

# TERMINALAS

Liquefied natural gas Terminal News No. 12 September, 2014

## Plans include a LNG distribution station

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## Came from the United Kingdom to gain experience

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# ALMOST FINISHED



**LITHUANIA**  
Klaipėda

The construction of the liquefied natural gas (LNG) terminal in Klaipėda will be completed on schedule by 3 December. The regasification storage unit Independence, custom-built for the terminal, will arrive in Klaipėda in autumn.

Latvian construction company BMGS has been working in three shifts since early July to ensure that the terminal is completed on time. All construction work is expected to be completed in September. Later, tests will be conducted before the terminal can be declared fully operational.

### Quay construction is about to be finished

According to Rokas Masiulis, Director General of Klaipėdos Nafta which implements the LNG terminal project, the quay of the LNG terminal has shaped like the real structure day by day which could only be seen in layouts.

High-pressure gas sleeves were installed on the terminal's quay in mid-July after successful tests. Two sleeves, each weighing almost 50 tonnes and measuring 26.5 metres in height, will connect the LNG floating regasification unit and the gas pipeline. It is a key part of the project as the manufacture of these tailor-made structures in Germany took one year.

Currently, the main pieces of equipment are being installed on the service platform and construction of the hydro engineering part of the project is nearing completion.

### Quay trap

The construction of the LNG terminal quay and gas pipeline has been accompanied by the production and testing of the main connecting

structures. The trap manufactured in the Netherlands has already been erected and successfully tested on the quay.

The trap measuring 24 metres in height is the only connection between the LNG quay and LNG floating vessel which ensures access to the vessel from the quay and vice versa. In addition, power supply and telecommunication equipment systems are being built on the trap. Therefore, this installation has been subjected to the highest quality and safety standards.

### Gas pipeline

German PPS Pipeline Systems, the contractor of the gas pipeline of the LNG terminal, completed the major phase of its construction. Key gas

pipeline drilling under the Curonian Bay was completed this summer.

„Drilling became perhaps the most challenging part of construction of the entire gas pipeline, because it was hazardous”, says Masiulis.

The gas pipeline of almost 20 kilometres connecting the LNG terminal quay and the distribution station of Lietuvos Dujos in Klaipėda district has already been built. The widening of a 2.4 kilometre open drilling section under the Curonian Bay is nearing its completion. As the LNG terminal is the first project of this type, the commissioning of the facility is expected to proceed in phases. „The final stage of work includes a

great deal of small-scale work which must be grouped to ensure that every detail is covered. We aim to cooperate closely with public authorities since the commissioning of such a facility is a very complex task and we want to start the process as soon as possible”, adds Masiulis.

### Insurance for the terminal

Klaipėdos Nafta, the company which implements the LNG terminal project, intends to take out EUR 136

**SOUTH KOREA**  
Ulsan

million insurance for the terminal and its gas reserves. The assets of the terminal comprising its quays, gas pipeline and other sections will be covered for EUR 61 million and the remaining EUR 45 million will cover gas stored at the LNG unit. The insurance will take effect as soon as the terminal becomes operational.

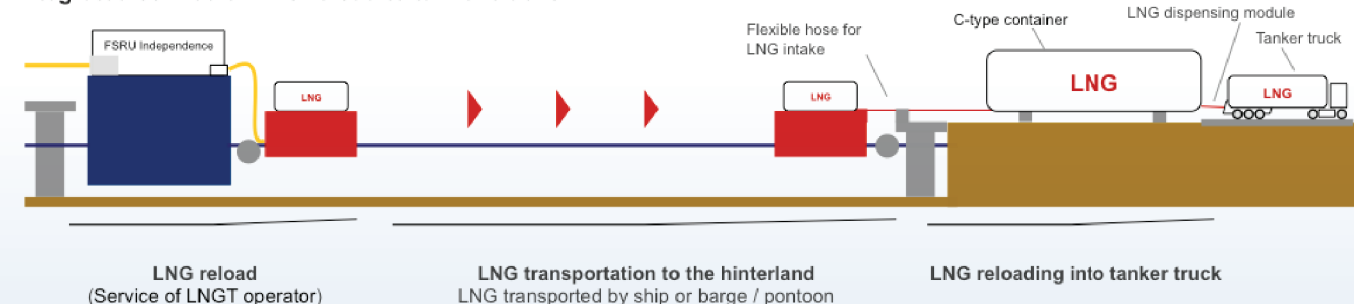
The LNG terminal is scheduled to start operating in early December. In the first year, Lithuania should be able to import around 1.5 billion cubic metres of gas through the terminal and this capacity should rise to 4 billion cubic metres in the future.

# Plans include a LNG distribution station

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## Integrated service of LNG reload to tanker trucks



One of the first LNG distribution stations in the Baltic Sea could be constructed near the liquefied natural gas (LNG) terminal in Klaipėda. Discussions over this possibility began after market players expressed interest in the possibility to reload LNG to tanker trucks, railway cars or vessels for further transportation downstream through the Klaipėda seaport. The actual demand for such services is currently being researched. If the green light is investigated, such a distribution station near Klaipėda could be built by the end of 2016.

The growing demand for LNG across Europe has prompted LNG terminal operators to consider the possibility of reloading LNG tanker trailers. As LNG began to be used as an alternative to diesel and other types of fuel, LNG and LPG terminals operating across Europe started to invest in the infrastructure development to meet the growing demand.

### Market consultations

The Klaipėda LNG terminal which will begin operating soon will

be one of the first facilities in the Baltic region to offer LNG regasification and LNG reload to LNG carriers services. They will be available from 1 January 2015. The representatives of Klaipėdos Nafta which implements the project claim that companies operating in the region and working with LNG have shown strong interest in the possibility to have access to gas from the LNG terminal onshore.

„Currently, compressed natural gas is becoming the fuel of choice in the Lithuanian urban transit systems while LNG has been gaining popularity across Europe. For instance, Warsaw and Olsztyn in Poland have put in place pilot urban public transport solutions based on LNG technologies. In addition, other heavy-duty vehicles and vessels also run on LNG which is a much cleaner type of fuel than conventional transport fuels. All this have raised strong interest in the possibility to reload LNG to tanker trucks, trains and vessels”, says Klaipėdos Nafta General manager Rokas Masiulis.

The company has launched a public market consultation to measure the potential demand for such LNG services. The main objective of this exercise is to collect information

on the potential LNG consumption: likely reloading volumes, consumption schedule and likely purposes of use. The results of the consultation will provide a clearer picture of the market during the preparation of new infrastructure development plans. In addition, it is a way to inform market players about plans to develop the aboveground LNG infrastructure by building a LNG distribution station within the Klaipėda seaport and providing new services in the future.

### Services to the entire region

A LNG distribution station built near the Klaipėda LNG terminal will make it possible to provide services to customers in all Baltic states and Poland. According to preliminary estimates, the initial storage capacity of the LNG distribution station would be up to 10,000 cubic metres and up to two tanker trucks could be filled simultaneously. The figure may be further adjusted after market consultations.

After a local regasification station is built, its simple technology would ensure a broad scope of LNG use. Tanker trucks could be used to supply LNG to buses and trucks as fuel, natural gas to indus-

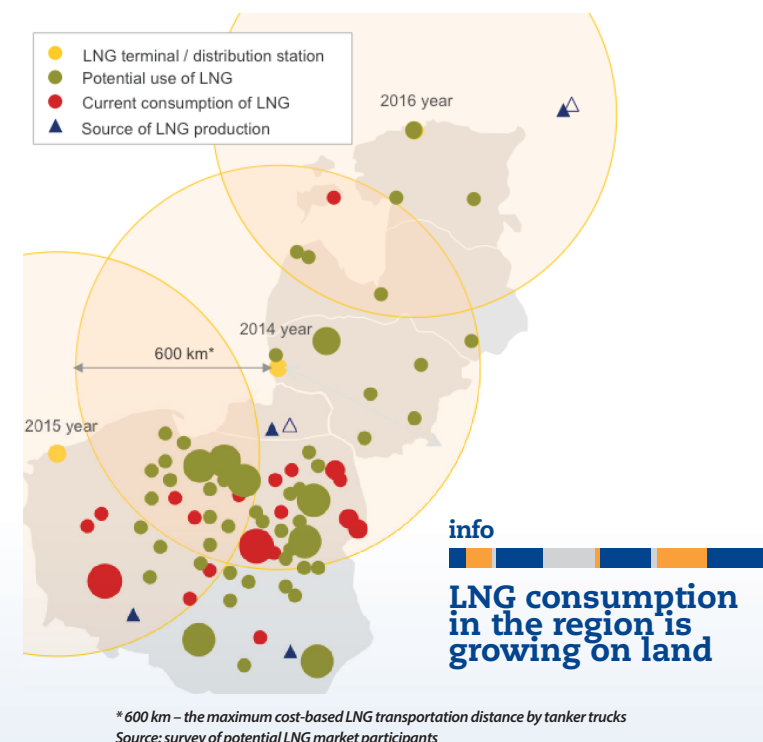
trial companies or to the local distribution network, while regasified and compressed natural gas could be used by cars and buses.

The primary aim of the LNG distribution station would be to supply gas to tanker trucks and c-type containers. The possibility of reloading LNG to railway cars would be considered if there was demand to transport LNG for longer distances. „The common market practice is to transport gas by tanker trucks within a radius of 600 kilometres. They can deliver gas to locations that have no gas networks but have an industrial need for gas. For instance, this method has been used to supply gas to industrial facilities in North-eastern Poland which do not have any transmission system connections”, adds Masiulis.

### LNG onshore demand

LNG has been gaining popularity as the vehicle fuel across Europe. The reason is simple: natural gas is a much cleaner alternative to conventional transport fuels. In addition, it ensures that vehicles run very quietly which is critically important for heavy-duty vehicles in cities.

According to experts, ever more stringent environmental require-



\* 600 km – the maximum cost-based LNG transportation distance by tanker trucks  
Source: survey of potential LNG market participants

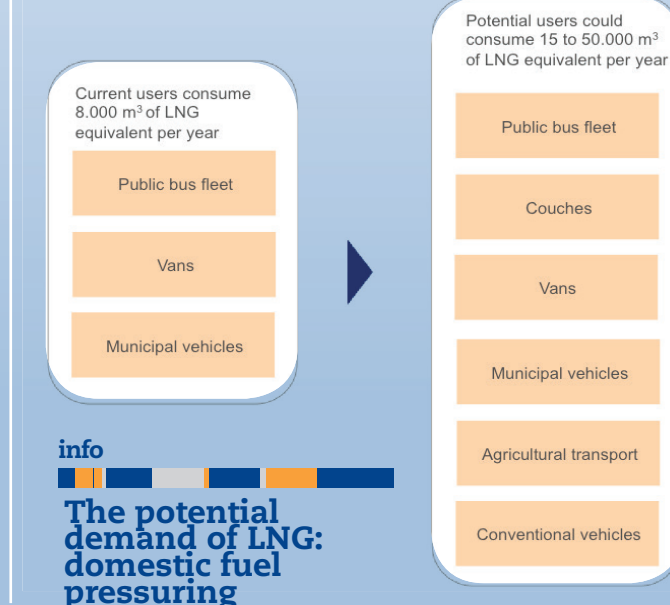
ments of the European Union (EU) and clean fuel initiatives will continue to boost the demand for gas, especially for LNG. Currently, LNG in the region has been used by public transport bus fleets, vans and utility trucks. Existing customers in Lithuania consume around 8,000 m<sup>3</sup> of the LNG equivalent per year. The demand for LNG is expected to rise to 15,000 – 50,000 m<sup>3</sup> of LNG equivalent per year after LNG becomes to be used for long-distance coaches, agricultural transport and conventional cars. The number of trucks and buses running on LNG is expected to rise sharply in 6 years after the relevant infrastructure is put in place. The Clean Fuel Strategy of the EU states that the distance between nearest LNG filling stations should be cut to 400 km across the EU by 2020.

### Regional LNG demand is expected to grow

In 2015, the Baltic Sea region will become a special control area which requires the content of sulphur in marine fuel to be reduced tenfold to 0.1% under the EU directives. According to experts, shipping companies will be forced to either turn to much cleaner diesel and install complex cleaning filters

or shift to liquefied natural gas.

From the beginning of next year, the new LNG terminal in Klaipėda will start offering the service of LNG transshipment to vessels. Gas transhipped from the Klaipėda LNG terminal to bunker ships or smaller LNG tankers will be able to travel to Sweden, Poland, Latvia, Estonia and especially Finland which has shown a growing demand for LNG. Masiulis also believes that the company may provide bunkering services in the future as well. According to him, the critical factor will be demand for such service. After



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The potential demand of LNG: domestic fuel pressuring

LNG is reloaded to tanker trucks in Klaipėda, it could be bunkered in vessels in Klaipėda, Ventspils, Riga and other seaports. The creation of the LNG bunkering infrastructure requires mobile LNG storage facilities, LNG bunkering tanker trucks and a LNG bunkering barge.

### EU support for preparatory work

Klaipėdos Nafta has secured EU funding for the preliminary LNG infrastructure development work. The cost of design and other engineering work, occupational safety and environmental tests will be close to EUR 300,000 and about half of the amount will be covered by the EU.

„The fact that the EU supports specific LNG infrastructure development work shows that Klaipėdos Nafta is on the right track and in line with the long-term strategy of the EU in planning new services”, says the Director General of Klaipėdos Nafta.

The EU supports the development of the LNG infrastructure across the region in order to create a network of LNG bunkering infrastructure and aboveground distribution stations servicing tanker trucks. The LNG terminal developed by Klaipėdos Nafta is expected to become one of the key elements of this infrastructure. This requires certain additional LNG infrastructure solutions which would ensure that LNG can be delivered onshore and reloaded to tanker trucks.

### Litgas and Statoil contract

Litgas signed a contract with Norwegian Statoil, a company that offered the best terms and conditions. To support the operation of the Klaipėda LNG terminal, Statoil will be supplying 540 million cubic metres of natural gas annually to the terminal from the beginning of 2015.

The contract will help to ensure the continuous operation of the terminal, introduce a new pricing methodology for natural gas based on the prices of natural gas on European markets. The contract also provides for the possibility to engage in LNG reloading which is a new commercial activity in the Baltic Sea region.

### Safety report prepared

Klaipėdos Nafta drew up and approved the safety report which confirms that the operational risks of the LNG terminal have been assessed properly and outlines the optimal safety measures. According to the applicable requirements, the document was drawn up 6 months before the start of operation of the LNG terminal.

### Benefits for everyone

The existence of LNG as an alternative will be beneficial for every resident. A lower price of gas ensured by the terminal is estimated to help every household save LTL 340 per year on average. Further savings will be ensured by the lower cost of services (heating costs are expected to fall by 16–17% in major cities across Lithuania if the price of gas is reduced by 20%) and products (for instance, companies which use gas to manufacture their products) due to cheaper natural gas supplied from the LNG terminal.

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### Professional security

Security of the LNG terminal will be ensured by the Public Security Service (PSS) under the Ministry of the Interior. Each day, 50 professionals will work in several shifts protecting the LNG terminal from various internal and external threats round the clock. To that end, a unit of the PSS will be set up in Klaipėda later this year.





From left to right - John Christopher Langham, General Director of Langham Industries Limited, company managing the Portland port, and Steve Davies, Executive Director of Portland port. Algimantas Kalvaitis photo.

Soon to be launched Klaipėda's LNG terminal was visited by the Portland seaport managers. Representatives of the seaport were familiarized with the smooth implementation of the project, and showed interest to learn from the Lithuanian experience while implementing their future projects. Portland Seaport Managing Director **Steve Davies** and the CEO of Langham Industries Limited, the company managing Portland Seaport, **John Christopher** were invited for a brief interview.

#### **What is the main purpose of your visit to the LNG terminal construction project in Klaipėda?**

After the British army abandoned the port of Portland, we have been working hard to bring it to a new life. We are consistently trying to attract a variety of projects as well as looking for new opportunities. As for the gas projects, Portland Harbour is in a very good position. Although we

# Came from the United Kingdom to gain experience

Portland port managers visiting port of Klaipėda. Algimantas Kalvaitis photo.



have not yet been faced with the gas business, we are very interested in it. We came to Klaipėda in order to see what you are doing and how you are doing things in your seaport, and possibly try to adapt something in Portland. Also, we are looking for cooperation opportunities.

#### **What are your first impressions?**

We believe that Klaipėda's LNG terminal is a good and interesting project, especially if we think about energy independence. The idea to refine gas in the ship makes them easily transportable and this is very relevant to the seaport of Portland because of its strategic location. However, its location is highly protected and we are not yet sure if you could get all the necessary permissions for such gas-related project. But that is why we are here – to gain experience and hopefully find opportunities to develop similar infrastructure in Portland alone or while cooperating with Klaipėda.

#### **Have you discussed any smaller possible mutual projects?**

Yes, we discussed opportunities of LNG transportation. In fact, pollution requirements in the future will be even stricter, thus using LNG as a fuel will grow in popularity. Nevertheless, the first thing everyone needs for

that is proper infrastructure. Unless there is a well-developed supply infrastructure of LNG fuel, ship builders will not produce LNG-ready ships and ships will not choose LNG for a fuel. European Union evaluated that Portland sea port is generally in the best possible position for LNG filling stations; therefore this can be one of opportunities for cooperation between Portland and Klaipėda. Currently we are building special piers for LNG tanks. Importantly, our port is close to other strategic ports in Britain as well as ports in France. In addition to this, we have an undoubtable geographic advantage because English Channel is a popular seaway.

#### **Could you, please, tell us more about the exclusivity of Portland Sea Port?**

This is a thriving commercial port located on the UK's south coast with a very well developed system of piers. Also, it is one of the few deep water see ports in Southern England. The inner port of Portland takes an area of around 100 hectares, while outer port adds another 1300 hectares. As mentioned earlier, it is in a strategically good position with around 300 ships sailing through it every day. Generally, Portland Sea Port can be compared to service area in a highway where everyone can refuel their

ships, repair their vessels or use other services.

However, there are no proper connections between Portland and other cities. We have no railway, thus Portland will never be competitive port for cargo business which you do have here in Klaipėda. Nevertheless, it allows us to concentrate on marine field and services for marine sector. By the way, we have got permits to lay gas pipe from Portland to the mainland of Great Britain. This is very important because demand for gas will surely grow in future. That is why gas sector is really interesting for us.

Also, cruise ships come to Portland. This year we plan to greet 26 cruise ships, and next year around 30 cruise ships. At the moment our port is capable to welcome ships which are no longer than 290 metres. But we are currently extending the pier which will allow us to welcome 345 metres long ships by next summer. Generally, we will be able to welcome the biggest cruise ships in the world.

#### **What are your impressions of Klaipėda sea port?**

It is a very well designed deep water sea port which is perfect for international cargo. Also, it has proper road and railway connections with the mainland.