



## **Future Availability of Low Sulphur Bunker Fuel**

### **Executive Summary**

The main objective for this subtask was to consider the future demand for low sulphur fuel qualities, and assess the potential gap between supply and demand based on the outcome of the work done in the first subtask 5.1.

Based on input from the previous subtask an analysis was planned to establish the restraints in supply of marine bunkers based on alternative future legislation, with particular effort in considering the effect of an entry into force of MARPOL Annex VI. Following the outcome of alternative studies, the scope was reconsidered. Due to new information, unknown at the time of the initial plans for the work, less work was allocated to analysis as extensive analysis already had been reported in related studies.

As a basis for the work, several emission inventories prepared after 1990 was assessed and compared. The only firm conclusion from the comparison is that different studies by different parties conclude significantly different. Based on the comparison, the conclusion is that the emission inventories provide uncertain information with respect to the estimated emissions from ships visiting European ports. Comparing emission inventories with fuel consumption estimates of sale statistics does not provide an easy solution for verification of emission estimates. Likely explanations to difference in estimates of sale and consumptions versus emission estimates are related to quality of reporting and unclear interpretation of separation between domestic and international marine bunkers.

Based on the work done, one definite conclusion is that the estimates of world and European marine fuel consumption are uncertain. Major sources of uncertainty are inconsistent use of definition of the segment considered, different lower size of vessels included, and uncertainties related to reported data. In the various marine bunker fuel consumption estimates, different estimates provide alternative mix in the summary of all bunker consumption versus bunker for international trade and/or domestic trade. An implicit conclusion is that there exist a significant potential for improvement in methodology for emission quantification and fuel sale reporting related to marine bunkers.

This study concludes more or less in line with the study performed by ENTEC UK Limited with respect to the estimated growth of marine fuel consumption in Europe (50-57 million tonnes in 2020). With respect to the future demand for low sulphur bunker fuel, the study however concludes that the figures probably will exceed earlier estimates and, that a figure in excess of 20 million tonnes seems realistic in 2007. This figure is significantly higher compared to the quantities of low sulphur bunker fuel available today (results from the previous subtask).

The capability of the oil refining industry to produce more low sulphur fuel for the marine market is limited through the combination of factors such as the availability of low sulphur crudes and the configuration of the refineries to cope with the different product volumes associated with high and low sulphur crudes. The oil industry is

unlikely to consider the marine bunker market as a particularly attractive market within which to make substantial investments to convert high sulphur components into low sulphur fuel.

A conclusion from the combined work in subtasks 5.1 and 5.2 is that more work needs to be done to quantify the impact of the actual changes in respect to the ability of the refining industry to meet the changing demand. This will require direct input and cooperation from the fuel oil industry to improve the demand estimates, and to assess the overall cost impact on the business.