LNG in Baltic Sea Ports II
Final Conference

3/Dec/2015
Port of Trelleborg
Hamngatan 9, Trelleborg
HEKLA project aims at conducting physical investments into LNG bunkering infrastructure in the Helsingborg and Klaipeda ports, which are part of the Core Network of Maritime ports located on the Scandinavian-Mediterranean and North-Baltic Sea Core Network Corridors respectively.

Their development significantly advances the Global Project of developing an LNG bunkering network in the ports of the Baltic Sea region.

Activities included in the Action are:
- project management
- LNG liquefaction plant in the Port of Helsingborg
- LNG Reloading Station by Klaipedos Nafta
- LNG campaign and LNG market development

The completion of the Project will be an important step towards creating LNG bunkering network, use of which will stimulate investment into a more sustainable maritime transport.
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Presidential Outlook

by

President of the Board
Bogdan Oldakowski

Editor-in-Chief
Przemysław Myszka
przemek@baltictransportjournal.com

Executive Editor
Marek Blut
marea@baltictransportjournal.com

Assistant Editor
Maciej Kniter
maciej@baltictransportjournal.com

Proofreading Editor
Allison Nissen

Art Director/DTP
Danuta Sawicka

Head of Marketing & Sales
Przemyslaw Oplocki
po@baltictransportjournal.com

Marketing & Sales Manager
Anna Dąbrowska
anna@baltictransportjournal.com

Media & Commercial Partnerships
Aleksandra Plis
aleksandra@baltictransportjournal.com

www.harbourreview.com
www.baltictransportjournal.com
www.baltictransportmaps.com

If you wish to share your feedback or have information for us, do not hesitate to contact us at:
editorial@baltictransportjournal.com
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Partners of the LNG in Baltic Sea Ports II

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CONFERENCE AGENDA

Hamngatan 9, Trelleborg
6th floor, conference room: Malmrossalen (Hall of Malmros)

Conference moderator
Emil Arolski, Project Manager, LNG in BSP

09:45-10:00
Registration & welcome coffee

10:00-10:30
Opening speeches

Torbjörn Karlsson, Mayor of Trelleborg
Tommy Halén, CEO, Port of Trelleborg
Per-Olof Jansson, Project Leader, LNG in Baltic Sea Ports

10:30-12:30
Presentations

Bogdan Ołdakowski, Secretary General, BPO
Ditte Folke Henriksen, Head of Section, Danish Maritime Authority
Benjamin Janke, Director Sales & Business Development, Bomin Linde
Klaus Rasmussen, Director, Moving Energy

12:30-13:30
Lunch break

13:30-15:00
Project Partners presentations and roundtable discussions

Ports of Helsingborg, Trelleborg, Sundsvall, Rostock and Klaipeda
Alessandro Bertorello, Head of Environment, Carnival Maritime

15:00-16:00
Port of Trelleborg – study visit

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Building the LNG momentum

The first phase of the LNG in Baltic Sea Ports project has successfully ended, delivering valuable input. And as the project came to its conclusion, its follow-up took up the baton. We talk with Emil Arolski, Project Manager of LNG in Baltic Sea Ports II, about the first part’s reception, the main differences between the projects, the follow-up’s objectives as well as an outlook for LNG.

Aleksandra Plis: The first part of the ‘LNG in Baltic Sea Ports’ project kicked off in 2012. In your opinion what has changed regarding the Baltic LNG issues over the years?

Emil Arolski: The Baltic LNG initiative, whose idea was introduced for the first time by the Baltic Ports Organization back in 2011, set off one year later in September with seven partner ports with the aim of developing a harmonized approach towards setting up LNG infrastructure in the Baltic Sea region (BSR). Thanks to numerous meetings and the so-called stakeholders’ platforms, I can say with full confidence that the LNG situation in the Baltic has matured a lot over the past several years. As a clear sign of this, we now have four new partners who have joined the project with already concrete small-scale LNG infrastructure plans. On the seaside, however, the current state of affairs lingers behind since there are only two LNG-driven ships in the Baltic, the cruise ferry Viking Grace and the Turva patrol vessel of the Finnish Border Guard, but – as the newsletter’s LNG timeline shows – more will come in the more or less distant future.

Aleksandra Plis: How has Europe recognized the final outcomes of the project’s first part?

Emil Arolski: Both parts of the ‘LNG in Baltic Sea Ports’ fit well within the EU initiative of establishing LNG bunkering facilities throughout the TEN-T network and surely the projects’ expertise and know-how will come in handy in other corners of the Community in due time. Moreover, the first project as well as its follow-up have been granted the EUSBSR Flagship Project status by the Danish Maritime Authority which heads the Priority Area on Clean Shipping of the EU Strategy for the BSR, acknowledging the projects’ high macro-regional cooperation and eco-friendly impacts. Overall, we have received recognition for our accomplishments from the side of high officials from the European Commission, TEN-T and INEA (Innovation & Networks Executive Agency), not to mention interest shown by other stakeholders like LNG America and Fundación Valenciaport.

Aleksandra Plis: In what way does the follow-up project differ from the first one?

Emil Arolski: Firstly, there are four completely new partners, of which two aren’t strictly ports as in the first part. The Sundsvall Logistikpark is a partnership company of various stakeholders focused on environmentally-friendly development, while Klaipėdos nafta is a Lithuanian oil & gas major and operator of the floating LNG terminal Independence.

Secondly, the project partners have tabled many more concrete actions to be undertaken than doing just pre-feasibility studies. For instance, the Coordinator of the follow-up, the Port of Helsinki, is to develop an LNG bunkering vessel design, naturally for construction and operation in the future. Both Trelleborg and Sundsvall will carry out engineering and technical studies concerning the set-up of LNG infrastructure. The Port of Rostock aims at obtaining all relevant LNG bunkering infrastructure permits in order to cater to the market with a bunker station. Klaipėdos nafta will execute technological studies together with going through a full environmental procedure as well as getting other necessary permits in order to choose the best location for a bunkering facility. These are the partners’ direct objectives and according to their development reports there are no particular critical delays.

Aleksandra Plis: From your perspective, what will the LNG Baltic market look like in 10 years’ time?

Emil Arolski: I’m very optimistic to see all TEN-T core ports having LNG ship bunkering infrastructures in place by 2025. In turn, we’ll most likely experience a significant growth in LNG demand as marine fuel, not only in the Baltic, but also Europe-wide. There were, however, very optimistic estimations done by DNV GL in the past of more or less 1,000 ships running on gas by 2020, undermined nowadays to some extent by falling prices of traditional bunkers. Nonetheless, this forecasted downturn in my mind is only temporary as we’ll most likely experience a more positive development in years to come. What’s very interesting as well, is the potential upswing in LNG demand on the landside. LNG is discussed more and more as a viable and cost-saving alternative fuel, be it for heavy-duty industries like power stations and refineries (Preem’s LNG terminal in Lysekil is a good example here), for overland transports (LNG-driven trucks), as part of container terminals’ vessel fleet (LNG-powered reach stackers, tractors and dual-fuel gantry cranes) or in the overall oil-to-gas transition. Therefore, most likely the future will bring even more LNG projects and promotional campaigns supported by the European Commission as well as win-win synergies among various stakeholders.
The reasons behind this move of shipping into the gas age are essentially fourfold, namely environmental, economic, technological, and perhaps most significantly — infrastructural. Let us then dig into their details one after another.

The environmental factor

Environmental legislation has had an enormous impact on the marine sector. Local and international regulations have forced owners and operators to make critical decisions as to how to achieve compliance, while at the same time maintaining cost-efficient operations. It is an ongoing challenge, and one that has produced a broad diversity of alternatives. LNG, however, is the only option within reach that appears to fulfil all the long-term requirements.

We, at Wärtsilä, have been trying to answer questions regarding environmental compliance for the past decades. As a result, Wärtsilä’s dual-fuel (DF) engines in gas mode are already compliant with the IMO’s Tier III regulations without a need for any secondary exhaust cleaning systems (in conventional liquid fuel oil mode, all of Wärtsilä’s DF engines are fully compliant with the IMO’s Tier II regulations).

The economic factor

Fuel prices are constantly fluctuating, and while the cost of oil is currently rather low, there is no guarantee that this will be the case next year. What is more, high fuel oil prices were at the heart of the industry crisis that began in 2008.

How then does the LNG price differ from the oil price? Liquid fossil fuels and natural gas are normally priced using various measuring units. Marine diesel fuels are quoted based on a price-per-mass quantity, the common unit being “US dollars per tonne of liquid fuel” (USD/tn). Natural gas prices, on the other hand, are usually set by the traded energy content, the commonly utilised unit being “US dollars per million British Thermal Units” (USD/MMBTU). To compare these prices, a common energy unit (MMBTU) should be used.

Results show that natural gas has always been cost competitive against other marine fuels, and its price has consistently been lower than any other single liquid fuel alternative (however, LNG bunker pricing can be another kettle of fish, something highlighted by SUND Energy’s Sergiu Maznic in his Opening the black gas box piece from the first edition of the European LNG Outlook).
The technological factor

While driven by economics and regulatory compliance requirements, the move to LNG as a marine fuel has been made possible and is supported by technological development. A good example of this is the advanced dual-fuel technology, which allowed either gas or liquid fuel to be burned in the same engine, launched for the first time in the early 1990s for usage in land-based power plant applications. The first marine installation came a decade later and this sparked the beginning of the current trend. For example, since its introduction more than 65% of all new LNG carriers have been fitted with Wärtsilä DF engines.

However, LNG as a ship’s fuel isn’t something reserved solely for newbuilds. For instance, the world’s first LNG conversion project was carried out already in 2011. This involved switching a chemical tanker, the Bit Viking owned by Tarbit Shipping of Sweden, from conventional heavy fuel oil (HFO) to LNG using Wärtsilä DF engines and fuel supply systems.

When we introduced our low-speed, 2-stroke, dual-fuel gas engine technology in 2013, the benefits of the dual-fuel technology (already proven on 4-stroke engines) were made available to the broader marine market. This was a truly significant breakthrough. An important advantage of the low-pressure DF technology is that it allows stable operations on gas across the entire load range. This means that at low loads (below 15%), there is no need to switch to diesel as is the case with other technologies. Most importantly, no investment is needed for exhaust gas cleaning systems in order to comply with the IMO’s Tier III environmental regulations.

Then again, the widespread acceptance of the use of LNG fuel for ships has come about because the technology development did not end with the dual fuel engine. To be truly viable, efficient on-board storage and supply systems were essential, so Wärtsilä patented its so-called LNGPac system, introduced in 2010. The set in question comprises a complete system for LNG fuel handling, including a bunkering station, a storage tank and a tank connection area with the process equipment, a heating media skid, as well as a control and monitoring system. This unique innovation has proven to be a valuable enabler for the switch to gas in marine applications.

The infrastructural factor

One of the main arguments against the adoption of LNG fuel is its scarce availability in harbours. Bunkering was, therefore, considered to be difficult with safety being a prime consideration. This situation has changed dramatically in recent years and continues to evolve even further.

Liquefied natural gas carriers move massive quantities of natural gas from liquefaction terminals to regasification terminals all around the globe (LNG tankers most probably having the best ship safety track record from among the shipping world). LNG is available at all these onshore facilities. Marine LNG import and export terminals are now to be found virtually everywhere, meaning that LNG is basically available anywhere in the world and new terminals continue to come on-stream.

Wärtsilä has delivered both floating and onshore receiving and storage facilities. For example, a floating LNG receiving terminal was supplied for the Petronas terminal in Melaka, Malaysia. We are also in the process of building a land-based terminal in Tornio, Finland, a project combining a number of the company’s in-house competences.

In fact, we have been heavily involved in developing both the onshore infrastructure as well as the entire value chain. The gas chain extends from the initial gas exploration and drilling processes, to the production and liquefaction of LNG, which then has to be transported to storage and distribution facilities. Wärtsilä has developed products and solutions that are relevant to each of these stages.

Fuel prices are constantly fluctuating, and while the cost of oil is currently rather low, there is no guarantee that this will be the case next year.

The questions answered

Clearly, not all shipping operations are the same and no single solution applies to all. Vessels sailing short sea routes, such as container feeders or ferries constantly operating between defined ports, are the main beneficiaries of LNG-fuelled propulsion. This consideration becomes even stronger when the routes involve sailing in the Emission Control Areas (ECAs).

Nevertheless, it can be assumed that the environmental, economic and technological advantages that LNG fuel operation offers will eventually extend across all sectors of the industry. Newbuilds will increasingly be fitted with DF engines and on-board LNG storage and supply systems, whilst the number of retrofitting projects is likely to continue to increase, too.

As this trend gains pace, the benefits of one-stop-shopping are becoming more and more apparent. By being able to take responsibility for the complete fuel storage, processing, distribution and use on-board, companies such as Wärtsilä provide owners, operators and shipyards with a single interface partnership. This unique capability is an important enabler for the use of LNG as a marine fuel.
Belgium, Lithuania, Poland, Sweden, the Netherlands – it seems that northern Europe already has its Liquefied Natural Gas (LNG) import infrastructure in place. Capacity extensions are underway, too, while new projects are either close to being commissioned (e.g. Finland’s Pori next year) or scheduled. However, not yet in Germany. How come? Isn’t there enough demand? Is Germany to remain a white spot on the European LNG map?

The next LNG hotspot?

A study recently carried out by Fraunhofer CML shows that a German LNG import terminal could take advantage of significant opportunities, both from the demand side and regarding diversification of gas supply for the country. The study confirms that the location Brunsbüttel (situated in Schleswig-Holstein on the mouth of the Elbe River, constituting the western entrance to the Kiel Canal) offers potential for the supply of industrial, transport and energy demands.

In Germany, there is already demand for LNG from industry sites which have no access to pipeline gas and want to profit from small scale LNG solutions.

Why Brunsbüttel?

Well, the location has several advantages. Firstly, regional market demand coming from the largest chemical industry area within Schleswig-Holstein, which can use gas not only as a suitable replacement for oil as fuel, thus cutting down its emission and lowering the CO₂ tax, but also as a basic material for the production of ammonia. Local industry consists of world companies such as Yara and Sasol, already having global experiences in replacing naphtha by gas. This factor differentiates Brunsbüttel from other locations.

Secondly, North and East German industrial sites, as well as southern Germany, Austria, Switzerland and Central and Eastern Europe, can be supplied with LNG via Brunsbüttel by truck, barge or even rail as the company VTG has already developed LNG rail wagons. In Germany, there is already demand for LNG from industry sites which have no access to pipeline gas and want to profit from small scale LNG solutions. Today, all LNG for German customers, even for those in ports, is trucked from established import terminals such as Zeebrugge and Rotterdam. Interestingly, it still seems to be competitive.

Thirdly, the site can provide current and future LNG vessels on the Kiel Canal and the Elbe with an opportunity to bunker LNG. Where would more vessels pass a port location than on the junction of the Kiel Canal and the Elbe? In addition, supplying ships calling at the Port of Hamburg with LNG barges from Brunsbüttel is a realistic option. Obviously, the enthusiasm for equipping vessels with LNG has declined since oil prices have decreased considerably. Yet, this shouldn’t be interpreted as LNG is off the agenda. It will certainly play its role beside other options such as methanol, ethanol or electric propulsion, since the need for reducing emissions remains high. The introduction of the Sulphur Emission Control Areas this year should be regarded only as a first step. The truth is, however, that today’s limited demand from the shipping sector limits the economic viability for new LNG bunker stations – unless they are attached to larger means, such as import terminals with industries in their hinterland.

Obliged but lagging behind

According to the EU Directive 2014/94/EU, the supply of LNG to the TEN-T Core Corridors is a task to which the Federal Republic of Germany is obliged (alike every EU Member State). It demands a strategic plan and a future supply both for sea and inland ports as well as for overland corridors. However, the use of LNG in trucking has not yet developed in Germany. As of today, no single publicly accessible LNG station exists in the country, while there’s only one truck manufacturer, Iveco, which already has a licensed truck for...
Germany in its offer. What does the situation look like in other countries (Fig. 1)? China is pushing the development towards LNG trucks heavily, in North America LNG trucks are already operating, whereas in Europe, the Netherlands is the leading country shaping this future trend (e.g. we can spot on the Rhine newly built LNG-powered barges, a recent development supported by the Dutch).

As far as the need for emission reductions is concerned, we need to not only think about exhaust gases but also noise. In this context, which technology will bring the truck Euro VI emission class any further? Germany’s HGV toll on highways has two goals; one is to refinance the use of infrastructure by its users, whilst the other is to support the use of cleaner vehicles. The second goal could only be maintained by supporting cleaner vehicles than Euro VI, which is technologically hard to achieve with diesel engines.

But there are even more opportunities to fuel the LNG demand. For instance, a potential peak shaving gas power plant at a site nearby a terminal would be an additional and constant LNG consumer. It could in turn contribute to a successful energy policy as well, as such peak shaving gas power plants are required to make use of renewable energy in large shares possible. However, also within this area, regulations have to come first to make these plants feasible.

Shall Germany import LNG like all the countries mentioned at the beginning? We see a chance here, too, since an LNG import terminal would in any case have a positive impact on the security of energy supply of the Federal Republic of Germany. For diversification reasons, more attention should be paid to alternative sources of gas. With declining import volumes from the Netherlands and dropping domestic gas production, the question remains: Shouldn’t Germany make itself more independent from Russian gas imports? Lithuania provides an excellent example of how the negotiating power changes once alternative gas sources are available. It’s now up to the federal government to decide how to prepare the country for this future energy source.

*Fig. 1. LNG development – from research to commercial use*

Source: Fraunhofer CML after the German Energy Agency (dena) (2013)
Eniram’s product development team has been working for years to understand and solve LNG vessels-related operational issues, the Eniram Engine™ tool being the newest solution meant to optimize engine usage on-board tri-fuel diesel-electric (TFDE) and dual-fuel diesel-electric (DFDE) LNG carriers, thus simply saving fuel. While designing this software we have also gathered valuable data on the intricacy and operational restrictions LNG vessels face.

The goal when developing the Engine tool was to "hide" the complexity of the algorithms and often knotty, sophisticated computations, in order to show recommendations in a simple, understandable and concrete way. From the very beginning we’ve been trying to use a data-driven approach, too, so as to improve operational efficiency. This path resulted in collecting nowadays 1.9 billion measurements from 275 vessels per day, something that comes in handy when reducing costs, not to mention all the new possibilities it creates along with it.

It was obvious that the next step was to create a product that could provide recommendations on the engine use in a very complex environment of LNG carriers with tri-fuel engines, possible sudden increase in power, boil-off gas (BOG) management, fuel modes and with operational practices uncommon for any other vessel type. If successful, the outcome would be a very useful tool offering recommendations on optimal engine operations to save fuel and foster best practices.

Since simplifying is always a challenge, but also a must when working with extremely big amounts of data, the Eniram Engine solution needed to show actionable insight and suggestions of better engine operation alternatives, not thousands of data points collected every 30 seconds, complex algorithm computations or the statistical models used. It is the insight that counts, the insight upon which captains, engineers and officers can act. So, here’s how we have tackled these issues in Eniram Engine for TFDE LNG carriers.

**What became of the Engine?**

To properly address the issue with different operational modes, Eniram Engine was developed to take into account how the engines are operated and what fuel each engine uses, both in real-time. Based on this, our software suggests more optimal engine combinations. The recommendation also includes which fuels are to be used. This means that the actual operational mode is taken into account in the proposals that the
Eniram Engine gives to the engineers on-board. In practice, for instance, if fuel oil is used to supplement boil-off gas as a fuel for the ship’s propulsion and energy systems, Eniram Engine will provide only suggestions with this mixed fuel usage. Furthermore, if the carrier is equipped with a re-liquefaction plant, and the BOG is re-liquefied, while fuel oil is used for the engines, only then are suggestions with fuel oil usage provided.

There are situations when engineering officers need to be prepared to quickly increase a ship’s power output. However, they have to be sure, too, that the engine combination in operation allows for this kind of buffer. To accommodate this need, we added a buffer feature, straightforwardly called Eniram Engine’s Buffer, which allows engineers to understand how much operating reserve power, or buffer, they have available for each suggestion compared to the actual operating profile, in case there is a sudden requirement to increase power output.

Mathematical algorithms are used to calculate in real-time the optimum fuel and engine alternatives in order to save bunker. The data that are used by the algorithms include several different fuel flows and power measurements. As an effect, the real-time data calculations ensure that recommendations are given almost instantaneously, whereas it’s also crucial in making sure that the recommendations are relevant and valuable when making operational decisions on the spot.

**Engine nest egg**

Obviously, tracking the savings that are achieved thanks to the Eniram Engine solution for LNG carriers is crucial for customers. Therefore, a savings report was developed at the same time and made an integral part of the solution, offering a possibility for longer-term monitoring and analysis of vessel specific fuel savings; it allows for a fleet wide comparison as well, and eventually also for introducing best practices.

Using real data from TFDE LNG carriers together with the algorithms shows that Eniram Engine saves on average 2-4% of fuel. Up to 10% of this in turn helps shipping companies to decrease their emissions and keep up with environmentally-friendly best practices.

Eniram Engine’s pilot part is coming to an end and the mass rollout phase has started. The pilot has been running on several LNG TDFE vessels and the results have been encouraging with voices from captains saying, “As a general feedback we can say that Eniram Engine is a useful tool for an efficient voyage planning.”

Using real data from TFDE LNG carriers together with the algorithms shows that Eniram Engine saves on average 2-4% of fuel.

Rollout to numerous other LNG vessels will take place later this year, and surely thanks to the feedback we’ll get as well as our own observations, we will certainly learn more about the additional benefits to the LNG maritime industry.

Eniram provides the maritime industry with energy management technology to reduce fuel consumption and emissions with solutions ranging from single on-board applications to comprehensive fleet analysis. Eniram’s products are used by small and large shipping companies across cruise liners, tankers, LNG carriers, container ships, bulkers and ferries.

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By Kim Stenvall, Senior Product Manager at Eniram
Until recently, the use of Liquefied Natural Gas (LNG) has been considered mostly in terms of states’ energy security or as an alternative fuel for onshore applications. Along with the enforcement of the 0.1% Sulphur Directive in northern Europe, as well as varying prices of oil, LNG has become an attractive ship bunker option, too. As such, the HEKLA project aims at establishing proper LNG bunkering infrastructure in the Baltic Sea region, hence lending a helping hand to the development of a broader market for LNG uptake as vessels’ fuel.

Besides LNG’s well-known environmental benefits, there’s an important economic factor tipping the scale in favour of gas, namely price levels of LNG as fuel being below that of traditional and low sulphur bunkers. Nevertheless, the rollout of the Baltic LNG market – so as to approach customers interested in a sound and secure supply chain of this alternative fuel either for maritime or other onshore purposes – requires actions stimulating the development of relevant infrastructure within the BSR.

At the moment, only three LNG terminals are up and running in our corner of the world – two in Sweden, Nynäshamn on the east, and Lysekil on the west coast, as well as the Floating Storage and Regasification Unit Independence of Klaipėdos nafta moored in the Lithuanian Port of Klaipėda (however, it does not yet offer bunkering).

**Framework for action**

HEKLA stands for Helsingborg and Klaipėda LNG Infrastructure Facility Deployment, and is a project aimed at providing a framework for practical implementation of model solutions to be conducted by the Port of Helsingborg and Klaipėdos nafta.

HEKLA constitutes part of the so-called Global Project, consisting of three phases, in order to stimulate the LNG fuel market development across the Baltic Sea. Investment activities to be carried out within HEKLA were preceded by two projects, both co-financed by EU TEN-T money, which facilitated the preparation of the pre-investment studies for the implementation part. The projects LNG in the Baltic Sea Ports and its sequel LNG in the Baltic Sea Ports II were dedicated to the elaboration of such documents as environmental impact assessments, feasibility analyses, project designs, regional market studies, and safety manuals.

The HEKLA project as such assumes implementation of LNG bunkering infrastructure at the Port of Helsingborg and within the premises of Klaipedos nafta in the Lithuanian Port of Klaipėda (however, it does not yet offer bunkering).

The Port of Klaipeda, although it is the third recipient of LNG in the Baltic Sea and the host for the large LNG floating terminal Independence (operating there since the end of 2014), does not have relevant infrastructure for fuelling vessels with gas. In order to change this situation, Klaipėdos nafta plans to set up an onshore LNG reloading station, thus making it possible to directly bunker ships from tank, as well as offer downstream gas supplies by injecting LNG into tank trucks for off-grid customers. The pre-investment stage, including a feasibility study, design of LNG infrastructure and an environmental impact assessment, has been completed within the LNG in the Baltic Sea Ports II project.

**Keepin’ it posted**

Development of the LNG infrastructure in the ports of Helsingborg and Klaipeda will be accompanied by an information campaign addressed towards all stakeholders interested in taking advantage of using LNG as fuel. A crucial part of this activity will be the so-called HEKLA on-the-road campaign, foreseeing visits, promotion and presentation of LNG solutions and showcasing the project’s advancements.

It is expected that the provision of comprehensive information will encourage stakeholders to replicate these solutions. The campaign will be finalized by holding two large events in Helsingborg and Klaipėda within the LNG Baltic Transport Forum.
HEKLA enters the stage

“Finding a solution for today and for the future at the same time is the biggest challenge,” Roland Brodin, Project Manager of the Helsingborg part in the jointly-led Port of Helsingborg-Klaipėdos nafta HEKLA project, stressed during the LNG Transport Forum in Valencia. Liquefied Natural Gas is believed by many to be the answer to this task, and while some are already ahead of implementing LNG solutions in the Baltic, by teaming up with others, one can make double leaps.

The first edition of the Baltic Ports Organization-initiated LNG in Baltic Sea Ports project, lasting from January 2012 till December 2014, focused chiefly on harbour LNG pre-investment studies with the potential also to offer bunkering services to marine clients in the future. As such the activities in the Port of Helsingborg involved market and profitability analyses together with meetings with stakeholders, finding the proper location, basic quay and terminal designs, investment calculations, risk assessment as well as preparations for permits and arranging tender documentation.

The project’s follow-up is still in progress, this time also with the involvement of HEKLA’s second initiator, the Lithuanian company Klaipėdos nafta, operator of the country’s floating storage and regasification unit Independence moored in the Port of Klaipėda. Helsingborg, apart from continuing technical studies on LNG port infrastructure, has turned its attention to the sea part of LNG, too, working on the design of a multifunctional LNG-powered ship able to provide LNG and MGO bunkering as well as other ship supply services.

“Our goal is to establish an LNG/LBG infrastructure in the south of Sweden,” Per-Olof Jansson, concisely pinpoints HEKLA’s aim. This is to be done in three steps. Firstly, by setting-up a liquefaction plant in Helsingborg, which should be ready by the end of 2017. Secondly, by constructing an on-shore reloading station in Klaipėda, intended to be in place by 2017’s beginning. And finally, by building the abovementioned multifunctional bunker vessel, worth EUR 30 mln and operational in 2019/2020.

There’s no ‘silver bullet’ to make an LNG investment an instant success story,” Per-Olof Jansson explains and lists key factors to be ticked off such as the right location with both a significant number of vessels passing by and calling at the port; as precise as possible value chain assessment and data-mining before making a final decision on the business model; and last but not least – fruitful cooperation with partners and stakeholders to have things done step by step in the right direction, at best with the help of the EU.

Mantas Bartuška
CEO of Klaipėdos nafta on the HEKLA initiative

Aleksandra Plis: Why did you pick the Port of Helsingborg as your partner?

Mantas Bartuška: First of all because of its proximity – Helsingborg is a Baltic seaport and we have always supported all currently ongoing Baltic LNG-related initiatives. When we set-up the large scale terminal in Klaipėda, we came to know that the southern Baltic is in fact a great location for expanding our activities. We are therefore more than content that together with Helsingborg we have managed to obtain EU funds for the HEKLA project and that everything is going according to the plan.

Aleksandra Plis: What do you want to achieve thanks to this project?

Mantas Bartuška: Once we have completed the large scale LNG terminal, we believe that we will have gained new competences in LNG terminal development as well as on the operational side. In the very short time of six months we have managed to prepare all documentation regarding small-scale activities and succeeded in getting EU funds (40% of co-financing, the maximum available, which not only gives us the necessary EU funding backbone, but also reaffirms our standing as a solid business partner). In August we made the final investment decision on constructing the reloading station. We plan to finalize the whole scheme by the beginning of 2017, a short period of time indeed, but we believe that we can pull it off.

We also believe that we have opened the “gas gate” for the Baltic and that LNG will become more and more available to inland customers, be it various industries in the first instance, followed by other applications in the future like LNG as truck fuel. We see not only a great potential for development in the two other Baltic States, in northern Poland as well, but also in the whole of the BSR. In general, turning our eyes towards the sea, both when it comes to large- and small-scale LNG, has opened up new synergy opportunities and become a very promising item in Klaipėdos nafta’s strategy.

By Aleksandra Plis and Maciej Kniter
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