07th May 2015 Copenhagen, Denmark

PA Ship Steering Committee meeting

LNG in Baltic Sea Ports Projects

Per Olof Jansson– Project Leader, Port of Helsingborg, Sweden

LNG in Baltic Sea Ports Projects

Partners - LNG in Baltic Sea Ports Projects

HELSINGBORGS HAMN PORT OF HELSINGBORG
AARHUS HAVN PORT OF AARHUS
COPENHAGEN MALMÖ PORT
PORT OF HELSINKI
PORTS OF STOCKHOLM
PORT OF TALLINN The Port of Good News
PORT OF TURKU FINLAND
Trelleborgs Hamn AB Port of Trelleborg
SUNDSVALL LOGISTIKPARK
ROSTOCK PORT
LNG TERMINAL

BPO BALTIC PORTS ORGANIZATION
EUSBSR EU STRATEGY FOR THE BALTIC SEA REGION PRIORITY AREA 'SHIP'

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LNG in Baltic Sea Ports Project

Baltic Ports Organization has initiated the development of LNG bunkering infrastructure in 7 ports within the Baltic Sea Region

- 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.
- Activities include a 'stakeholder platform' that facilitated discussions among port authorities, shipowners, gas infrastructure providers, energy traders and bunkering companies.
- Project Budget – apr. € 3.5 mln.
  Jan. 2012 – Dec. 2014

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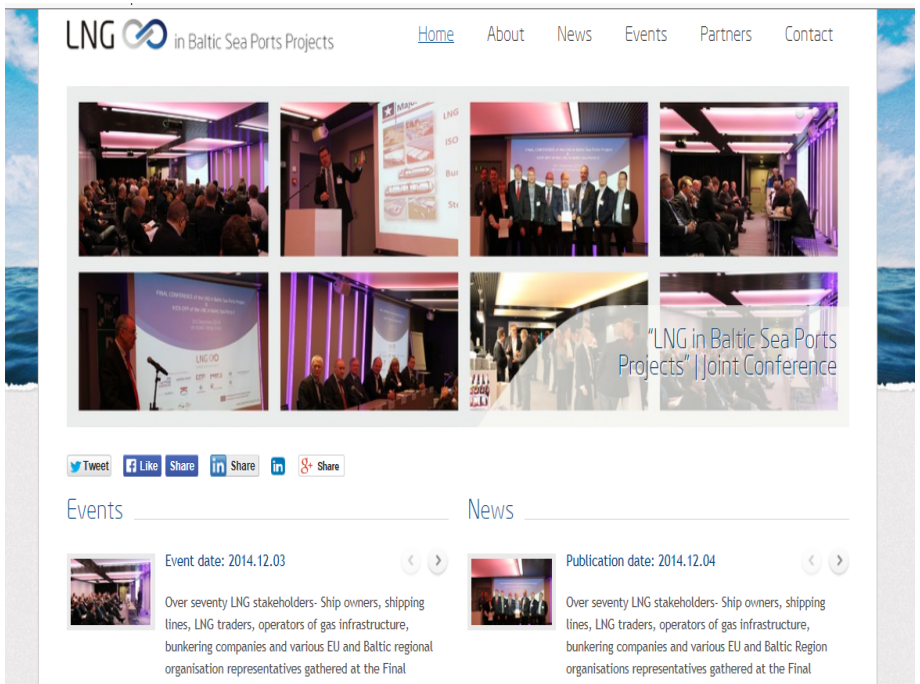
LNG in Baltic Sea Ports – Final Conference

- 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".*

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LNG in Baltic Sea Ports II

The sequel initiative has been developed by the BPO 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.
- Project Budget – apr. € 1.5 mln. Jan. 2014 – Dec. 2015

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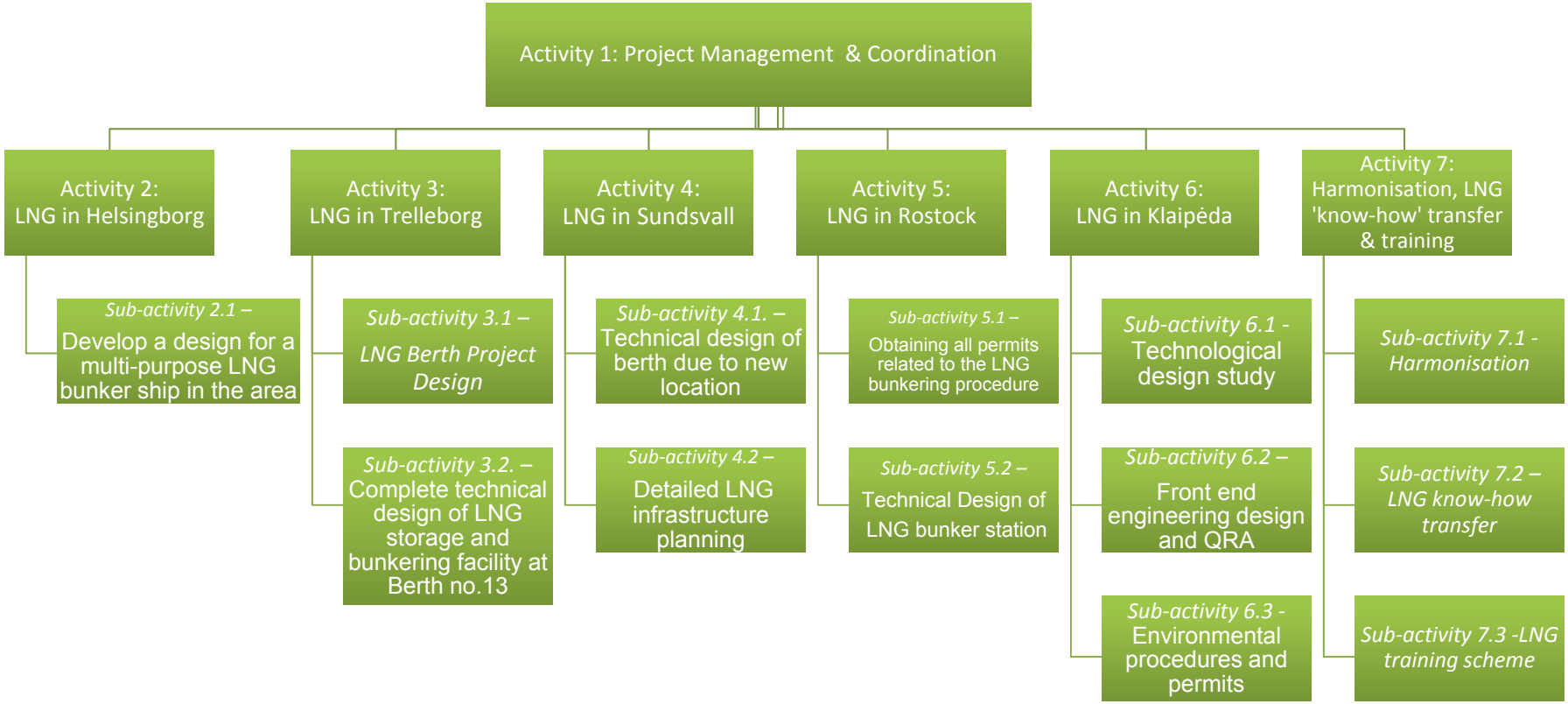
Project Activities :



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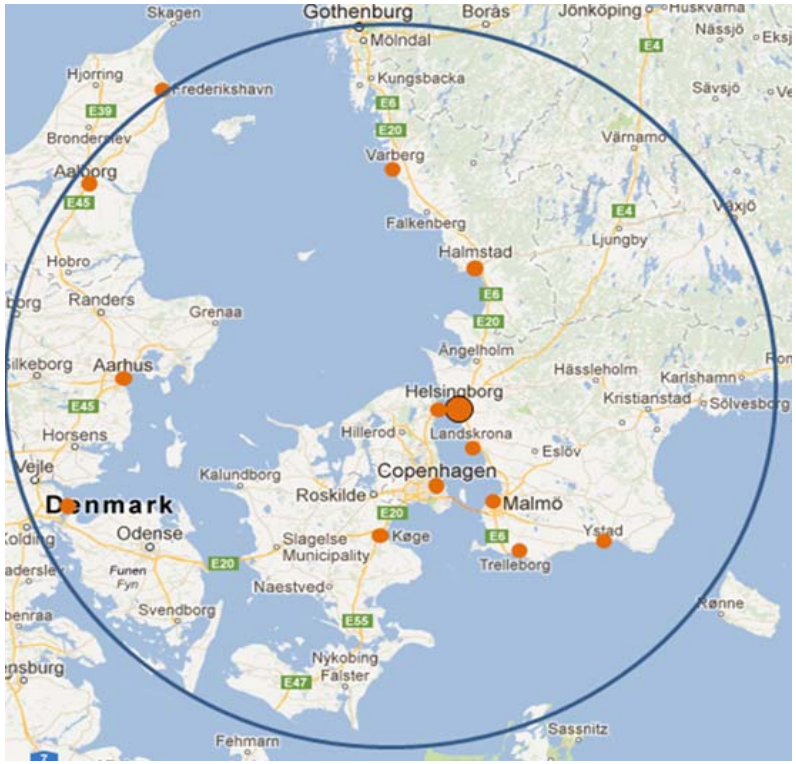
Project Activities :

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.

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Project Activities :

Activity 3. LNG in Trelleborg

- Sub-act 1 – Basic design of berth no.13
  - ✓ Technical description, drawings, and contex 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.

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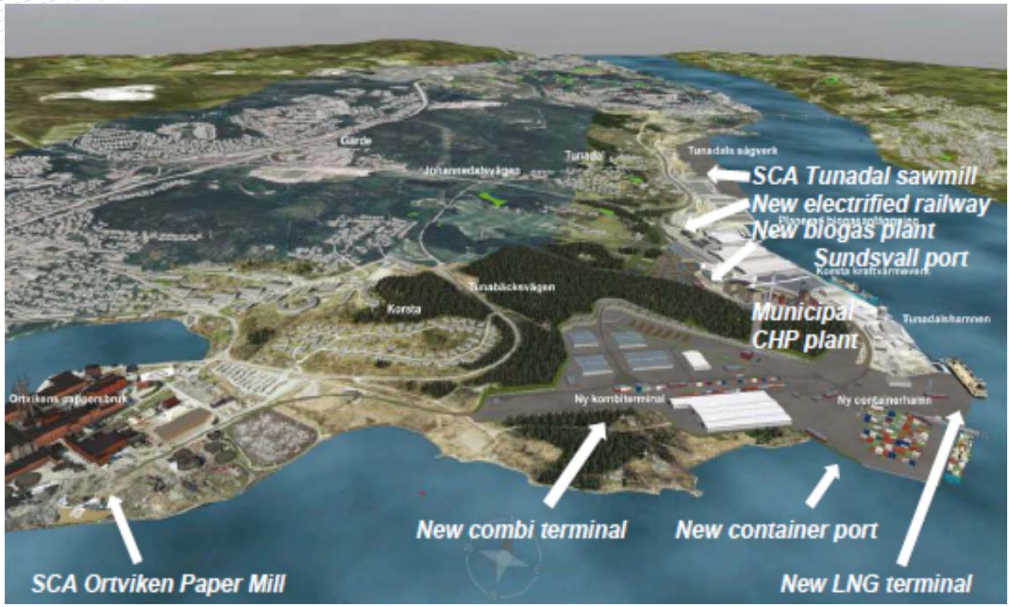
Project Activities :

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.



The Port of Sundsvall with its new logistics park, including an LNG terminal

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Project Activities :

Activity 5. LNG in Rostock

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

The Port of Rostock

- 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.

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Project Activities :

Activity 6. LNG in Klaipeda / KN

FSRU area in Klaipėda port

- 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.

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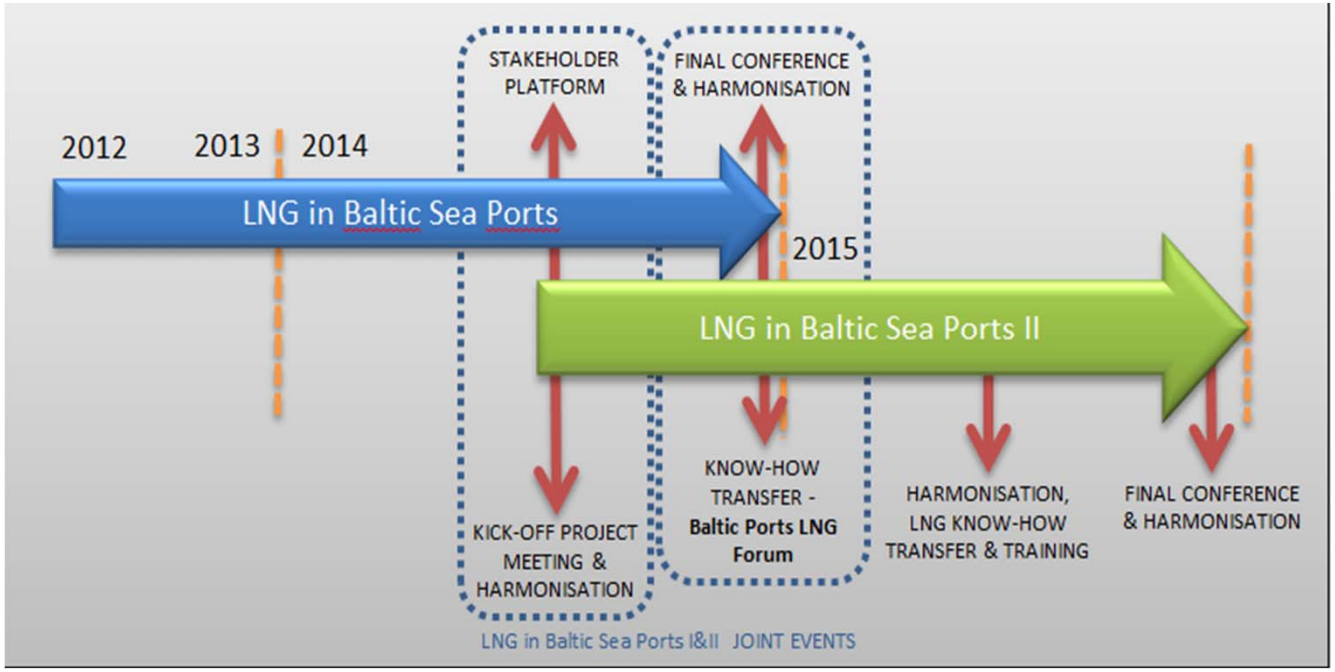
Activity 7: Harmonisation, LNG know-how transfer & training

- 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

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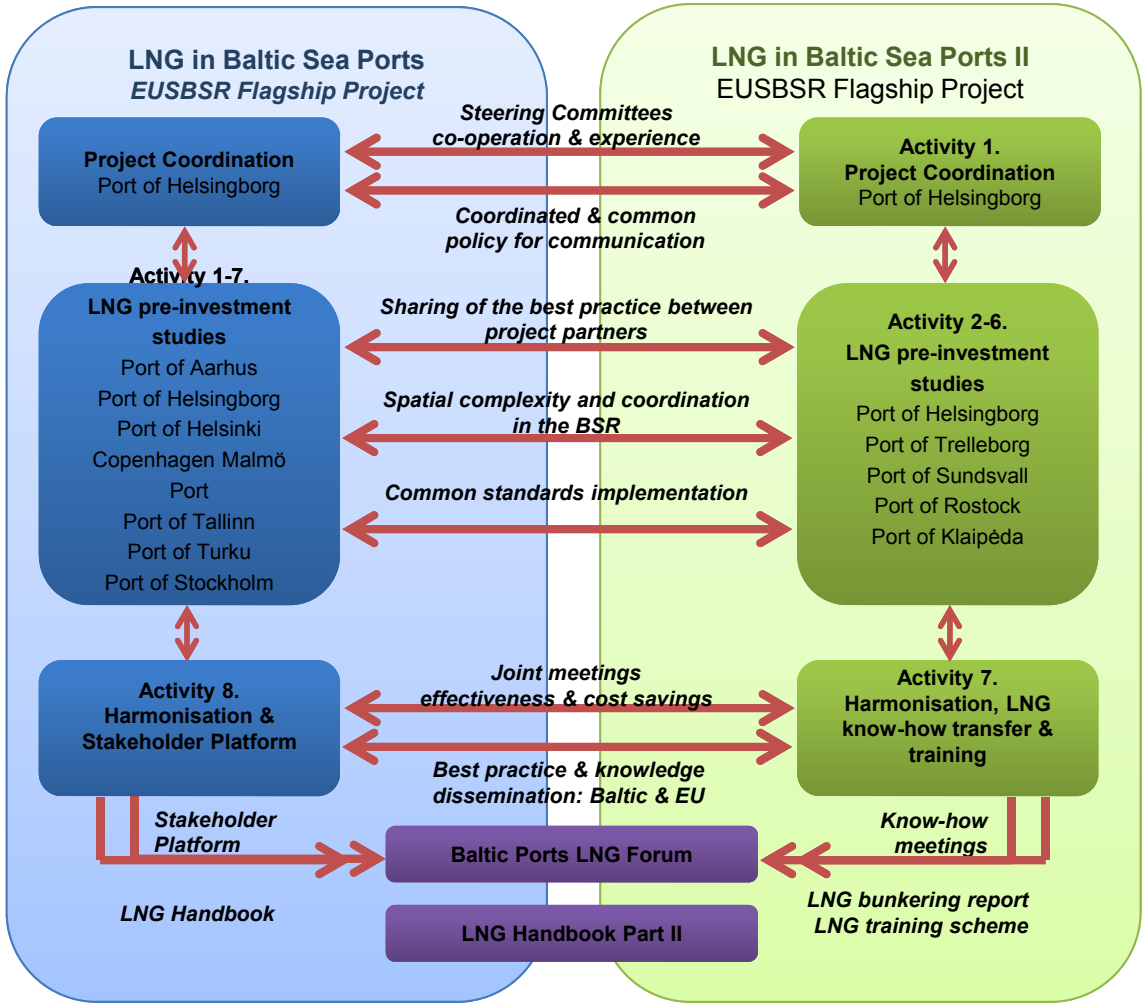
Activity 7: Harmonisation, LNG know-how transfer & training



- ✓ The objective of this action is to ensure a harmonised development of LNG bunkering facilitates among all beneficiaries of the project.
- ✓ The succeeding initiative will further develop the know-how transfer between various stakeholders involved in LNG facility development and bunkering.
- ✓ 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 - to be issued on conclusion of the project.

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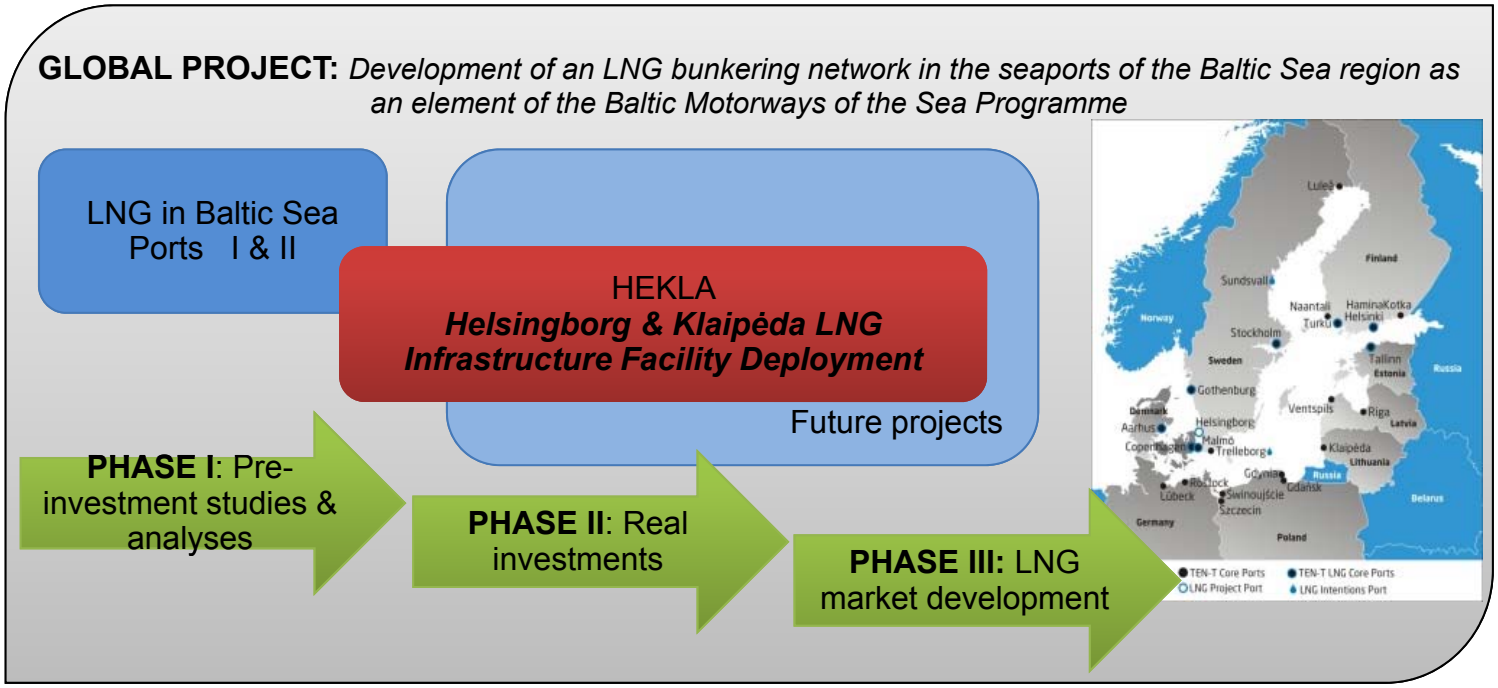
LNG in Baltic Sea Ports Projects

- Adding the partners of the ongoing BPO initiative to the seven ports of the concluded TEN-T project, results in the establishment of an extensive network of ports with planned facilities for LNG bunkering in the BSR (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.

HEKLA - Helsingborg & Klaipėda LNG Infrastructure Facility Deployment

The LNG infrastructure action has been proposed by the BPO and it is a continuation of a well-established 'LNG in the Baltic Sea Ports I & II' - TEN-T, MoS Projects



- ✓ HEKLA action - second phase of the Global Project's implementation
- ✓ Real investment related to LNG bunkering facilities
- ✓ An important step forward towards creating an LNG bunkering infrastructure network within the Baltic Sea region.

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LNG in Baltic Sea Ports Projects

Thank you

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