

Consultation on an EU strategy for liquefied natural gas and gas storage

2. LNG in the EU today

***Question 1:** Do you agree with the assessment for the above regions in terms of infrastructure development challenges and needs to allow potential access for all Member States, in particular the most vulnerable ones, to LNG supplies either directly or through neighbouring countries? Do you have any analysis or view on what an optimal level/share of LNG in a region or Member State would be from a diversification / security of supply perspective? Please answer by Member state / region.*

(I) In the assessment of the Baltic Sea Region and the EU strategy for liquefied natural gas and gas storage it is worth reflecting that:

- a) Klaipėda LNG terminal (in Lithuania) significantly enhanced security of natural gas supply for all consumers in the Baltic States by providing for the first time in history an alternative gas supply source in the Baltic region. It also provides an access to the global gas markets on the full Third Party Access (TPA) basis.
- b) Klaipėda LNG terminal regasification capacities of 3.8 bcm/y (10.3 mcm/d) are sufficient to cover around 90% of all current demand of the Baltic States including 100% of vulnerable customers' demand.
- c) Together with other regional infrastructure (GIPL and BalticConnector, Inčukalns underground gas storage) Klaipėda LNG terminal will form entire gas supply security and diversification chain including critical infrastructure for the reliable and diversified regional gas market.
- d) The operator of the Klaipėda LNG terminal has already taken final investment decision to build an LNG reloading (truck loading) station in the port of Klaipėda, which, once commissioned in early 2017, will ensure supplies of LNG for currently off-grid customers in the Baltic States and North-East Poland. LNG reloading station in Klaipėda, including additional LNG bunkering infrastructure, will create a high-quality all-year-round and well geographically located small and mid-scale supply services of LNG for maritime sector and onshore natural gas consumers in the East-Baltic Region.
- e) At the current gas consumption level in the East-Baltic region, Klaipėda LNG terminal would be capable to cover more than 50% of the total Baltic States and Finland (once BalticConnector will be in place) annual demand. After implementation of the gas interconnection Poland-Lithuania (GIPL) project in 2019, Klaipėda LNG terminal could contribute to the gas supply security, diversification and competition among gas suppliers and of to Ukraine and North-East regions in Poland.
- f) Lithuania TSO has eliminated a bottleneck in the transmission system and enhanced the capacity of the Klaipėda-Kiemėnai pipeline, thus enabling substantial gas volumes (up to 10.3 mcmN/d) to be transported from the new supply route from LNG terminal in Klaipėda to the Baltic States. The new parallel 111 km pipeline will be opened on the 2nd October, 2015.

(II) In view of the above, the Ministry of Energy of Lithuania can't agree with the assessment in paragraph 2.2 which suggests that Latvia and Estonia has no or insufficient access to LNG as a potential diversification source through neighboring countries, because **there are no restrictions for Latvia and Estonia to use the capacities of the Klaipėda LNG terminal.**

(III) The optimal level/share of LNG in a region or Member State (MS) in some cases might be higher from a security of supply perspective than from a diversification perspective. For example, in order to ensure compliance with the N-1 rule requirements some MS may choose to create access to larger LNG capacities to cover its peak demands in case of gas supply disruption situations as well as to facilitate competition. However, this may lead to the situation when the created LNG infrastructure capacities are utilized at lower extent under 'business as usual' market conditions. In general, once MS complies with N-1 rule requirements it should also seek to have an access the LNG capacities which could cover 20-50 % of its gas portfolio in order to maintain a higher competition level between dominant gas supplier(s) and LNG supplier(s).

Question 2: *Do you have any analysis (cost/benefit) that helps identify the most cost-efficient options for demand reduction or infrastructure development and use, either through better interconnections to existing LNG terminals and/or new LNG infrastructure for the most vulnerable Member States? What, in your view, are reasons, circumstances to (dis)favour new LNG investments in new locations as opposed to pipeline investments to connect existing LNG terminals to those new markets?*

(I) Being dependent on a single gas supplier Lithuania was subject to the abuse of its monopoly position and for a number of years was paying one the highest price for natural gas in Europe. Such situation influenced national policy changes to promote use of renewables and switching from natural gas to biomass in heating sector. Taking into account that (i) Lithuanian long-term gas supply contract with Gazprom expires by the end of 2015, (ii) a need to meet N-1 requirement established under EU Regulation 994/2010, (iii) an urgent need to end gas monopoly situation, Lithuania took a decision to construct the LNG terminal in Klaipėda without any further delay.

Based on our experience we can identify the following **circumstances to favour new LNG terminals**:

- **Security of supply.** Access to LNG terminal reduces dependency on dominant gas supplier and gives an opportunity to diversify gas supply portfolio.
- **Competition.** Access to the LNG terminal strengthens market participants' position in negotiations with pipeline gas suppliers. Increased competition among suppliers leads to lower gas prices to the end consumers.
- **No third parties.** Pipelines to existing LNG terminals might go through third countries or other MS which may have unfavourable TPA rules increasing a risk for access.
- **Reduce greenhouse gas emissions.** Being cleaner than coal or oil products, LNG helps to reduce greenhouse gases emissions in transport sector.

(II) The main reasons which currently disfavour new investments to access LNG capacities are the following:

- **LNG price.** In comparison to pipeline gas, LNG prices in the integrated and well-developed gas markets are still higher.
- **Steep decrease of gas demand.** In 2014 gas consumption in the EU decreased to a 14-year historic low (450 bcm/y). Only 23% of the installed 207 bcm LNG import capacities have been utilised. For example, in the period of 2012–2014 gas consumption in the East-Baltic Region has dropped by more than 25 % (from 10,3 bcm/y to 7,6 bcm/y) and continues to drop each year (consumption in 2014: Estonia – 0,5 bcm/y; Finland: 3,1 bcm/y; Latvia – 1,5 bcm/y; Lithuania – 2,5 bcm/y).
- **Costs and complexity.** New LNG terminal requires massive front-end investment and is more complex to develop in comparison to pipelines. This is especially relevant to MS where gas demand is relatively small and/or show lowering gas demand tendencies.
- **Existing LNG import facilities and their availability.** Improving access to the existing LNG terminals through removal of the bottlenecks, regulatory barriers and enhanced regional cooperation is often a more cost-effective option for some MS.

Given these circumstances of costs and complexity combined with uncertainty of LNG price and gas demand developments we are of the opinion that a more cost effective option for MS that are vulnerable is to develop infrastructure to make use of the existing LNG capacities in neighbouring countries and in this way enhance their security of supply by diversifying supply routes and suppliers.

Question 3: *Do you think, in addition to the already existing TEN-E Regulation, any further EU action is needed in this regard? Do you think the use of LNG gas and existing LNG infrastructure could be improved e.g. by better storage possibilities, better network cooperation of TSOs or other measures? Please give examples.*

(I) Aiming at acceleration of integration of the gas markets, it is essential that the EU strategy for liquefied natural gas and gas storage highlights the framework for the remaining legal and regulatory barriers for all natural gas consumers to participate in the free market to be removed:

- a) Gas infrastructure construction and operational costs sharing between neighbouring countries would ensure the most optimal use of existing infrastructure and would allow to use the synergies between the countries and not to over-invest in the gas infrastructure, thus providing more favourable commercial conditions to the users of gas infrastructure. Costs sharing could be allocated proportionally to gas consumption and/or capacity needs in different countries or shared according other agreed principles.
- b) The use of natural gas transmission and storage services, including tariff structures, should be regulated from the broader regional/EU perspective in line with Europe's network codes for gas and the European Commission with ACER and ENTSOG should closely monitor and facilitate timely implementation of the EU network codes for gas. Particular attention needs to be given to:
 - Adoption of harmonised, non-discriminatory, transparent and flexible gas Network & Storage Access Rules in the entire gas market of the region;
 - Accounting of gas flows in energy value;
 - Harmonization of gas quality requirements;
 - Harmonisation of the gas supply licencing framework (retail and wholesale) at the regional level.
- c) Gas infrastructure (incl. LNG terminals), that are/were a subject to EU and/or public financing have to operate under open and non-discriminatory TPA regime.
- d) Creation of one market zone would allow traders in different MS to compete under the same conditions and would favour the use of existing LNG infrastructure. Creation of one market zone for all Baltic States would also help to ensure that gas is sold where it is needed most and to increase the competition, ensuring that all suppliers are competing under the same conditions.
- e) Establishment of unified and non-overlapping transmission tariffs within the regions could encourage wider use of both storage and LNG facilities, enabling consumers to benefit from seasonal differences in demand and pricing. This measure, combined with strengthening interconnections of natural gas grids, would be much more efficient and cost effective measures compared to the construction of new large scale LNG infrastructure.
- f) Signing of the Transatlantic Trade and Investment Partnership agreement needs to be facilitated.
- g) Baltic States and Finland should be included into wider European programs, such as Blue Corridors.

(II) Concerning regulation, existing TPA regimes and market opening should be regulated and monitored more strictly. Some MS have adopted TPA rules which still exclude gas system users and traders based on the country of their origin by establishing unfair, unequal and discriminatory third-party access regime to gas traders and system users from other MS (eg. capacity allocation procedures still promotes dominant supplier over remaining market participants, determines that TPA to other MS can be granted only to the available capacity left from the host MS users' needs etc.).

(III) Storage capacities could facilitate the usage of LNG terminal in case of emergency. However, we do not see this factor having a meaningful impact for regular LNG supplies, as today there is available capacity in all Europe and this does not seem to be fostering LNG supplies. Establishment of unified and non-overlapping transmission tariffs within the regions could encourage wider use of both storage and LNG facilities as it would allow lowering LNG price to the end consumers.

Question 4: *What in your view explains the low use rates in some regions? Given uncertainties over future gas demand, how would you assess the risk of stranded assets and lock-in effects (and the risk of diverting investments from low carbon technologies such as renewables and delaying a true change in energy systems) and weigh those against risks to gas security and resilience? What options exist in your view to reduce and/or address the risk of stranded assets?*

(I) Decreasing gas demand, LNG infrastructure construction costs and complexity, unfavourable geographical conditions, lack of/access to gas storage, lack of connecting infrastructure, different strategic vision, high LNG prices and diversion of investments to more low carbon technologies etc. could be contributing factors to low use of LNG terminals in some regions. **The risk of stranded assets is therefore substantial, nevertheless, energy**

security, increased competition among gas suppliers and access to alternative supply sources should be top priorities and the efforts should towards achieving them should be combined with appropriate measures to avoid stranded assets.

(II) Considering the options to address the risk of stranded assets, it is important to apply understand different approaches between different natures of LNG terminal projects. If LNG terminal project is a private initiative with a sound business case, the investor should be responsible for such risks and take appropriate actions. However, this is different when the project is of political/strategic nature, commercially not viable and dedicated to increase security of supply, ensure alternative supply and to create the market. In this case MS needs to ensure necessary support and incentives to the project promoter in order to maintain the operations of the infrastructure and guarantee the cash flows for the investor, in case the infrastructure would be utilised to the lower extent than expected. **Promotion of regional cooperation, in particular by the European Commission, and of the use of existing LNG infrastructure could reduce and/or address the risk of stranded assets.** The European Commission should also take this into account when evaluating compatibility of the MS support/incentives with the EU internal market rules.

(III) **One of the options to reduce and/or address the risk of stranded assets could be choosing FSRU/FSU (Floating Storage and Regasification Unit/ Floating Storage Unit) technology** for LNG terminal which provides a possibility to use the FSRU/FSU not only as the LNG import terminal but also as the LNG carrier during the periods when the market participants do not show any interest for using LNG terminal's capacities.

***Question 5:** The Energy Union commits the EU to meeting ambitious targets on greenhouse gas emissions, renewable energy and energy efficiency, and also to reducing its dependency on imported fossil fuels and hence exposure to price spikes. Moderating energy demand and fuel-switching to low carbon sources such as renewables, particularly in the heating and cooling sector, can be highly cost-effective solutions to such challenges, and ones that Member States will wish to consider carefully alongside decisions on LNG infrastructure. In this context, do you have any evidence on the most cost-efficient balance between these different options in different areas, including over the long term (i.e. up to 2050)?*

Currently Lithuania is in the process of updating National energy strategy – the cost-efficient balance between different energy sources in different sectors up to 2050 will be available in the near future.

As it was agreed in 2007, the aim is to reduce emissions of greenhouse gases by 20%, to increase energy efficiency to save 20% of EU energy consumption and to reach 20% of renewable energy in the total energy consumption in the EU by 2020 taking 1990 as a reference. Being cleaner than coal or oil products, LNG helps to reduce greenhouse gases emissions (including transport sector). It guarantees stable and clean back-up supply of energy in case RES sources are not sufficient. LNG supply infrastructure (including SSLNG), gas pipeline interconnectors between the Baltic States, natural gas power producing facilities etc. should be developed with regard to the RES share development pace in the primary energy sources balance.

The acceleration of availability and the increased affordability of LNG for the off-grid locations and for the marine transport sector could give largest and fastest gains in reducing emissions by substituting significantly more polluting fuels. As LNG for marine and off-grid consumers would inevitably be delivered from the global markets through the existing full-scale terminals and thereby broaden the consumption base their costs are shared by, the increased share of LNG in these sectors would result in a significant secondary effect – lower costs and greater affordability of LNG in the natural gas sector.

3. Potential entry barriers for LNG

***Question 6:** What in your view are the most critical regulatory barriers by Member State to the optimal use of and access to LNG, and what policy options do you see to overcome those barriers? Have you encountered or are you aware of any problems in accessing existing LNG terminal infrastructure, either because of regulatory provisions or as a result of company behaviour? Please describe in detail.*

The most critical regulatory barriers by MS to the optimal use of LNG and access to LNG are the following:

- a) Establishment of unequal/discriminatory TPA regime to gas traders and system users from other MS;

- b) Differences among MS in gas quality requirements, gas accounting units, gas supply licencing frameworks;
- c) Lagging implementation of the EU gas network codes.

Question 7: What do you think are the most critical commercial, including territorial restrictions and financial barriers at national and regional level to the optimal use and access to LNG?

See answers No. 2, 4, 6.

Question 8: More specifically, do you consider that ongoing EU policy initiatives and/or existing legislation can adequately tackle the outstanding issues, or there is more the EU should do?

EU strategy for LNG and gas storage should carefully evaluate the tendency of the decreasing gas demand in the EU and address the major issue of the stranded assets, taking into account that only 16% of the installed 193 bcm LNG import capacities in EU have been utilised. The Ministry of Energy of Lithuania is of opinion that together with other already mentioned measures (see answer No. 3), **EU policy needs to give due attention to improving and incentivising MS access to the existing LNG terminals** by enhanced regional cooperation, removing infrastructure bottlenecks, regulatory barriers and take-or-pay obligations imposed by the gas suppliers', also to access to alternative pipeline gas suppliers (Southern Gas Corridor route, Algeria).

The nature of LNG involves additional infrastructure costs for delivering this gas to the market. In some underdeveloped gas markets (such as the Baltic States or Finland) these additional costs may prevent LNG to compete on equal terms with the pipeline gas delivered through already depreciated pipelines built decades ago. **EU policy should consider mechanisms how to support newly built/under development LNG facilities by establishing incentivising regulations at least for the first few years of the operations.**

4. International LNG markets

Question 9: How do you see worldwide LNG markets evolving over the next decade and what effects do you expect this to have on EU gas markets? Do you expect a shift away from oil-indexed LNG contracts, and if so under what conditions?

Most analysis/outlooks are optimistic regarding LNG markets worldwide and forecast that LNG supply and demand steep growth in the coming decade which should make LNG prices more resistant to various fluctuations. EU gas markets are expected to increase LNG imports and absorb some of the new LNG export volumes, yet it still remains uncertain if increased LNG export volumes worldwide will result to lower LNG prices for EU markets as the LNG demand worldwide (notably Asia) continues to grow as well.

LNG contracts are already shifting from oil indexed contracts to hub related contracts, yet the recent drop in oil prices could slow down this process. Variety of contracts and different products-linked prices should remain, but hub related contracts are more transparent and give positive push to the LNG and natural gas markets in general. **The growth of LNG market over the next decade should lead to higher volumes of LNG being traded on short term and spot markets thus increase possibility to change from oil-indexed prices to gas market / hub related contracts indexation.** It will remain difficult, however, to take full advantage of increased LNG availability in spot market with current level of take-or-pay obligations of the pipeline gas contracts.

Question 10: What problems if any do you see with the functioning of the international LNG market, particularly at times of stress? Are there specific actions the EU should take, in dialogue with our international partners, including in trade negotiations, to improve its functioning and/or to make the EU market more attractive as a destination for LNG? Could voluntary demand aggregation be helpful in some way?

Peak-demand periods can be a challenge for EU as it could make more difficulties for some MS to compete with larger Asian importers for the same LNG cargoes on spot markets. **It is important for EU to build close**

partnerships with current and future major LNG exporters (namely U.S., Norway, Qatar, Canada, Trinidad & Tobago, Algeria, Nigeria, Australia), so that EU could receive LNG under most favourable conditions.

Obligatory and centralized trading on the exchange when buying LNG or selling reloaded cargoes to/from EU could be considered as a tool which could provide the market with a real reference LNG price and ensure that agreements are conducted on the best market conditions for EU MS. Voluntary demand aggregation could be useful.

5. LNG technology issues including LNG use in transport

Question 11: *What technological developments do you anticipate over the medium term in the field of LNG and how do you see the market for LNG in transport developing? Is there a need for additional EU action in this area to reduce barriers to uptake, for example on technology or standards, including for quality and safety?*

Wider use of LNG in transport sector would contribute to a low-carbon economy. Switching to LNG would deliver CO₂ emissions reductions and improve air quality. LNG in transport sector is a clean and cost effective solution compared to other alternatives. However, this market is at its initial stage of development and lacks sufficient infrastructure. **EU policy and financial support for wider LNG use in transport sector as well as clear and consistent incentivising regulations at EU level would play important role.**

Floating LNG technologies, like units of FSO (Floating Storage and Offloading, FPSO (Floating Production, Storage and Offloading), FDP (Floating, Drilling and Production, Storage and Offloading) and Floating Storage Regasification Unit (FSRU), LNG transportation by rail tanks will significantly impact the market for LNG transport making it better adaptive to the particular situation/needs. FLNG infrastructure options in comparison to traditional LNG facilities have the advantage of flexibility. Harmonized standards and safety requirements from EU would boost the usage of this technology and interoperability across the region.

6. LNG sustainability issues

Question 12: *Do you think there are any sustainability issues specific to LNG that should be explored as part of this strategy? What would be the environmental costs and benefits of alternative solutions to LNG? Please provide evidence in support your views.*

EU strategy for LNG and gas storage should carefully analyse LNG demand and supply perspective in the EU in mid-term and long-term perspective, including possibilities for a wider LNG use in transport sector. LNG attractiveness depends on LNG and alternative sources of energy/fuel prices, thus the main challenge for sustainability is LNG possibilities to compete not only with conventional pipeline gas supply but also with alternative energy sources/fuel prices in the mid-term and long-term perspective.

7. Storage

Question 13: *What opportunities or challenges do the supply projections for different sources, in particular LNG and pipeline gas and low carbon indigenous sources, present for the use of gas storage / for gas storage operators?*

Conflict in Ukraine and the decrease of gas demand in EU to a 14-year low in 2014 has increased demand for natural gas storage services. Average utilisation of the storage capacities has reached on average 80% and the stored volumes (nearly 80 bcm) have reached 14-years high. However, **further decrease of gas demand in EU could have negative effect on utilisation rates of gas storages in the mid-term and long-term perspective which could eventually increase gas storage services tariffs.** Growing LNG regasification capacities in EU provides opportunity for gas storage operators, however, actual effect on storages utilisation rates will depend on LNG prices and establishment of unified and non-overlapping transmission tariffs within the regions.

Question 14: *Are, in your view, current market and regulatory conditions adequate to ensure that storages can fully play their role in addressing supply disruptions or other unforeseen events (e.g. extreme cold spells)?*

Directive 2009/73/EC contains a derogation clause for some MS, making it not possible to use TPA rules based on non-discriminatory principles for storage infrastructure which may increase a risk of supply disruptions or other unforeseen events. **Combination of supply alternative and underground storage could provide real security of supply of natural gas to the market**, because storage facility is limited in space and regasification unit or natural gas pipelines are limited in the capacity across different regions of the country. Establishment of unified and non-overlapping transmission tariffs within the regions could provide more commercially attractive tariffs for storage services.

Question 15: *As an alternative to mandatory reserves, how could market based instruments ensure adequate minimum reserves?*

Market-based instruments should be used to guarantee continuity of supply and securing adequate minimum reserves as long as possible. There has to be an adequate preparation for emergency cases from legal framework point of view.

Question 16: *Do you have any analysis or view on what an optimal level/share of storage in a Member State or region would be? What kind of initiatives, if any, do you consider necessary in terms of infrastructure development in relation to storage?*

Optimal level should be decided after evaluating the risk of the main supplier halting its gas supply. It depends on gas consumption, potential disruptions for gas supply and existing infrastructure for gas supply alternatives.

Question 17: *Do you think, in addition to the existing TEN-E Regulation, any further EU action is needed in this regard?*

(I) Establishment of unified and non-overlapping transmission tariffs within the regions could encourage wider use of both storage and LNG facilities, enabling consumers to benefit from seasonal differences in demand and pricing.
(II) Establishment of more favourable/incentivising tariffs of gas transmission and storage services for natural gas produced in EU could facilitate indigenous gas production and utilisation use of storage facilities.

Question 18: *Given uncertainties over future gas demand, how would you assess the risk of stranded assets (and hence unnecessary costs), lock-in effects, the risk of diverting investments from low carbon technologies such as renewables, delaying a transition in energy systems and how would you and weigh those against risks to gas security and resilience? What options exist in your view to reduce the risk of stranded assets?*

The risk of stranded assets is huge, especially having in mind increasing engagement in the renewables. Nevertheless, energy security and competitiveness among storage operators should be among EU priorities. One of the options to address the risk of stranded assets could be to integrate stranding risks into equity and debt valuation.

Question 19: *What do you think are the most critical regulatory barriers to the optimal use of storage in a regional setting?*

The most critical regulatory barriers by MS to the optimal use of storages are the following:

- a) Maintaining unequal/discriminatory TPA regime to gas traders and system users from other MS;

b) Lagging implementation of the EU gas network codes.

Question 20: Do you think ongoing initiatives and existing legislation can tackle the remaining outstanding issues or is there more the EU could do? Do initiatives need to include additional issues further to the ones described here?

Yes, ongoing initiatives and existing legislation can tackle the remaining issues.

Question 21: Do you consider EU-level rules necessary to define specific tariff regimes for storage only or should such assessment be made rather on a national level in view of available measures able to meet the objective of secure gas supply?

It would be useful to have some guiding rules consistent among the MS, so that all storage tariffs would be based on the equal principles of understanding. EU level rules would be useful to set cost-benefit sharing between member states benefiting from accessible infrastructure.

Question 22: Have you ever encountered, or are you aware of, difficulties in accessing storage facilities? Has this concerned off-site or on-site storage facilities? Please describe the nature of the difficulties in detail.

(I) The use of natural gas storage services, including tariff structures, should be regulated from broader regional/EU perspective in line with EU networks codes for gas;

(II) National regulatory authorities, European Commission, ACER and ENTSOG should closely monitor existing TPA regimes and facilitate timely implementation of the EU network codes for gas. Some MS has adopted TPA rules which still exclude gas system users and traders based on the country of their origin by establishing unfair, unequal and discriminatory third-party access regime to gas traders and system users from other MS (e.g. capacity allocation procedures still promotes dominant supplier over remaining market participants, determines that TPA to other MS can be granted only to the available capacity left from the host MS users' needs etc.).

(III) Establishment of unified and non-overlapping transmission tariffs within regions could encourage wider use of storage facilities, enabling consumers to benefit from seasonal differences in demand and pricing.

(IV) Establishment of more favourable/incentivising tariffs of gas transmission and storage services for natural gas produced in EU could facilitate indigenous gas production and utilisation use of storage facilities.

Question 23: Have you ever encountered, or are you aware of, difficulties related to feeding LNG gas from the storage site back into the gas network? If so please describe the nature of these difficulties (regulatory provisions, company behaviour, technical problems) in detail.

Unless unified and coordinated on the regional scale transmission tariffs are implemented, market players are not encouraged to use regional LNG and storage facilities to balance seasonal demand fluctuations. E.g. for gas traders who would like to import LNG from Klaipėda LNG terminal, then to transport and store in Inčukalns gas storage, afterwards – transport back to Lithuania, these services would increase the end gas price by approx. 15% which would make LNG less competitive to the conventional pipeline gas supply. Taking into account these circumstances as well as seasonality of Inčukalns storage, up to date, the potential synergies between LNG terminal in Klaipėda and gas storage in Inčukalns have not yet been fully used.