


How to Make the Sea Green

What to do about air pollution and greenhouse gas emissions from maritime transport

Seminar Proceedings

Brussels, 17 October 2007

About the Seminar

On the 17th of October 2007, with the support of Portuguese Presidency of the European Union, the German Federal Environment Agency (UBA) and the International Council on Clean Transportation (ICCT), Transport and Environment (T&E) organised a seminar in Brussels to discuss air pollution and emissions of climate changing gases from maritime transport. The seminar aimed to get together scientists, researchers, stakeholders and decision-makers from EU Member States and:

- Present the most recent scientific understanding of the contribution of ships to climate change and air pollution, and discuss the latest forecasts on their growth pattern;
- Discuss which policy options are available to reduce emissions from ships;
- Update the status of the policy work at key International organizations, namely the International Maritime Organization (IMO) and the European Union;
- Debate the way forward on how to reduce the environmental impacts of maritime transport.

The Seminar had a high level of participation, with about 100 attendees. An overview of the participant list shows equal participation from governments or governmental bodies, NGOs, industry and consultants.

Summary

I Opening Session

Sonja Klingberg, President of T&E chaired the opening session which had three speakers, representing each of the main decision-making bodies in the EU: the European Commission, the Council and the European Parliament.

Mr. Mogens Peter Carl, European Commission Director-General for Environment emphasized that shipping is an environmentally friendly mode of transport but its contribution to problems of air pollution and climate change is rapidly increasing. Therefore policy measures need to be introduced to address this unsustainable trend. Distinguishing between 'classical air pollutants', like NO_x, SO_x or PM, and greenhouse gases (CO₂), Mr. Carl mentioned that the Commission is going to propose EU legislation to control emissions of 'Classical Air Pollutants' in a few months, if standards are not agreed at IMO level in the next meetings. There are important meetings to this respect scheduled in February and April 2008 and according to Mr. Carl "Patience is running out". Regarding Climate Change Mr. Carl mentioned that the EU is willing to contribute to a discussion on the framework of UNFCCC on the best way to deal with emissions from international shipping. However, if no binding measures to reduce shipping contribution to global warming are in place by 2009 the Commission will address this issue and adopt EU legislation, since the view "all sectors must contribute to CO₂ reductions".



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Mr. Humberto Rosa, Portuguese Secretary of State for Environment presented the views of the Council of Ministers on this issue. Mr. Rosa also underlined the importance of the problem and welcomed the recently adopted Integrated Maritime Policy for the European Union. Mr. Rosa mentioned that the Council believes that action is going to be taken at IMO level to curb emissions from ships in the near future.

The third speaker of the opening session was **Mr. Willi Piecyk**, representing the views of the **European Parliament**. Mr. Piecyk recalled that the European Parliament has expressed in many occasions the need for urgent measures to reduce emissions from maritime transport. These measures should be taken at EU level and include the regulation of fuels and standards for ships, as well as to proceed with the inclusion of shipping in the EU Emissions Trading Scheme. Mr. Piecyk also added the need to promote shore-side power supply for ships, the economic advantages of being the frontrunner in developing the technologies and the need to explore the clean ship concept.

II The latest Science: an update

The second panel of the day was composed by scientists and researchers and aimed to update the participants with the latest scientific understanding of emissions from ships. **Dr. Veronika Eyring**, from the **Deutsches Zentrum fuer Luft- und Raumfahrt (DLR)**, presented the most recent assessment on the level of ship emissions and projections for their growth. The variability of estimations in recent studies was addressed and the possible reasons for those variations discussed. Preliminary results presented include recent growth rates that are much higher than in original study in 2003. If do not apply measures to reduce NO_x now will be higher than road traffic NO_x in the future. Consensus figure for the CO₂ emissions is 600-900 TG, according to 200 – 290 million t of fuel and 2 – 2,7 % of all anthropogenic CO₂ emissions.

Dr. David Lee, from the **Manchester Metropolitan University**, focused on the impacts of emissions from ships on climate change, addressing the full climatic impacts of maritime transport. He explained the influence of the different substances (SO_x, CO₂, black carbon, NO_x) emitted by ships on the Radiative forcing (RF) – if it has a warming or a cooling effects in the atmosphere. His presentation stressed the implications of emissions of these various gases on spatial and temporal scale in understanding their impacts on climate. The main outcome of the presentation was that it is not possible to charge up regional / global and short- / long-term effects against each other. So it is not possible to mask CO₂ emissions (warming effect, long lifetime) with SO₄ emissions (cooling effect, but short lifetime).

III Policy options to reduce ship emissions

The following panel focused on policy options to reduce emissions from ships. **Mr. Jasper Faber**, from the **Dutch Consultant CE Delft**, presented the results of a study that was developed for the European Commission on policy options to reduce greenhouse gas emissions from ships. Three policy instruments were recommended for further evaluation: unitary efficiency lint, differentiation of harbor dues, and the inclusion of shipping in the ETS. He recommended the ship operator as the best “trading partner” in a future ETS.

Next, **Mr. Per Kågeson**, from **Nature Associates**, took the floor and specifically addressed the use of Market Based Instruments, presenting the outcome of a study for the German Environmental Protection Agency on the inclusion of shipping in the EU ETS, and another study for T&E on the feasibility of NO_x en-route emission charges in the Baltic Sea. He recommended the bunker fuel delivery notes collected in the participating harbors as a good option to identify the amount of fuel and to derive the cap for the ETS.

Dr. Janusz Cofala, from **IIASA**, closed the session with the presentation of a study for the European Commission in which several options to reduce emissions of ‘classical air pollutants’ from ships and their costs and benefits were evaluated.

The main outcome of this session was, many technological, operational and market based measures might be applied in a cost-effective way to reduce emissions from ships. Although legal and practical constraints can occur to the implementation of these measures there is a certain consensus that correct



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planning and development of the policy instrument can overcome these constraints and enable its effective implementation.

IV The international context - progress in policies to reduce emissions from ships

In the fourth session, the discussion focused on the progress in the implementation of policies. The first presentation was performed by **Mr. Dachang Du**, from the **IMO**, which described the existing international legislation in this field and the on-going policy-making process at IMO. He announced that an IMO Scientific Expert Group will publish a report in December 2007 which contains the impacts of emission reduction measures to various relevant industries. **Mr. Mark Major**, from the **European Commission** made the next presentation, in which the EU strategy to reduce emissions from ships was described and next steps in the EU decision making process assessed. The following presentation was performed by **Ms. Fanta Kamakaté** and **Mr. Drew Kodjak**, both from the **ICCT**, and contained an overview of the US Federal policies in cutting emissions from ships, as well as measures implemented and due to be implemented in California.

All speakers expressed the need to address emissions from ships at global level, but without excluding the possibility of local, national or regional measures. However there were diverging views on the extent to which IMO has been able to achieve agreement on measures in an acceptable timeframe and with a sufficient level of ambition. It was clear that if the discussions on IMO do not deliver results in early next year (namely at the meeting of the Marine Environmental Protection Committee in April 2008), action by individual States or regions is to be expected.

Panel discussion: the way forward

The final panel had representatives from IMO, EU Member States, Industry and Environmental NGOs. The panel moderator was Mr. Drew Kodjak and the panellists were: **Mr. Martin Suenson (Europaia)**, **Mr. João Vieira (T&E)**, **Mr. Axel Friedrich (UBA)**, **Mr. Stefan Lemieszewski (Swedish Maritime Administration)**, **Mr. Dragos Rauta (Intertanko)** and **Mr. Dachang Du (IMO)**. There was consensus on the need to tackle emissions from ships and to address the growing impacts of ships on air pollution and climate. There was also general recognition that action should be taken at global level, with diverging views on the consequences of regional or local regulations: some of the panellists believe it would be counterproductive (for example, Mr. Dragos, Mr. Suenson and Mr. Du) and the remaining considered it a necessary second-best option in case it was not possible to achieve worldwide measures. The discussion throughout the debate focused on policy options to reduce NO_x, SO_x and CO₂ emissions from ships, where some alternative policy instruments were discussed. A possible conclusion is that there are currently on the table options that, if adopted, would lead to significant reduction of emissions. In the end the moderator raised the issue of PM emissions, the majority of the speakers recognized it is important, and is not garnering the required attention. Given this, there was also a great level of agreement on the need to regulate PM emissions from ships.

Next Steps

The seminar was held in a particularly relevant timing, since one important IMO meeting will be held in October 2007 in Berlin, to continue work on the adoption of more stringent standards for ship engines and fuels. The forthcoming discussion is likely to occur mostly at IMO level, at least until the MEPC meeting of April 2008. This meeting will be extremely important, since it is clear that legislation at EU level is likely to be proposed by the European Commission, if there is a failure to adopt an ambitious revision of Marpol Annex VI. It is also important to ensure that the EU Member States have a coordinated position, something the next European Council Presidency should take into account. On the issue of reducing the climatic impacts of ships, although some policy measures are also being discussed at IMO level, the issue of the best way to address these emissions should be considered when setting the Post-Kyoto regime, which discussions will kick-off in Bali, in December 2007.



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