

Terms of reference - Impact Study of the future requirements of Annex VI of the MARPOL Convention on Short Sea Shipping

PROJECT SKEMA

1) Background

EU transport and environment policies

Short sea shipping (SSS)¹ competes with other transport modes, notably road transport.

As Short Sea Shipping presents many advantages compared to road transport (i.e. in general lower environmental impact (energy consumption), accident rate and infrastructure cost), the EU transport policy supports actively a modal shift from road to ship. To this end, the Commission adopted several Communications since 1995 as well as an action plan for the promotion of SSS in 2003, which has been reviewed in 2006.

The share of SSS in total transport is relatively constant over the years (around 40% of total ton-kilometres, with a slight slowing down in 2007). However, as ports and related hinterland infrastructure are not used at their full capacities unlike road infrastructure on major EU axes, a further modal shift from road to SSS would be beneficial to the EU.

It is the responsibility of SSS operators to attract more cargo by improvements of the quality of their services (frequency, punctuality, reliability, efficiency of port services, image). On its side, the Commission will create a better business environment (less administrative burdens for SSS companies and shippers, granting of subsidies for the launching of new SSS services (through the Marco Polo programme), granting of subsidies for port improvements and launching of Motorways of the Sea (through the Trans-European Network budget and the regional policy funds).

Although SSS has overall less impact on the environment than road transport, the latter made constant progress in the last decade, notably with the introduction of low sulphur diesel fuel and a reduction of conventional emissions of trucks (the Euro 3 and 4 standards followed by the recent Commission proposals for further reductions). Maritime transport also has to make progress if it wants to maintain its relative position.

SSS operators claimed that the environmental efforts agreed at international level by the IMO (International Maritime Organisation) to reduce the content of sulphur in marine fuels and reduce particulate emissions would increase operation costs (they would be obliged to use distillate fuels instead of cheaper bunker fuels or install new installations to eliminate sulphur from the exhaust gasses) which would deteriorate their competitive position compared to road transport. According to SSS operators, the result would be counterproductive as the global environmental balance may become negative.

The agreement reached by IMO on sulphur content has no exemptions for SSS. On the positive side, the new standards will contribute to the "green" image of shipping which can be a marketing asset (see Tokyo declaration of some globally operating companies). Also the use of distillate fuel adds to the operational safety and reduced damage in case of spills. It also reduces maintenance costs although that might be a small part relative to the fuel costs.

¹ SSS = maritime transport between ports located in the EU as well as neighbouring countries

Modification of the MARPOL Convention

Following the adoption of the revised MARPOL Annex VI on atmospheric pollution from ships at MEPC 58 in October 2008, the European Commission should table a proposal in 2010 in order to align the existing EU legislation on the new international standards.

The new MARPOL Annex VI will introduce stricter requirements on sulphur contents of fuel oil used on board ships both at global level and in Emissions Control Areas (ECA) which are currently in the Baltic Sea, the North Sea and the English Channel. The requirements in ECA will be implemented by 2010 with sulphur limit of marine fuels reduced from 1.5% to 1.0% and by 2015 to 0.1%. The use of technological equivalents is an alternative. Outside ECAs, the sulphur level will be reduced to 3.5% by 2012 and 0.5% by 2020.

EU requirements will also impose a 0.1% of sulphur content for ships at berth from 1 January 2010.

In order to implement the new requirements into EU legislation, the Commission will carry out a detailed impact assessment consisting of several studies. A few studies are particularly related to the new IMO requirements and the revision of the Directive on sulphur fuel²:

These studies are:

1. Study on refinery aspects (Purvin & Gertz) which looks into change in fuel demand. The study focuses on the consequences for refineries to supply compliant fuel in terms of costs and emissions and the availability of fuel. End of the study: July 2009
2. General study on different aspects of the revision of the directive involving calculations (AEAt) on costs and benefits of the IMO agreement and different ways for an EU implementation. This study also includes miscellaneous questions such as the problems with fuel changeover of ships with boilers for main propulsion. End of the study: end of 2009.
3. Study on the feasibility of emissions trading for shipping (VITO). This study will look at how a scheme would fit in EU and international law, on the practical aspects and on the environmental and economic efficiency of such system. End of the study: end of 2009.
4. Study on the distance monitoring (remote sensing) of ships emissions and online monitoring (JRC). The results are mainly aimed at facilitating enforcement and more specifically at enabling enforcement in case of emissions trading in a possible future situation with SO_x emission control areas, only partly overlapping NO_x emission control areas and emissions trading.
5. A pilot project of emissions trading of SO_x and NO_x in the Baltic Sea will be launched later this year. Publication of the call planned in May.

² Council Directive 1999/32/EC of 26 April 1999 relating to a reduction in the sulphur content of certain liquid fuels (OJ L 121, 11.5.1999, p. 13) modified by Directive 2005/33/EC of 6 July 2005 on sulphur content of marine fuels.

2) Objectives and scope of the study

This study aims at:

1. Calculating the cost development of ship transport, including the use of low sulphur marine fuels, in line with the revision of Annex VI of the MARPOL Convention agreed in October 2008 on maritime transport cost for intra-Community trade and of alternative abating technologies that produce equivalent effects;
2. Calculating the cost development of road transport in the same period, including, in a simplified manner, the impact of the Eurovignette directive and the Euro VI standards for trucks.
3. Assessing the modal balance of short sea shipping and road transport through a comparison of the economic costs on a representative selection of shipping routes.
4. Assess the resulting overall impact on emissions (in volume/area) by comparing with the baseline scenario.

3) Specific tasks

Task One: *Decide on the methodology and the entry parameters*

1. Select the more appropriate transport cost model that permits to estimate the impact of changing cost parameters on the traffic flows differentiated according to transport mode³;
2. Consider how to link the present study with the previously mentioned and other relevant studies;
3. Take representative sample of existing shipping lines to make calculations (will be noted as line 1, 2, 3... without precise references) – the study will be focused on existing SECA. Routes will be selected based on their sensitivity to a modal-shift, availability of existing data and compatibility with transport models accessible to the project participants. Conclusions shall only be drawn for the markets modelled;
4. The study will be looking at the period 2010-2025;
5. Make valid and supported hypotheses on the baseline scenario (notably for the variation of fuels costs); and produce various alternative scenarios (e.g. in relation to energy costs, economic growth... ..).

Task Two: *Assess the sectorial, economical and environmental impact of the use of low sulphur fuels*

1. Calculate the impact of the use of low sulphur fuels on running costs and capital costs of shipping
2. Evaluate the economic and emissions (in volume/area) impacts of installing sulphur abating technology
3. Deduct the differential of competitiveness between sea and road transports and calculate resulting modal balance

³ Models have been developed by the University of Southern Denmark, the Institut für Seeverkehrswirtschaft und Logistik (ISL) Bremen, the European Environment Agency, the Antwerp Institute etc.; the budget of the study does not permit to develop a new model.

4. Calculate the resulting overall emissions (in volume/area) impacts for the scenarios identified

Task Three: *Identify and estimate additional measure(s) which would correct any calculated negative impact*

1. Identify measures, notably measures at international level, at EU level and possibly at national level
2. Calculate the potential economic and emissions (in volume/area) impacts of these measures
3. Draw recommendations, considering also the other aspects (legal aspects, political acceptability and feasibility...)

5) Available data to be considered

After prior agreement with the project officer, the contractor will exchange information with project coordinators undertaking similar studies, whether they are at the initiative of Member States or the industry shall be taken into account. The contractor will report to the project officer, and explain the reasons of potential divergences. If necessary, it will propose adjustments of relevant aspects in order to avoid duplications or unnecessary discrepancies.

6) Subcontracting

It is possible to subcontract some tasks, with prior consent from the project officer.

7) Deliverables and final report

A report will be done after the three tasks. The acceptance of this report by the project officer is a prerequisite for starting the following task.

8) Monitoring the study

The Commission will be assist by a monitoring advisory group, comprising officials from other interested sectors or DG and representative of the ship owning and shippers industries.

9) Timetable

15 April 2009: Inception meeting

22 May 2009: Report on task one

15 May 2009: Start of task two

8 July 2009: Report on task two

15 July 2009: Start of task three

8 September 2009: Report on task three

15 September 2009: Draft final report

30 September 2009: Approval of the final report

30 November 2009: Closure of the project

10) Expected results

The study shall provide to the Commission services:

- A set of data reflecting the economic and emissions (in volume/area) impacts of the revision of the Annex VI of the MARPOL Convention, before the 8 July 2009;
- Proposed measures in view to mitigate the potential negative impacts;
- A final report before the 1st December 2009.

In addition, the model and software shall be available during a two years period in order to satisfy the possible need to update the results of the study. These updating will be launched at the request of the Commission and will be formalised in a new service agreement.

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