Developing a strategy for LNG powered transport corridors in the Baltic Sea Region

Josefin Madjidjian, Research Associate, WMU

Laima Gerlitz, Vytautas Paulauskas, Stefan Jankowski, Lawrence Henesey, Aykut Ölcer, Dimitrios Dalaklis, Fabio Ballini, Momoko Kitada, Robert Philipp
Transport has its pros and cons...

Shipping is one of the most environmentally friendly modes of transport referring to emissions per tonnes of cargo. BUT, increase in global shipping makes it a significant source of air pollution.
International shipping cannot be attributed to any particular national economy

Multilateral collaborative actions are required to address and combat pollution from shipping
Develops *global regulations* - maintain *safety* and *security* of *international* shipping and to *prevent marine pollution* from ships

*Adopts instruments* (*legislation*) and *guidelines* at the intergovernmental level

*Member Governments are responsible* for *implementing and enforcing* the adopted regulatory framework
Annex VI represents the regulatory framework tackling exhaust gas emissions from ships

- prohibits deliberate emissions of ozone depleting substances
- sets progressive reductions (tiers) in emissions of sulphur oxides (SO\textsubscript{X}), nitrogen oxides (NO\textsubscript{X}) and particulate matter (PM)
- also introduces designated emission control areas with more stringent standards for above emissions
- ensures an energy efficiency standard for ships: (1) the Energy Efficiency Design Index (EEDI), for new ships, and (2) the Ship Energy Efficiency Management Plan (SEEMP) for all ships
These regulations have and will continue to change the shipping industry’s demand for alternative fuels!

....which in turn affects the fuel prices and the cost effective available technology and infrastructure
Liquefied Natural Gas

LNG is the most promising alternative shipping fuel technology in the short to medium term, specially for Short Sea Shipping and inland waterway transport

https://en.wikipedia.org/wiki/Storage_tank
WHAT ABOUT THE BALTIC SEA REGION?
Chicken-and-egg problem

What comes first?!
European Commission’s EU White Paper for Transport (2011)

GHG reduction goal of at least **40% by 2050** (compared to 2005) in absolute terms for the shipping sector, taking into account the expected traffic increase during that period.

**Directive 2014/94/EU**

Framework of measures for the deployment of alternative fuels infrastructure in EU

Setting out **minimum requirements** for e.g. recharging points for electric vehicles and refuelling points for natural gas (LNG and CNG) and hydrogen

*to be implemented by means of Member States' national policy frameworks*
### The obligation to comply with EU infrastructure policy

<table>
<thead>
<tr>
<th></th>
<th>Coverage</th>
<th>Timings</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNG at maritime ports</td>
<td>Ports of the TEN-T core network</td>
<td>by end 2025</td>
</tr>
<tr>
<td>LNG at inland ports</td>
<td>Ports of the TEN-T core network</td>
<td>by end 2030</td>
</tr>
<tr>
<td>LNG for heavy-duty vehicles</td>
<td>Appropriate number of points along the TEN-T core network</td>
<td>by end 2025</td>
</tr>
</tbody>
</table>
...for the maritime industry the question is no longer if LNG could be a solution to adhering to international regulations, but rather how much of the market will be replaced by LNG, and, importantly, how to best introduce LNG as the preferred fuel and make advancements...
GoLNG

www.golng.eu

20 main partners and 50 associated partners

2016-2019
... links transport flows, LNG infrastructure development, and business models into an **efficient LNG distribution strategy for the BSR**

... maps **development patterns** of LNG-related activities and capabilities

**Online:** Toolbox with **regulations and guidelines**
LNG **bunkering map**

*Points out the missing links and suggests the ways forward that will have a positive effect on both business and technical development in the region*
Widening the LNG VALUE CHAIN → sharing the costs and having more than one user

• Visualizes the existing LNG value chain

• Describes the possibility for a wider value chain:
  
  - incorporating other modalities and industries
  
  - incorporating biogas into the gas grids
Collection of data...

LNG research, training and consulting

LNG infrastructure, technology and related services

Economy and business

Standards and regulations
BSR BLUE CORRIDOR STRATEGY

LNG infrastructure development and mobilization the critical mass of technology, business partnerships, and regulatory implement LNG powered transport networks in BALTIC SEA REGION.
Thank you very much for your attention!