

INFO REGARDING ONGOIN BUNKER SHIP/ BAR INVESTIGATION:

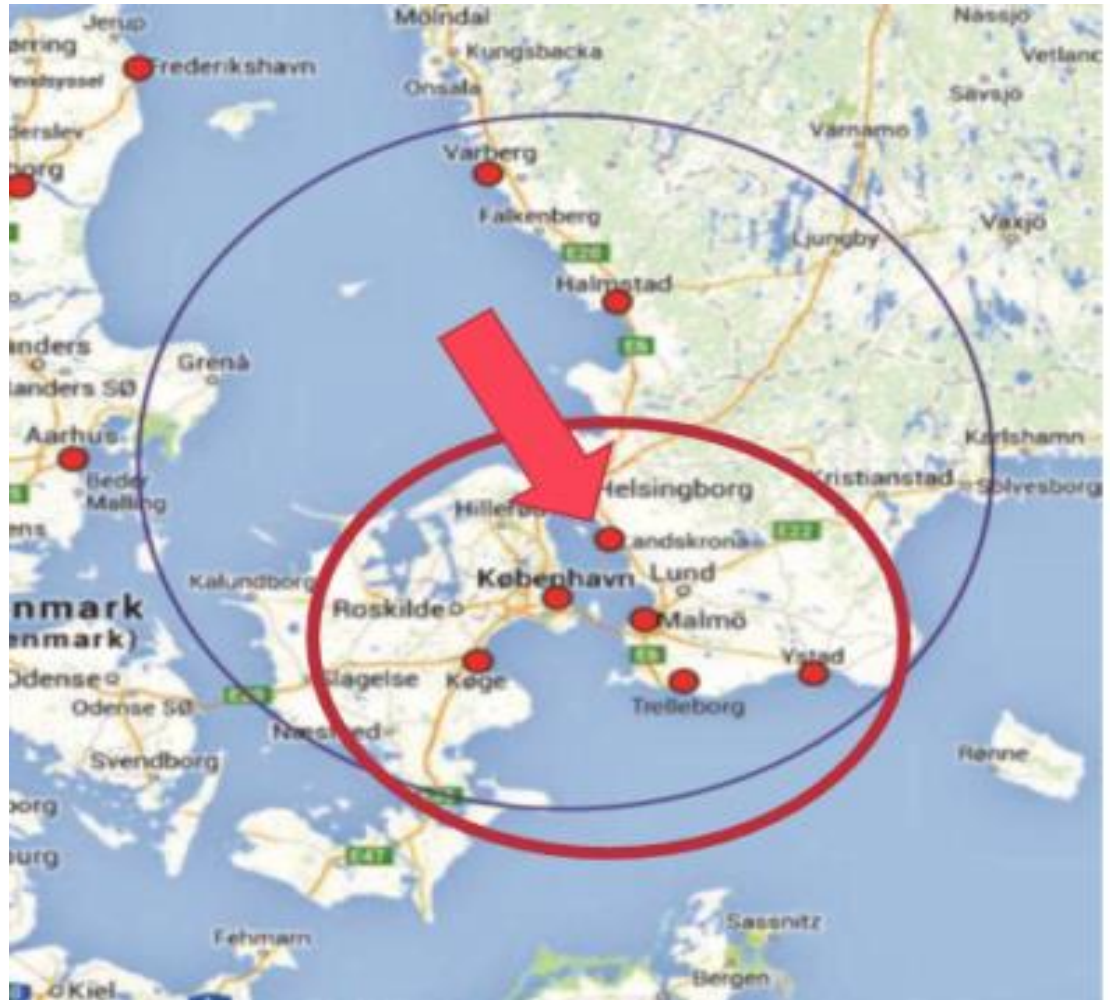
Time table:

2015-11-25 report from OMT.

Financial analysis and selection of concept ready 2015-12-04.

2016-01-30 Basic design and spec finalized.

2016-02-15 First version of EU report.



Following concepts will be investigated:

1A: Retrofitting existing bunker ship, so it can carry MGO, LS HFO and LNG.

Investigation if it is likely to install an LNG tank on the deck of a bunker ship and if it is possible to extend a ship with one LNG tank in length. The basis for the investigations will be a general bunker ship with a total fuel capacity 2000-3000 m³/h (expected based on 1B). It is assumed based on 1B that the propulsion machinery is kept unchanged.

Based on 4 it is assumed that the LNG tank capacity shall be about 500 m³.

1B: Retrofitting existing bunker ship, so it can carry MGO, LS HFO and LNG.

The machinery shall be converted/replaced to LNG propulsion. Tank volume 2000-3000 m³ (MGO, LS HFO and LNG in total)

Based on 1A it will be investigated, still in a generic way, what the consequences are for said conversion.

3: A new self-propelled bunker barge for LNG and MGO (classed for inland waterways).

The price will cover design fee to design company, engineering fee and estimated building price. In case this scenario is selected for next phase, the main particulars will most likely change from the assumed.

4: Retrofitting an existing bunker barge to carry MGO and LNG. An existing tug boat will transport the barge. LNG tank approximately 500 m³, MGO tank approximately 500 m³. The operational area of the barge is shown to the right..



5. The scenario as to take a 2nd hand standard barge, not a bunker barge but a transport barge, and install a number of commercial available 40" ISO insulated LNG containers on the deck. In addition a deck hose crane to be installed. Expected that a suction drum shall be installed upstream the bunker pumps. A diesel tank to be installed for delivering of diesel to auxiliary engines on board the receiving ship.