9th December 2014, Klaipeda, Lithuania

“GO LNG- FINAL CONFERENCE TO THE SBSR PROJECT “MARTECH LNG”

LNG in Baltic Sea Ports II

Emil Arolski – Project Manager, Baltic Ports Organisation
Baltic Ports Organization has initiated the development of LNG bunkering infrastructure in 7 ports within the Baltic Sea Region; supported by many industry organisations (ship-owners, national ports organisations and ESPO)

A positive decision at the TEN-T Financial Assistance Committee (30 January 2012)

- Focus on pre-investment studies such as environmental impact assessments, feasibility analyses for LNG terminals or bunkering vessels, project designs, regional market studies, safety manuals, etc.

- Project works include a so-called ‘stakeholder platform’ which will facilitate a discussion among: port authorities, shipowners, gas infrastructure providers, energy traders and bunkering companies.

Objectives:

- Development of the infrastructure in the ports for LNG bunkering, thus making possible to use LNG as fuel for the shipping industry in the future. This will decrease the emission to the atmosphere and make sea transport more environmentally friendly.

  - The project will result in jointly developed operational ships bunkering installations in ports that can serve as objects of reference to other ports in the Baltic Sea region and to other regions in EU.

The wider benefits of the project are to:

- Foster innovation and deployment of necessary infrastructure for LNG bunkering facilities and to increase faster implementation of new technical developments in the maritime sector of the Baltic Sea Region;

  - Contribute to the promotion of efficient, safe and environmentally sound maritime transport in the Baltic Sea by creating a harmonised infrastructure for bunkering LNG in the Baltic Sea region.
LNG in Baltic Sea Ports - Final Conference

- Closing Conference held on 3rd December on MS Viking Grace

- LNG in BSP” Project concluded with the publication of “LNG Handbook” that highlights Baltic Sea Region as a benchmark for implementation of LNG infrastructure.

- The Handbook is based on the experiences gained from the participating ports in the project, as well as other ports in the area with experience from establishing LNG terminals and LNG as ship fuel.

- Representatives from the seven ports have signed declaration stating their aim to “continue the development of LNG small scale bunkering infrastructure facilities at their Ports and will aim to offer LNG as a fuel for vessels by 2025 in line with Clean Fuel Directive”.

Co-financed by the European Union
Trans-European Transport Network (TEN-T)
The proposed initiative was developed by the Baltic Ports Organization and it is a continuation and extension of a well-established ‘LNG in the Baltic Sea Ports’ - TEN-T Motorways of the Sea Project.

- Project was developed as a result of the co-operation among the Baltic Region Ports and the action addresses one of the main challenges to maritime transport - air emission from shipping.

- The Global Project is focused on the harmonised pre-investment works and development of facilities for LNG bunkering infrastructure in Baltic Sea ports.

Global Project: Development of an LNG bunkering network in the seaports of the Baltic Sea region as an element of the Baltic Motorways of the Sea Programme.

- ADDED VALUE: Coordination & Harmonisation.
- Best practice identification.
- Stakeholder Platform.
- LNG Handbook.
- LNG training scheme.
- Baltic Ports LNG Forum.

Construction of infrastructure.
Equipment and facilities.
LNG bunkering fleet.

Future projects (new LNG ports).

PHASE I: Pre-investments studies & analysis.

PHASE II: Real investments.

PHASE III: LNG market availability.

Co-financed by the European Union
Trans-European Transport Network (TEN-T)
**Project Activities:**

- **Activity 1:** Project Management & Coordination
  - **Sub-activity 2.1:** Develop a design for a multi-purpose LNG bunker ship in the area
  - **Sub-activity 3.1:** LNG Berth Project Design
  - **Sub-activity 3.2:** Complete technical design of LNG storage and bunkering facility at Berth no.13
  - **Sub-activity 4.1:** Technical design of berth due to new location
  - **Sub-activity 4.2:** Detailed LNG infrastructure planning
  - **Sub-activity 5.1:** Obtaining all permits related to the LNG bunkering procedure
  - **Sub-activity 5.2:** Technical Design of LNG bunker station
  - **Sub-activity 5.3:** Environmental procedures and permits

- **Activity 2:** LNG in Helsingborg
  - **Sub-activity 2.1:** Develop a design for a multi-purpose LNG bunker ship in the area

- **Activity 3:** LNG in Trelleborg
  - **Sub-activity 3.1:** LNG Berth Project Design
  - **Sub-activity 3.2:** Complete technical design of LNG storage and bunkering facility at Berth no.13

- **Activity 4:** LNG in Sundsvall
  - **Sub-activity 4.1:** Technical design of berth due to new location
  - **Sub-activity 4.2:** Detailed LNG infrastructure planning

- **Activity 5:** LNG in Rostock
  - **Sub-activity 5.1:** Obtaining all permits related to the LNG bunkering procedure
  - **Sub-activity 5.2:** Technical Design of LNG bunker station

- **Activity 6:** LNG in Klaipėda
  - **Sub-activity 6.1:** Technological design study
  - **Sub-activity 6.2:** Front end engineering design and QRA
  - **Sub-activity 6.3:** Environmental procedures and permits

- **Activity 7:** Harmonisation, LNG ‘know-how’ transfer & training
  - **Sub-activity 7.1:** Harmonisation
  - **Sub-activity 7.2:** LNG know-how transfer
  - **Sub-activity 7.3:** LNG training scheme

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Co-financed by the European Union
Trans-European Transport Network (TEN-T)
Project Activities:

Activity 2. LNG in Helsingborg:

- Develop a design for a multi-purpose LNG bunker ship in the area
  
  ✓ The objective of this activity is to design a multifunctional bunker ship solution in south of Sweden
  
  ✓ The multi-function ship will be able to provide- LNG bunkering; MGO bunkering & Other ship supply services

- LNG bunker ship study will describe the following: size, number fuel tanks, type of bunker fuel that the ship shall carry (the ship shall be running on LNG), type of other services that should be performed by the ship and crew, etc.
Project Activities:

Activity 3. LNG in Trelleborg

- Sub-act 1 - Basic design of berth no.13
  - Technical description, drawings, and context analysis.

- Sub-act 2 - Complete technical design of LNG storage and bunkering facility at Berth no.13
  - Storage possibilities investigation, tank design, & potential adjustment of berth
  - Assessment of risk & safety and other regulations for LNG delivering.

- LNG in Trelleborg activity aims to deliver technical documentation that will allow the investment in a new berth and LNG bunker facilities in the port.
**Project Activities:**

**Activity 4. LNG in Sundsvall**

- Technical design of berth due to new location
  - Detailed location study of and technical solutions at the berth
- Detailed LNG infrastructure planning
  - Design of the LNG bunkering infrastructure facility and storage tank type.
  - LNG transhipment and transport; Risk assessment and related safety aspects and the permit process.
- The final outcome of the activity is a complete technical design of a bunkering facility in the Port of Sundsvall.
**Project Activities:**

**Activity 5. LNG in Rostock**

- Obtaining all related LNG bunkering permits.
  - Technical and safety analysis of the safety situation at each berth.

- Technical Design of LNG bunker station
  - Complete technical design of the LNG-import berth, LNG-bunker berth, LNG storage and road-/rail-loading facilities and risk & safety analysis.

- The activity will result in design for a small scale LNG bunkering facility and in a medium term perspective will lead to establishing a LNG storage facility that can provide a fuel for vessels and land transport.
Project Activities:

Activity 6. LNG in Klaipeda / KN

- Technological design study
  - Detailed analysis of current infrastructure and superstructure within Klaipedos Nafta premises.

- Front end engineering design (FEED) and QRA
  - Development of FEED documentation for any demolitions and construction of LNG distribution centre

- Environmental procedures and permits
  - Complete environmental study; risk assessment and safety requirements determination allowing to proceed to project; selection of proper location.

- The outcome of this activity is a set of technical documentation required for construction of bunkering facility in Klaipeda Port together with approved development permits obtained from the competent authorities.
Adding the partners of the succeeding BPO initiative, together with seven ports from the ongoing TEN-T project- *LNG in the Baltic Sea* ports; this will result in the establishment of an extensive network of ports with planned facilities for LNG bunkering in the Baltic region (in total 9 of 22 Baltic Core ports and 2 comprehensive ports).

This on its own it will be a significant achievement in meeting the future clean shipping strategy in the Baltic Sea Region and in EU.
Activity 7: Harmonisation, LNG know-how transfer & training

The LNG in Baltic Sea Ports II project will continue and develop the added value activity created by the ongoing project by know-how transfer meetings and seminars.

BPO will secure knowledge sharing and cohesion between the ongoing LNG in Baltic Sea Ports project and the present proposal to make sure that the Actions are based on common outcomes, best practices and recommendations.
Activity 7: Harmonisation, LNG know-how transfer & training

- Available solution and best practise identification; technical, technological and safety requirements comparison; identification of common Baltic/EU standard.
- Dialogue with stakeholders within the Baltic Sea region and the EU.
- Training structure and topics identification, pilot training occurrence, final improvement.
Activity 7: Harmonisation, LNG know-how transfer & training

- Activity 7: Harmonisation, LNG know-how transfer & training
  - The objective of this action is to ensure a harmonised development of LNG bunkering facilitates among all beneficiaries of the project.

- Harmonisation -
  - Harmonisation will be secured among the pre-investment documentation in the different ports.

- LNG ‘know-how’ transfer
  - The succeeding initiative will further develop the know-how transfer between various stakeholders involved in LNG facility development and bunkering.

- LNG training scheme
  - The LNG training scheme will be developed and available as a common standard for further use by port communities members.

- The LNG Handbook Part II
  - The second handbook will be developed as a continuation of the first one (due at the end of the ongoing LNG in the Baltic Sea Ports project).
**NEW LNG initiatives in the Baltic**

- Key Baltic Sea regions identified as areas for a possible development of a common bunkering barge projects:
  - Turku, Naantali, Pori (FI);
  - Gulf of Finland (FI & EE);
  - Gulf of Riga and Ventspils (LV);
  - Gdansk Bay & Klaipeda (PL& LT);
  - Szczecin/Świnoujście (PL)
  - Rostock & Lübeck (DE);

- Studies considered: Retrofitting or new bunker ship design, planning location and technical studies at the ports; storage tank - size & design, permit and environmental impact studies & Harmonisation.
NEW LNG initiatives in the Baltic

- The CEF calls are focused on infrastructure; it dedicates financial support towards the realisation of important transport infrastructure projects.

- Projects that can get support: implementation projects, studies taking the form of pilot actions, studies, start-up aid for Motorways of the Sea (MoS) services.

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**Co-funding rates**

<table>
<thead>
<tr>
<th>Types of Projects</th>
<th>All Member States</th>
<th>Member States eligible for Cohesion Fund</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Studies (all modes)</td>
<td>50%</td>
<td>85%</td>
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<tr>
<td>(b) Works on</td>
<td></td>
<td></td>
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<tr>
<td>Rail</td>
<td></td>
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<tr>
<td>Cross border</td>
<td>40%</td>
<td>85%</td>
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<tr>
<td>Bottleneck</td>
<td>20%</td>
<td>85%</td>
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<tr>
<td>Other projects of common interest</td>
<td>20%</td>
<td>85%</td>
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<tr>
<td>Inland waterways</td>
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<tr>
<td>Cross border</td>
<td>40%</td>
<td>85%</td>
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<tr>
<td>Bottleneck</td>
<td>40%</td>
<td>85%</td>
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<tr>
<td>Other projects of common interest</td>
<td>20%</td>
<td>85%</td>
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<tr>
<td>Inland transport connections to ports and airports</td>
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<td></td>
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<tr>
<td>Cross border</td>
<td>20%</td>
<td>85%</td>
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<tr>
<td>Bottleneck</td>
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<tr>
<td>Other projects of common interest</td>
<td>20%</td>
<td>85%</td>
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<tr>
<td>Development of ports</td>
<td>20%</td>
<td>85%</td>
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<tr>
<td>Development of multi-modal platforms</td>
<td></td>
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<tr>
<td>Reduce rail freight noise by retrofitting of existing rolling stock</td>
<td>20%</td>
<td>85%</td>
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<tr>
<td>Freight transport services</td>
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<td>85%</td>
</tr>
<tr>
<td>Secure parkings on road core network</td>
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<tr>
<td>Motorways of the sea</td>
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<tr>
<td>Traffic management systems</td>
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<tr>
<td>SESAR, RIS &amp; VTMIS</td>
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<tr>
<td>ERTMS</td>
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<tr>
<td>ITS for road</td>
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</tr>
<tr>
<td>Cross border road sections</td>
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<td>85%</td>
</tr>
<tr>
<td>New technologies and innovation for all modes of transport</td>
<td>20%</td>
<td>85%</td>
</tr>
</tbody>
</table>

- MoS under CEF- 250 million in general envelope and 100 mln for Cohesion Countries in 2014.

- Priority 2014: alternative fuels and abatement for works studies pilot actions etc.

- Publications of Calls - 11th September and Calls deadline 26th February 2015.
Thank you

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