BALTIC SEA AS A PILOT FOR LNG IN EUROPE?

Promoting the use & distribution of maritime LNG

Oslo, 10 March 2011

Moderator's summary of the Council of Baltic Sea States (CBSS) workshop

The workshop gathered more than 90 participants, from national authorities, ports and the maritime industries in the Baltic region. The workshop was organized in four panels in relation to the main challenges and opportunities to LNG in the Baltic Sea.

Presentations

The opening address of the workshop was held by the State secretary Rikke Lind, Norwegian Ministry of Trade and Industry. In her speech, she emphasized that environmentally friendly shipping and energy efficiency will not only benefit the environment, but also may lead to lower operational cost and the development of new technologies for further growth.

The Baltic Sea region is characterized by a strong maritime cluster, extensive short sea shipping operations including many fixed routes and a vulnerable environmental state, resulting in the new regulations on sulphur emissions from 2015. These features put the Baltic in a favorable position to develop into a "pilot region" for LNG as shipping fuel in Europe.

As a general backdrop, DNV presented their Baltic report. As a response to the environmental challenges in the region, the IMO has decided to establish the Baltic region as a SECA-area meaning that marine fuel from 2015 cannot exceed a sulphur level of 0,1%.

LNG as fuel for ships eliminates SOx- and PM-emissions, reduces NOx-emissions by 90 % and CO2 emissions by 20%. DNV considers LNG to be the most viable option both from an environmental and economical/business point of view. The technology is well proven but the distribution still needs to be developed, as well as regulation and standardization.

Panel A: The economics of LNG in shipping

Presentations were made by SINTEF-MARINTEK, Wärtsilä and Viking Line. The main topics of these presentations were about LNG supply and quality, gas engine concepts for ships, storage of LNG on board and the cost benefit-evaluations concerning LNG as fuel with Wärtsilä and Viking Line as specific cases. The LNG-fueled Viking Line ferry is planned to be in operation in 2013.

Gas engine technology is proven and available for all types of piston engines and storage technology for ships are available, however continuous technological development is taking place. LNG fuelled ships have a higher building cost, which, however, can be justified by lower operating and fuel costs.

The main topic of the discussion was CO2 and greenhouse-gas emissions. The CO2 reduction is very significant; however the net greenhouse gas reduction may be somewhat lower, due to due to the methane slip, another greenhouse gas. According to SINTEF-Marintek and Wärtsilä this methane slip has been reduced through technological development, and the net

green house gas reduction of current technology is in the range of 0-30% (LNG/HFO), depending on technological solution.

Panel B: LNG Distribution and infrastructure

The Danish Maritime Authority gave a presentation of the EU Motorways of the Sea project "A facilitating LNG-infrastructure for North Europe". The recommendations of the strategic decision paper emphasizes that supporting hard infrastructure (filling stations) as well as soft infrastructure (regulation and industry standards) must be set up for LNG to be widely used as maritime fuel. The study will be relevant for governments and stakeholders in their commercial decisions, policy making and regulation/industry standards. The two following presentations evolved around two specific infrastructure cases, with the LNG terminals at the ports of Gothenburg and Nynäshamn.

The main topics of the discussion were price development of LNG, investment costs of LNG terminals and fuelling efficiency. It is important to look at both price of LNG and distribution costs and it is expected economies of scale in distribution and increase availability will lower the price of maritime LNG. Regarding bunkering time AGA and Wärtsilä informed that this lasts no longer than an hour for the planned Viking Line ferry.

Panel C: Environmental regulation and safety
This panel was opened by a presentation from EMSA, with their view of green shipping and the use of LNG. As a basis for this is the EMSA-report on the 0,1 % sulphur level in marine fuels in SECAs from 2015. The following presentation where about international regulations concerning the ship through the IMO IGF-code, to be concluded in 2014.

Safety issues on the shore side were a part of a case presentation of the terminal in Swinoujscie, Poland. When it comes to regulations on the shore side, this is an area which is in need of further development and especially coordination at an international level. As of today, Norway is the only country with a national regulation and can serve as a basis for regulation in other countries. It was suggested that EMSA could facilitate the development and sharing of best practice in this respect. Furthermore, there is an ongoing development in the ISO, concerning standardization on shore side infrastructure. It was suggested that the work with the IGF-code in the IMO, could also address shore side safety and security issues, as has already been proposed by Sweden in the IMO correspondence group.

Panel D: Policies to promote the use and distribution of LNG in the Baltic

The European Commision (DG Move) presented the EU policies in support of a sustainable EU transport system and how maritime transport can benefit from this. Furthermore, the commission presented short- and long term solutions for sustainable and competitive Short Sea Shipping. LNG may play a role in this context, however EU policies and instruments are based on technological neutrality. The presentation was followed by the Norwegian NOx-fund explaining more about the background and the fund's results in supporting projects related to LNG fueled vessels. The Norwegian NOx fund has proven to work well in this respect.

Summary

There are several environmental challenges for shipping in the Baltic Sea Region, including air emissions of t SOx, NOx, greenhouse gas as well as local PM air emission which are already regulated or with potential to be regulated internationally.

LNG as a fuel is one among several technical solutions, but with the specific characteristic of eliminating or significantly reducing all emission elements (Sulphur, PM, NOx and CO2). Technology is available and feasible but requires additional investments on the ship. These investments, either through new buildings or retrofitting, are likely to be profitable over the long-term since LNG involves lowers costs than other fuels, though it is difficult to predict the development of future fuel prices.

Infrastructure (land terminals or barges/ships) to distribute LNG as fuel for ships takes a long time to develop and the landside aspect of safety and security is an issue. Good progress is on the way within the IMO for an international harmonized regulatory framework for ships operating on LNG. However, on the port side there is no international body that caters for this. This was identified as a potential area for regional harmonization and spread of good practices. Governments can play an important role in promoting and developing the necessary hard and soft infrastructure for LNG to become a commercial option for operators.

The moderator of the workshop was Mr. Lars Almklov from the Norwegian Ministry of Trade and Industry in his capacity as chairman of the CBSS Expert Group on Maritime Policy.