

Interreg Baltic Sea Region

Mid-term evaluation of Programme impact

Case Study Report

GO LNG



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1 Executive Summary

Impact on Target Groups by Go LNG

SO	Target Group	Processes where Target Groups are involved	Learning Experiences /Use of Project products and results	Specific Impacts on the Institutional Capacities of target groups	Dimension of institutional capacity
3.4.	Transport, energy and technology industries: service providers, energy and fuel providers, ports, LNG technology developers, stevedoring companies and other	<ol style="list-style-type: none"> 1) Development of various web tools such as the LNG standard and regulation toolbox, the LNG bunkering map and the LNG shipping index. 2) A study on "Integrated LNG Value Chain". 3) Development of three business plans. 4) Creation of the BSR LNG Competence Centre. 5) Establishment of the BSR LNG Business Cluster. 6) LNG and project promotion events. 	<ol style="list-style-type: none"> 1) Useful web tools at the disposal of the target group. 2) A study showing the business potential of "Integrated LNG Value Chain". 3) 3 Business plans / LNG business models developed. 4) Mechanism for the knowledge transfer – the BSR LNG Competence Centre created. 5) LNG expert network and technology pool. 6) A cooperation platform to enable new LNG business models (at least four business projects so far). 	<p>Increased knowledge and capacities of the various stakeholders within the whole LNG value chain;</p> <p>New ways for knowledge and competence transfer in the LNG industry;</p> <p>New LNG business projects.</p>	<p>Enhanced institutionalised knowledge and competence</p> <p>More efficient use of human and technical resources (databases, technical solutions, small infrastructure etc.)</p>
3.4.	Policy makers on regional and municipal levels, transport regulatory authorities	<ol style="list-style-type: none"> 1) Development of the Blue Corridor strategy. 2) Summary of the policy and regulation guidelines / a toolbox. 	<ol style="list-style-type: none"> 1) Strategic vision for the use of LNG in BSR available for the regional stakeholders. 2) Policy and regulation guidelines summarized to serves as a useful tool. 	<p>Increased knowledge on the opportunities of the LNG;</p> <p>Benchmark of the various national regulations in the area of LNG.</p>	<p>More efficient use of human and technical resources (databases, technical solutions, small infrastructure etc.)</p>

2 Project description

The project “Go LNG” focuses on developing demand and accessibility of the Liquefied Natural Gas (LNG) in the Baltic Sea Region. It works on creating a strategic approach to LNG development and a technologic approach for consolidating the LNG value chain. It will provide the necessary skills and business partnerships for the further infrastructure development.

The Lead Partner of the project is the Klaipeda Science and Technology Park from Lithuania. The project consortium consists of 18 partners from six different countries. Together with another 50 associated organisations the partnership includes all the major LNG stakeholders in the BSR.

The project is being implemented under the Specific Objective 3.4 Environmentally friendly shipping: To enhance clean shipping based on increased capacity of maritime actors. The project duration is May 2016 to April 2019. It has a total budget of EUR 3.05 million, of which EUR 2.24 million is funded by the ERDF.

Increasing air pollution in port cities and strict environmental regulations (e.g. the introduction of the Sulphur directive as of IMO MARPOL Annex VI) make it crucial for the maritime and transport industries to search for alternative fuel and energy sources. LNG promises to offer a solution for their dilemma. The project intends to utilize and further develop the momentum created by its predecessor – the project MARTECH implemented between 2012 and 2014.

For LNG, its infrastructure is a pricing bottleneck. Due to the fact that LNG is not yet widely used, it can reach more than 50% of the LNG energy cost. Therefore the project focuses on developing the demand side and broader accessibility of LNG in the BSR. To decrease the price cap it is necessary to consolidate a wider value chain adding new users, which will contribute to the LNG infrastructure price and decrease investments risks. An integrated value chain will increase the competitiveness of LNG fuel by improving its economic and environmental performance and thus increasing the fuel and infrastructure demand.

In order to apply the integrated LNG value chain and enable the LNG powered transport corridors in the BSR, a BSR LNG Business Cluster is being established. The cluster is expected to help reaching the critical mass of businesses to facilitate service, finance, technology and innovation for deploying LNG infrastructure and applying LNG as a fuel thus turning the region’s environmental challenges into business opportunities.

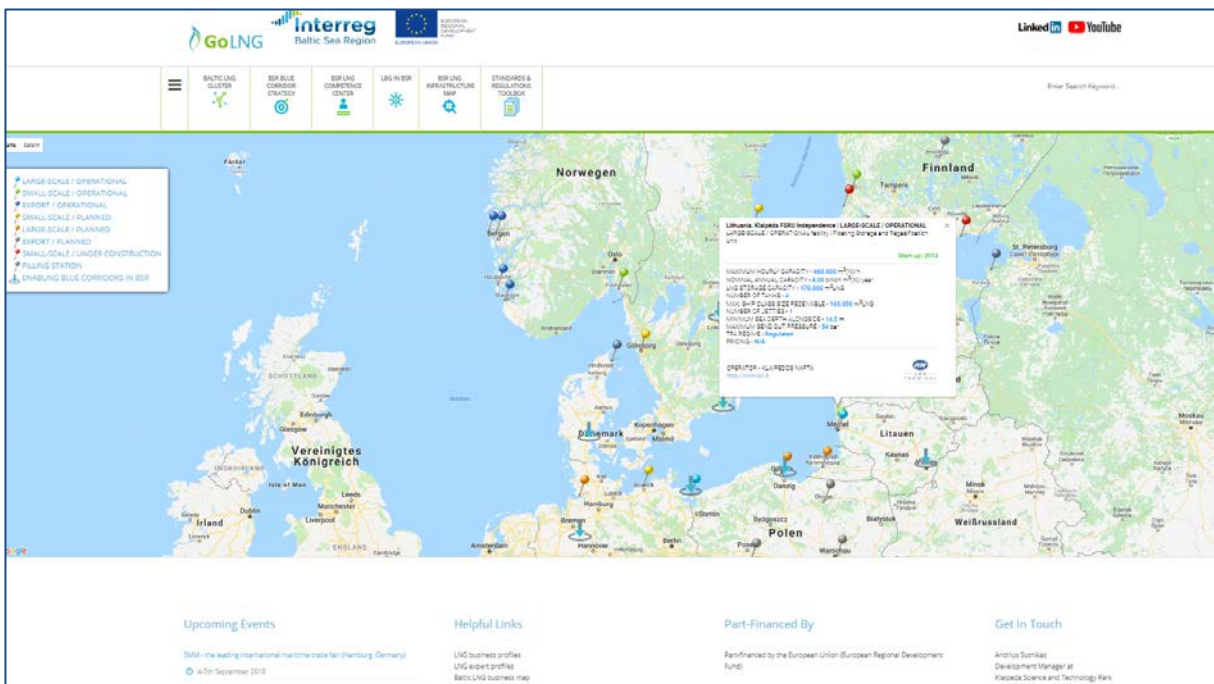
It is not yet a EUSBSR flagship project, but the project management has made an application to the PA Ship to become a flagship.

3 Expected results, outputs and activities

A great number of outputs have been planned by the project and a big part of them are still ongoing.

The Go LNG project is looking into possibilities to show how the existing LNG infrastructure and technology can benefit all the current and potential LNG users. The project starts by creating a strategic approach to the overall LNG development by elaborating the BSR blue corridor concept, developing a technological approach to consolidate the LNG value chain and providing necessary skills to business partnerships. The project has also an ambition to develop a globally competitive LNG Competence Centre that would support a wider application of LNG in the BSR and world-wide.

BSR LNG Infrastructure Map (one product of Go LNG)



Source: <http://www.golng.eu/en/bsr-lng-infrastructure-map/>

Expected project results and outputs*

Expected Project Results
<p>BSR LNG competence centre will gather BSR based LNG competence, knowledge, training facilities and research infrastructure, providing collaboration and management model to enable joint service supply and project development. BSR LNG competence centre will provide 2 training programs to support regions LNG industry with the knowledge and qualified personnel to implement LNG infrastructure projects and enable LNG business models. Network will establish a possibility to efficiently utilize research infrastructure and increase service quality to a global standard. Strong competence centre will help to apply regions LNG technology in BSR and globally increasing business technological competitiveness and providing skilled personnel for LNG technology application. BSR LNG competence centre will target regions research institutions and industry in order to ensure collaboration model to strengthen research and training capacities, increase industry competitiveness.</p>
<p>BSR LNG business cluster is a business network organization aiming at improving regions LNG industry competitiveness. The business cluster is established in order to facilitate LNG business partnerships in BSR. To support integrated LNG value chain development it is important to provide a cooperation platform for different industry sectors to enable business models for efficient use of LNG infrastructure. LNG business cluster will support industry cooperation in technology application, marketing and business model development matters to ensure growth of the sector. In terms of project cluster will provide a structural tool for cooperation with industry ensuring the application of project results. Cluster activities: joint research and</p>

training projects; B to B events; promotion events; collaborative marketing activities.
BSR Blue corridor strategy is a comprehensive document to provide the strategic approach towards the LNG infrastructure, technology, standard and regulations to be implemented in order to enable LNG powered transport corridors in BSR. The document will target the following elements: <ol style="list-style-type: none"> 1. information on legal measures,. 2. Frame of policy measures supporting the implementation of the national policy framework on LNG development. 3. LNG technology overview. Strategy will provide a comprehensive LNG technology overview on LNG applications and technological standards applied in the different transport modes and LNG infrastructure. 4. Alternative fuels infrastructure developments in BSR - Changes in supply (additional infrastructure capacity) and demand (capacity actually used). 5. Proposal on a possible model of LNG infrastructure deployment in BSR. 6. LNG cases to provide convincing economic, environmental and technological data of LNG application. Detailed report.
Expected Documented Learning Experience
Project will provide a strategic approach to LNG infrastructure development in BSR by gaining economic, environmental, social knowledge and compiling agglomerated report for the policy makers and business stakeholders in BSR on LNG infrastructure development. Project will agglomerate LNG knowledge and capacity, by establishing BSR LNG competence centre and will establish a knowledge transfer tool on LNG for industry and policy makers. Project will establish a BSR LNG business cluster that will be used as a tool for the industries, to facilitate business partnerships in order to enable LNG business models in BSR. Project will build and share the experience on LNG in order to establish LNG value chain in BSR by providing economic, technological, business and environmental knowledge to the policy makers and industry in BSR.
Expected Other Outputs
No. of local/regional public authorities/institutions involved - 1
No. of enterprises receiving support - 13
No. of enterprises receiving non-financial support - 100
No. of enterprises cooperating with research institutions - 100
No. of documented newly developed market products and services, i.e., business plans – 7
Amount of private investments matching public support in innovation or R&D projects – 47 500 EUR

*as defined in the Application Form Sections 3.8, 5.1 and 5.2.

The main project achievements so far are establishment of the BSR LNG Cluster and the BSR LNG Competence Centre. Institutionalization of the project networks will help gaining a new momentum for the industry. Capacities will be built by establishing new business partnerships and thus providing a broader access to knowledge and technology.

Strategically it has been agreed that the most efficient way of managing the BSR LNG Cluster is via its national branches which have already been established by now in Lithuania, Poland and Denmark. Altogether there are six national networks representing the six project partner countries. Such a broad international network reaches out to more than 135 business.

The LNG Competence Centre is established to facilitate cooperation between the research and training institutions aimed at fostering LNG related training and research programs. The content and structure of the LNG trainings has already been created and the curriculum outlined. The trainings at the Competence Centre will be supported and certified by the research institutions. Thus it is expected to create a critical mass of personnel knowledgeable in LNG for its further development.

4 Project partnership

The project partnership consists of 18 partners from six different countries. Among them there are five business support organisations including the Lead Partner. There is one local public authority, six research institutions, one infrastructure and public service provider, two non-governmental institutions and three for-profit organisations.

There are also 50 associated partners from nine countries among which there are business support organisations, national authorities, infrastructure and public service providers, non-governmental institutions and also for-profit organisations.



The map above is one of the project outputs. It gives an overview of the LNG infrastructure in the BSR region. The project makes efforts to involve most of the LNG stakeholders in the project. Thus the partnership is not only broad, but also very representative.

Go LNG is a business oriented project therefore the presence of the industry is of high importance. Private companies are forerunners of the LNG industry. There is a number of SMEs among the project partners, especially, the associate ones. Unfortunately, some private partners withdrew after the project was confirmed for funding because the activities they were interested in were suspended at the clarification stage.

Business support organisation	Klaipeda Science and Technology Park (LT)	Maritime Development Center of Europe/the Transport Innovation Network / MDCE (DK)	Shipping & Offshore Network (NO)
	Logistics Initiative Hamburg (DE)	Clean Shipping Index AB (svb) (SE)	
Regional and Local Public Authorities	Municipality of Samsø (DK)		
Infrastructure and public service provider	SC Klaipėdos nafta (LT)		
Research Organisations	Hochschule Wismar, University of Applied Sciences (DE)	inwl non-profit Limited Institute for sustainable Economics and Logistics (DE)	World Maritime University (SE)
	Blekinge Institute of Technology (DK)	Maritime University of Szczecin (PL)	RISE Research Institutes of Sweden AB (SE)
Non-governmental institutions / not-for-profit	Baltic Ports Organization (EE)	Motus (PL)	
Private, for –profit	NPPE Klaipeda Shipping Research Centre (LT)	OSK-ShipTech A/S (DK)	
	ATI erc gGmbH education, research and furtherance of cooperations (Westmecklenburg) (DE)		

One of the main obstacles for private companies to participate in such projects is that they do not see much immediate interest and/or return which makes them hesitant to spending extra resources. At the

same time capacity of associate partner allows them to follow the project activities to the extent of their interest and resources. They support the project with a specific insider information, expertise and contents. They help attracting new customers and facilitate the overall development process.

Research organisations play an important role in the project producing, co-ordinating and disseminating the knowledge within the region. As a result of their work in the project an LNG Competence Centre has been developed and sustained to serve as a backbone for knowledge transfer.

The main national policies on LNG development are already outlined, therefore there are no much public authorities among the core consortium. Nevertheless the project has invited a number of national and regional (in case of Germany) authorities to be associate partners. Their engagement ensures that the necessary legislative provisions can be elaborated whenever necessary to help institutionalize this momentum also further on.

The Project Managers considers this to be a very efficient partnership for a steadily growing new industry where the necessary knowledge can be not only created promptly and efficiently, but also tested within the industry.

5 Contribution of the project to the EUSBSR

The project has made an application to the PA Ship to become a flagship. The project partners believe that they could assist national governments as well as regional and local authorities around the BSR to implement innovative solutions necessary to achieve the common European objective “A cleaner Baltic Sea – investments, business opportunities and new partnerships”.

In its application the consortium emphasizes that Go LNG addresses the issue of clean and safe shipping in a holistic manner taking into consideration the following aspects:

- reduction of environmental impact of ship air emissions thus maximising opportunities for innovation in shipbuilding and marine equipment by promoting LNG as a ship fuel and supporting technological development;
- reduction of air pollutant emissions such as PM, NO₂ and Sulphur in ports and port cities by improving their infrastructure. The use of LNG infrastructure is directly effecting environmental status of coastal areas and ports.
- promotion and support to industry partnerships aimed at implementing integrated use of LNG;
- strengthening human capital by ensuring proper training, setting common standards and enhancing maritime career.

The project sees its contribution to the EUSBSR in a form of Pan-European project-initiatives, accumulation of the state-of-the-art solutions for efficient use of LNG-related adjusting them to environmental, institutional and regulatory conditions within the BSR.

Involvement of the private sector is seen as an asset as the industry must be ready to exploit the coming business and investment opportunities and take the overall responsibility.

The project hopes to be recognized as a flagship. This way sufficient political attention could be attained in order to introduce and strengthen the project outcomes and to ensure their sustainability also after the project is closed.

6 Communication and outreach to target groups

The project does not have a separate communication strategy or plan. Every work package (WP) has a separate communication strategy as well as an activity related to communication. The WP Leader is responsible for communicating activities under his/her respective WP. The WP Leader is assisted by a person responsible for communicating each specific activity of the WP.

Strategically the actual communication issues are first discussed and decided among the Project Manager, the WP Leader and also the activity leader for which the communication is intended. When its contents and the means of outreach are agreed on this level, the project partner Motus is being involved for practical information preparation and dissemination. Practicalities then are being further discussed between the WP Leader, Activity leader and Motus.

The Project Communication Manager is responsible only for internal and external (to the MA/JS) communication related to preparing the reports. In order for all 18 project partners to be able to produce the documents necessary for the reports timely and in good quality a regular communication mostly via e-mails and intranet is being done.

E-mails, but mostly intranet is used for communication between the project partners. The partners are being informed on the events both upcoming and the ones which have been already held. Main presentations from the events are uploaded on the project webpage. Here one can also expect to have most of the project outputs. At the moment not all of the outputs can be found there.

The project claims to have around 300 daily visitors of its webpage. Representatives of all the project target groups receive notification of the project's topicalities in a form of a monthly newsletter which is being sent to 160 subscribers.

The main target group of the project are businesses in the following industries: transport & energy and technology. These are service providers, energy and fuel providers, ports, LNG technology developers, stevedoring companies and others – everyone integrated in the LNG value chain. Another important group are transport regulatory authorities and policy makers on all the levels including the EU. Every WP has its own specific target group.

Target Groups
WP2: Transport regulatory authorities
WP3: Ports
WP4: Policy makers on regional and municipal levels

Source: Application Form Section 4

The LNG Business Cluster is seen as one of the most efficient tools to reach the project's main target group – the industry.

Among other means of disseminating the project results the various project events can be mentioned, in particular the following:

1. Baltic Ports conference in Trelleborg, Sweden in September 2017 where the LNG Strategy was first presented to more than 120 participants of the conference;
2. The BSR LNG Cluster Meeting in Klaipeda, Lithuania in November 2017;
3. Go LNG – Building LNG competence and partnership for the Baltic Sea Region conference in Vilnius, Lithuania in April 2017 with representatives of respective ministries among the key speakers.

7 Impact on target groups

The project generates new ideas and develops knowledge, which is being spread among its partners as well as beyond the formal project partnership. This enlarges the knowledge available to all the stakeholders considering the use of LNG as a substitute fuel in the light of the EU directive on the deployment of alternative fuels infrastructure (2014/94/EU) and other SECA¹ and NECA² regulations.

The project's main three outputs are (1) the BSR Blue corridor strategy, (2) the BSR LNG competence centre and (3) the BSR LNG Business Cluster. All of the outputs are intended to increase learning experiences of its 68 partners (including the associate ones) representing their main target groups.

Firstly, the project addresses decision-makers offering a strategic vision - the BSR Blue corridor strategy and the LNG fuel distribution strategy and, secondly, it exchanges information and competences between the research institution and businesses. The project claims it has around 200-300 industries in its BSR LNG Business Cluster. The core partnership of the cluster was established already within the preceding project. The project has six research institutions as its core partners. These institutions together with the businesses are seeking for the ways to make utilisation of LNG also economically viable. The direct link between researchers and for-profit organisations provides a mechanism for the knowledge transfer and ensures a greater applicability and utilisation of the produced knowledge.

The knowledge has been largely created and exchanged within the BSR LNG Competence Centre established by the project. The project has institutionalized access to LNG knowledge and technologies at the disposal of 13 research institutions that have joined the centre. This way the whole LNG BSR community has gained a sufficient capacity for the LNG trainings. Network will be a good mechanism of the knowledge transfer and will facilitate development of new experts in the area.

Secondly, the Baltic Sea Region LNG Competence Centre will provide a service package for LNG training in at least two aspects: (1) maritime competence development and (2) economic/logistic/business model (the value chain) competence development. By end of the project 300 experts within the LNG area are supposed to have been reached by six maritime and 12 value chain trainings.

¹ Sulphur Emission Control Areas

² Nitrogen Oxide Emission Control Areas

Thirdly, the BSR LNG Business Cluster created within the project has gathered a sufficient number of LNG industries, i.e. end-users of the project results and provides a cooperation platform to enable new LNG business models in the region thus supporting the LNG infrastructure development. Business cooperation organizations from Lithuania, Sweden, Norway, Denmark, Germany and Poland have made an agreement to work together to achieve the goals laid down in the BSR Blue corridor strategy. The cluster is expected to have a significant impact to the further development of LNG innovations, technologies and infrastructure in Baltic Sea Region. The networking so far has resulted into at least four business projects: LNG rail, LNG inland water barge, Virtual pipeline and LNG powered fishing vessel.

The project has also initiated knowledge transfer processes and business partnerships that may lead to investment projects starting up the biogas liquefaction on the island of Samsøe, Denmark. The liquefied biogas (LBG) which is produced from the municipal waste is another gas to be used for ships alongside the LNG. The technology workshop has gathered possible investors and technology providers.

Learning and new knowledge is being achieved in the following areas:

- Strategic vision for the use of LNG in BSR
- Policy and regulation guidelines / a toolbox
- LNG bunkering map
- LNG shipping index
- Economic and technological study on “Integrated LNG Value Chain”
- LNG business models - 3 Business plans
- LNG Expert network / database
- LNG technology pool / case study promotion channel

Thus it can be expected that the project will have impact to the following dimensions of institutional capacity of its partners and a wider target group members:

Dimensions of Institutional Learning induced by the Project			
Enhanced institutionalised knowledge and competence	Impact on the availability of knowledge about LNG opportunities	Impact on the availability of mechanisms for knowledge transfer	Impact on the utilization of knowledge about LNG opportunities
More efficient use of human and technical resources	Impact on the utilization of human resources	Impact on the utilization of technical resources	Impact on the application of time-and/ or resource-saving measures

Source: Application Form Section 3.8

8 Annex

List of Interviews conducted for the Case Study Research

Name	Organisation	Role in Project	Contact data (email or phone)	Date of interview
Andrius Sutnikas	Klaipeda Science and Technology Park	Project Manager	projects@kmp.lt +370 46 310 463	June 12, 2018
Sigita Paulaviciene*	Klaipeda Science and Technology Park	Communication Officer	sigita@kmp.lt +370 46 390 857	June 15, 2018
Vitalijus Trakšelis	SC Klaipedos nafta	Target Group representative	V.Trakselis@kn.lt +370 655 485 98	June 21, 2018
Karolina Lubiejewska	MOTUS Foundation	Partner responsible for communication	kl@motusfoundation.com +48 515 204 506	June 26, 2018

* Formal Communication Officer responsible for internal and external communication for the project reporting needs

List of revised documents

- Project application form
- Application letter of the Go LNG project to become a EUSBSR flagship project
- Go LNG Working Document: “Methodological Framework and Conceptual Model for Integrated LNG Value Chain In The Baltic Sea Region. WP 3.1. towards an Integrated LNG Value Chain For Multimodal Use”
- Go LNG Working Documents: “INTEGRATED LNG VALUE CHAIN FOR THE BALTIC SEA REGION. WP3 Task 2: Integrated LNG Business Models. Business Cases for LNG Business Model Development:
 - Klaipeda Science & Technology Park – LNG distribution centre for BSR based on ISO container technology production and filling center
 - Klaipedos Nafta – Klaipeda LNG terminal infrastructure to be used as LNG distribution and storage hub for LNG in South East of BSR
 - Logistikinitiative Hamburg – LNG use for Maritime, Road transport and Port equipment in port of Hamburg
- Go LNG Working Document: “LNG fuel distribution strategy for the BSR”

Websites

- the Interreg Baltic Sea Region Programme 2014-2020 Project library <https://projects.interreg-baltic.eu/projects/go-Ing-24.html>
- Project website <http://www.goIng.eu/>
- Website of the Project Lead Partner <http://www.kmtp.lt/en/>
- Website of the Project Partner Motus <http://motusfoundation.com/>
- Website of the Policy Area Ship of the EUSBSR
<https://www.dma.dk/Vaekst/EU/EUOestersoestrategi/PA%20Ship/Sider/default.aspx#>