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Briefing: Shipping GHGs and Copenhagen

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Background

Global shipping CO_2 emissions were around 1046 megatonnes in 2007, or 3.3% of global CO_2 emissions according to the consortium who prepared the 2009 greenhouse gases study for the International Maritime Organisation (IMO). 870 megatonnes or 2.7% of global CO_2 emissions are from international shipping.

CO_2 is the most important shipping greenhouse gas.; others are less important in terms of quantity and global warming impacts.

According to the 2009 IMO study, in the absence of mitigation policies, ship emissions could grow 150% to 250% by 2050. They would then constitute 12% to 18% of the total allowable CO_2 emissions globally to stabilise warming by 2100 at no more than 2 degrees over pre-industrial levels.

The sulphur question

Sulphur emitted from ships has a short term cooling effect whereas CO_2 has an atmospheric warming effect for well over 100 years. In the short term, the global climate impact (radiative forcing) from shipping is negative and implies cooling. However regional temperature responses and other manifestations of climate change may nevertheless occur. In the longer term, emissions from shipping will result in a warming response as the long-lasting effect of CO_2 will overwhelm any short term cooling effects. Under the IMO's 2008 'Marpol VI' pollution law revisions, the sulphur content of marine fuel will be significantly reduced by 2020 and earlier in special control areas. Reduced sulphur will reduce air pollution and have positive health effects. There is no argument to encourage continued use of high sulphur fuels to cool the climate. But there is every argument to require shipping finally to do something about its CO_2 emissions.

Mitigation Potential

The 2009 IMO study identified a range of technical and operational measures to increase fuel efficiency which, when combined, would cut emissions by 25% - 75%.

- Concept, design speed and capability (2 to 50% reduction potential – includes slower speeds).
- Hull and superstructure design optimisation (2 to 20%).
- Power and propulsion design optimisation; engine, propeller enhancements (5 to 15%).
- Renewable energy sources; sails, kites, flettner-type rotors, solar power, LNG (1-10%).
- Fleet management, logistics and incentives. The principal opportunity is through speed reduction which would require a larger global fleet assuming world trade recovers from 2009 levels. (5 to 50%).
- Traffic management, port procedures, voyage optimisation, (1-10%)
- Onboard energy management optimisation, maintenance of clean hull and propeller. (1-10%)

International developments

The Kyoto Protocol (Article 2.2) allocated responsibility to reduce maritime greenhouse gas emissions to developed (Annex 1) countries working through the IMO. But not one single binding measure has been adopted in the 12 years that followed. In November 2003 the IMO Council asked IMO's Marine Protection Environment Committee (MEPC) to consider market-based measures to control ship emissions as a matter of priority. Debate was blocked at MEPC 58 in 2008 by China, India, Brazil and Saudi Arabia who were concerned that global action through the IMO would conflict with the UNFCCC principle of common but differentiated responsibility. Developed countries, by contrast, concerned about potential competitive distortions, have always insisted on following the universal application principal that has always governed IMO decisions. A brief debate did take place on the merits of a levy versus emissions trading at MEPC 59 in July 2009, but the deadlock remains. The question of global applicability was shelved and all other issues put off the current IMO agenda. The IMO Council will consider MEPC's work again in November 2011.

Concrete action will not come before further MEPC meetings in 2012 at the earliest, some 15 years after Kyoto.

Better progress is evident on energy efficiency measures for new and existing ships. IMO's design index for new ships is now out for trials. But there is considerable opposition in industry and IMO to its mandatory application which has been put off to 2010 or 2011. Design standards would not affect new ships before 2020. China and South Korea are amongst the world largest shipbuilders.

What the EU must do

The EU needs to be determined to take the lead and press for definitive action at Copenhagen on binding emissions reduction targets for shipping emissions and for a treaty agreement on standards and market-based measures to reduce ship emissions. Mere calls for IMO to act will be ineffective and risk the shipping emissions problem continuing to fester away for years. The EC has, since 2003, regularly threatened to take unilateral action on shipping because of IMO footdragging. Aviation will enter the EU ETS in 2012 but on shipping there has only been shifting deadlines – most recently Parliament and Council's April 2009 co-decision setting yet another time limit, 2011, for IMO to act.

Consultancy CE Delft is in the final stages of developing a policy options paper for the European Commission. There is no reason for Europe to wait any longer.

The Commission should bring forward a proposal to include shipping in the EU ETS before the end of 2009.

Should Copenhagen produce a definitive commitment to action, then any EU action which would enter into force 5-10 years before any global treaty commitment, could, as with aviation, eventually be merged into a global reduction program. Such European action would mirror pending US legislation to include bunker fuels in upstream GHG measures. Action by a coalition of the willing is probably the only route now to spur a global bunkers solution.

Global market-based measures to control bunker emissions (international aviation and shipping) – have the potential to raise anywhere from $10 to $70 billion annually and could constitute a sizeable part of the overall climate financing package needed. 80%+ of these revenues would come from the 5% of the world's population who fly in aircraft or from a few cents per kilo on developed-world freight shipments. It makes no sense for Copenhagen to struggle and potentially falter because of the climate finance issue while bunker revenues are not factored in, and while the unmitigated growth of bunker emissions slowly but inexorably threatens the world's future.

For further information:

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