogen oxides and black carbon that contribute to short-term climate change and global warming.

10 FOEI's submission to the Correspondence Group on Greenhouse Gas Emissions details FOEI's concerns related to the climate change impacts of nitrogen oxides and black carbon and are included in MEPC 57/INF.15. The reductions of these emissions should be considered as an element in a greenhouse gas emissions reduction scheme for ships. But consideration of these emissions should not in any way delay action on a regulatory scheme focused on carbon dioxide. Nor should the GHG deliberations slow the ongoing MARPOL Annex IV revision.

### **Priority short-term measures to reduce greenhouse gas emissions from ships**

#### ***Vessel speed reductions***

11 As cited in MEPC 57/4/5, vessel speed reductions have the potential to offer early reductions in GHG emissions from international shipping. This measure could effectively be combined with several other operational measures, such as weather routing and voyage planning, in order to ensure that fuel consumption and emissions from ships are minimized on every voyage.

12 The fact that a number of shipping lines are already reducing speeds in order to reduce fuel consumption is an encouraging trend that helps to validate this approach as feasible and immediate. The world's biggest container company, A.P. MOLLER-MAERSK, recently announced that it would cut vessel speeds<sup>6</sup> to save fuel, as did NYK Lines and as will "most shipping lines."<sup>7</sup> Slowing speeds can reduce fuel bills by as much as 40 per cent, and significantly reduce greenhouse gas emissions.

13 As described in previous FOEI documents submitted to the Committee and in submissions to the GHG Correspondence Group, vessel speed programmes are already in place in the Port of Los Angeles and Long Beach, California, United States and could be extended to the entire coast of California.

14 The IMO should develop a vessel speed reduction plan for the international fleet that could contain several elements such as a phased-in slow down, slow downs in coastal zones, and perhaps a sunset on the speed reductions once more long-term technical measures are put into place that would achieve the same or better overall reductions. A research and reporting component should also be considered that would evaluate the effectiveness of the slow-down and any potential technical or operational measures that need to be considered on board the vessels to ensure safety and reliability.

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<sup>6</sup> See <http://www.sustainableshipping.com/news/2007/12/69976?gsid=c6f8b453bd5d520852f73cae47ef23e9&asi=1>

<sup>7</sup> See <http://www.sustainableshipping.com/news/2007/12/69941>

15 We believe that some of the disadvantages to reducing vessel speeds as raised and recorded in the GHG CG report are possibly overstated. For example, it is unlikely that a major modal switch away from ships would be triggered by a vessel slow down, since ships remain the most efficient and viable mode for moving goods across the oceans. It is also possible that the freight movement stream would simply adjust to the slightly longer transits that may result. Of course, only independent analysis and real experience will determine the outcomes. In any case, business as usual is not likely to be the best way to achieve GHG emissions reductions in the short-term.

### ***Carbon Tax on Marine Fuels and Climate Change Mitigation Fund***

16 We urge the IMO to consider and evaluate the effectiveness of imposing a significant carbon tax on marine fuel. The revenues from this universal marine fuel tax could be used for climate change mitigation and adaptation measures, particularly in developing countries, and/or to help fund research and advance technology that reduces greenhouse gas emissions from ships.

17 One model for a carbon tax was proposed by Norway in its submission to the GHG CG labelled “Mechanism B: Impose a global CO<sub>2</sub>-charge or tax on emissions from International Shipping”:

*“This is a simpler system compared with that for emission trading, and it is employed by many countries for their domestic emissions. There is no need for allocation of permits or baselines. It should be decided whether a tax/charge should be put on the fuel, or if it should be imposed on the ship operator/ship owner or others. It should further be discussed whether the revenue from the charge or tax should be distributed back to the shipping sector.”*

18 However, we do not believe that a carbon tax that is tied solely to a broader cross-sector carbon emissions trading scheme should be a priority measure due to the complexities of developing such programmes and the questionable effectiveness of achieving measurable emissions reductions from ships.

### ***Shoreside Power***

19 The MEPC GHG CG report (MEPC 57/4/5) identifies shoreside power as a potential short-term technical measure for reducing greenhouse gas emissions from ships:

*“Cold ironing could lead to decreased GHG emissions. This measure could be considered short-term, as work is already ongoing on this topic, including ISO and IEC (at IMO’s request) work to develop international standards for onshore power to ships. It is already in operation at a limited number of ports around the world.”*

20 Of course, the significance of GHG reductions depends on the power source for the electricity generation. This would need to be considered and may be most applicable in ports that have access to electricity produced by wind power, hydroelectric power, sustainable bio-fuels plants, natural gas plants, and/or plants fuelled by other feedstocks that are cleaner than burning bunker fuel in unregulated marine engines.

## **Other measures**

21 The MEPC GHG CG identified a number of other short- and long-term measures that could reduce GHG emissions from ships. One worth noting is the use of wind power on ocean-going vessels, as is now being demonstrated on a trans-Atlantic voyage – where fuel reductions of 35 to 50 per cent are possible.<sup>8</sup> Other promising technical and operational measures provide a number of options for reducing GHGs from ships. These short- and long-term measures should be considered as part of the overall scheme and implemented as soon as possible.

22 However, FOEI urges IMO to give low priority to proposed measures that do not achieve real-world reductions of greenhouse gas emissions from ships, such as reporting and indexing as substitutes for reduction measures; or that simply shift emissions from one area or transport mode to another.

23 Any reporting or indexing schemes should be considered only as enhancements to measures that are known to produce reductions, such as vessel speed reductions, carbon tax, and on-shore power. More research on GHG emissions from ships may be warranted, but should not delay further action on imposing a meaningful and effective greenhouse gas emissions reduction scheme.

24 In addition FOEI would like to underline that there is scope for action at national or regional level. IMO should be the entity responsible for setting standards and operational measures at global level. However, this action should not in any way preclude individual States or groups of States to work on additional measures as long as these are not discriminatory.

## **Action requested of the Committee**

25 FOEI urges the Committee to adopt and begin implementing a mandatory greenhouse gas emissions reductions scheme for ships by the end of 2008 or before; and to prioritize short-term measures to the scheme, particularly vessel speed reductions and a carbon tax on marine fuels.

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<sup>8</sup> See article at <http://www.reuters.com/article/inDepthNews/idUSL1548100520071217?sp=true>