GIE response

Commission Consultation on an EU strategy for liquefied natural gas and gas storage[1]

1   Who is GIE

Gas Infrastructure Europe (GIE) is an association representing the interests of European natural gas infrastructure operators active in natural gas transmission, storage and LNG regasification. GIE is a trusted partner of European institutions, regulatory bodies and industry stakeholders. It is based in Brussels, the heart of European policymaking. GIE currently represents 67 member companies from 25 countries.

One of the objectives of GIE is to voice the views of its members vis-à-vis the European Commission, the regulators and other stakeholders. Its mission is to actively contribute to the construction of a single, sustainable and competitive gas market in Europe underpinned by a stable and predictable regulatory framework as well as by a sound investment climate.

This document follows the questions of the consultation document, where the questions are in italic and GIE's answers are in blue. The answers are preceded by general remarks in section 2.

2   General remarks

Natural gas is well placed to make an important contribution to a EU future energy mix that is reliable, affordable and clean. It is thus crucial that EU Energy and Climate Policy recognise this important role, so that the EU gas market remains attractive for decades to come. Such policy should provide for an appropriate regulatory environment and confidence in the perspectives for the development of the natural gas market in the EU in the long-term future.

In this context, GIE would like to point at the Annex of the consultation document where a graph describing the "Projected EU28 Gas Demand" is offering an inaccurate and rather pessimistic view on the evolution of gas demand in Europe. GIE notes that this projection (PRIMES EE27) is based on old data (Eurostat 2010), and it is not consistent with other public data already published by the European Commission (e.g. Strategy 2030), industry bodies or other gas experts. For example, the International Energy Agency is expecting a (slight) recovery of gas demand over the coming years rather than a decline. Presenting consistent projections is important in sending coherent messages to suppliers, investors and other market stakeholders and instil confidence in the development of the EU gas market.

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[1] Consultation published on 8 July 2015 at: https://ec.europa.eu/energy/en/consultations/consultation-eu-strategy-liquefied-natural-gas-and-gas-storage.

3   Responses to consultation – LNG section

3.1   LNG in the EU today

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.

GIE, as a European association, will not comment on the specific statements made by the Commission about each region. Instead, GIE focuses its answer on topics and recommendations targeted at European level, and leave specific comments about the situation on each country/region to individual GIE members.

GIE members would like to see the capacity of their LNG terminals booked as much as possible. It is up to the terminal users to decide what the "optimal use" of LNG infrastructures should be.

As for the 'optimal' level/share of LNG in a region or Member State, from a diversification/security of supply perspective, GIE observes that there is no common optimal level/share for each region. Each region/Member State is different and in each of them LNG plays different roles.

It should be taken into account that a LNG terminal is a gateway to many different producers and sources of gas worldwide. LNG makes gas reserves around the world accessible to the European market. Thus, LNG implies a diversification by itself, diversifying supply sources on a long term and a short term basis, which is a strong insurance against supply disruptions of a given country/producer.

GIE notes that LNG not only provides diversification of supply but also adds to competition and market functioning. In 2014, EU imported LNG from more than 12 different origins around the world. EU LNG terminals are the entry point for LNG volumes which can enter the EU single market and compete with and/or complement traditional pipeline gas supplies (e.g. Russia).

In case of supply disruption, increased LNG deliveries in BE, ES, FR, GR, IT, LT, NL, PL, PT and UK will help covering Europe's needs and free up pipe-gas for other parts of the EU.

Furthermore, LNG has already demonstrated it is an effective tool in addressing emergencies and mitigating supply shortfall/demand spikes. For instance, following the Fukushima tragedy, by accepting higher LNG prices, Japan was able to attract additional LNG supplies and increased its LNG consumption for power generation from 50 bcm/y to >70 bcm/y. Other examples where LNG was a key to mitigate supply emergencies are: Chile post curtailment of imports from Argentina (mid 2007), Brazil droughts impacting hydro-based power production (2014), Israel & Jordan post curtailment of imports from Egypt (2012), etc.

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?

GIE considers that any investments to enhance diversification and security of supply should take the utilization of existing infrastructures into account.

GIE believes that investments in gas infrastructure should primarily be market-based. However we acknowledge that some specific investments which are not fully supported by the market might still be needed due to externalities. In such case these might require targeted support. Such support should however not be to the detriment of existing infrastructure and market-based projects.

The cost benefit analysis (CBA) for additional investments should be positive. It should be carefully designed to take into account the risk of stranded assets.

Member States with remote areas that may not be economically viable to be connected to the European gas network or are experiencing a lack of diversification of gas supply sources may benefit from supplies of LNG from existing regasification terminals. This creates an additional supply route to enhance security of supply in these regions.

In addition to land-based LNG terminals, Floating Storage and Regasification Units (FSRUs) could be also considered because they need less time to be installed and above all, they are reusable. In particular, when a FSRU is not used, it may be disconnected and used for LNG trading.

GIE supports efforts to moderate energy demand where the benefits exceed the costs. Natural gas offers great opportunities for energy efficiency gains compared to other alternatives in sectors such as power generation, transport and heating.

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.

GIE reminds that individual components of the gas infrastructure (i.e. LNG, UGS, transmission) should not be addressed in isolation. Each component of gas infrastructure plays its role to ensure that the whole gas system properly fulfils its role. Therefore, GIE believes that a holistic view of the natural gas infrastructure business will ensure that synergy effects between different infrastructures are duly taken into account.

GIE believes that before adding any new EU further policy action, it is important to ensure the timely implementation of the existing EU legislation. In particular, timely implementation of the TEN-E regulation will contribute towards streamlining administrative and regulatory procedures and incentivising gas infrastructure projects.

Implementation of other EU legislation is also crucial. Implementation of network codes for instance will further contribute towards operation of the EU gas network in an efficient and coordinated manner.

From the overall perspective, utilisation of LNG import terminals depends mainly on LNG pricing on markets in different parts of the world. It is worth noting that with new trends emerging on the global LNG market (e.g. increasing LNG volumes on the supply side, decreasing EU domestic production, etc.) an increased number of LNG cargoes are expected to arrive in Europe in the upcoming years.

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?

Low utilisation ratios:

LNG is a global market. LNG is traded all around the world and today it is common to see LNG cargoes easily diverted to other parts of the world, changing destination according to price signals.

The high prices in Asia and South America during the last years, together with the EU economic crisis and cheap coal/CO_2 prices, have caused LNG originally intended to the EU gas market and purchased FOB to be diverted to other parts of the world (i.e. Asia and South America). Moreover, EU LNG terminal operators developed re-export services enabling shippers to reload cargoes delivered at the terminal (mainly DES). This explains even more the small utilisation rate, but re-exports also provided an alternative source of income for LNG terminals operators.
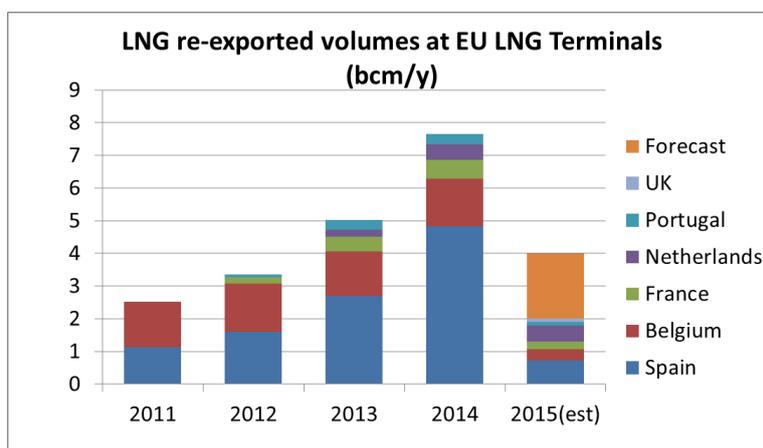
Source: GIIGNL – LNG Industry Reports 2011-2014, GLE internal assessment.

With the decrease of price differentials between Europe and Asia, the number of reloading operations in Europe has similarly decreased.

Simultaneously, the EU average regasification utilisation factor is expected to increase (as can be observed during the first 8 months in 2015 compared to the same period in 2014).

The LNG market is constantly evolving and LSOs are also evolving and adapting to the new market needs. LNG will arrive to the EU market, provided the EU gas market is attractive and also both clear and consistent EU Energy Policy and adequate price signals are in place.

Risk of Stranded Assets:

According to IEA, stranded assets are "*those investments which are made but which, at some time prior to the end of their economic life (as assumed at the investment decision point), are no longer able to earn an economic return, as a result of changes in the market and regulatory environment.*[2]"

In the case of LNG terminals a low utilisation rate in no way indicates that the asset is stranded. Stranded assets are those which are not viable from an economic point of view.

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[2] WEO Special Report 2013, IEA, 2013.

Given uncertainties over future gas demand, GIE believes that investment decisions for projects with positive CBA should be cautiously assessed. Criteria for the CBA methodology should be very carefully designed. Once more, GIE would like to stress the importance of having a long-term EU Energy and Climate Policy in place which ensures an important role for natural gas in the future EU energy mix. This will help to support gas demand in Europe, and ensure that investors are taking the right informed decisions.

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)?

GIE is convinced that natural gas should play a significant role in the future EU energy mix and will provide a valuable contribution in the move towards a low carbon energy system by replacing oil and coal.

GIE believes that there is a much greater role for natural gas/LNG than simply as a flexible balancing and capacity backup to variable Renewable Energy Sources (RES) in a properly functioning internal energy market. Natural gas/LNG is acknowledged as the strongest enabler of RES. In particular, gas-fired power plants are flexible (time to full power generation capacity) and produce substantially less emissions (CO_2, CO, NOx, particulates)[3] than their coal or oil equivalent. By switching coal-fired powered plants to gas, EU power sector CO_2 emissions would be reduced by almost 60%[4].

Moreover, LNG has specific advantages in relation to its physical characteristics. LNG terminals can provide the highest output over the whole volume[5]. They are an excellent source of flexibility with an output which can be easily modulated on a very short-time and can be quickly refilled. LNG terminals can also provide peak-shaving services either during winter time or during peak power generation at times of low RES production. Moreover the use of LNG as a fuel for shipping or heavy-duty vehicles offers an excellent opportunity for improving the environmental footprint of the transport sector.

Thus, LNG terminals and RES are not competing, they are complementary. LNG terminals are excellent candidates to enable the development of the EU Energy System transformation, playing a key role in a low-carbon economy.

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[3] http://www.gasnaturally.eu/uploads/Modules/Publications/air-qualityfinal.pdf, 2013.
[4] i.e. 810 million metric tonnes (http://www.gasnaturally.eu/uploads/Modules/.../eu-policy-july-2011.pdf,, July 2011).
[5] 1m^3 LNG ≈ 600 m^3(n) gas.

3.2 Potential entry barriers for LNG

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.

GIE aims to enhance the cooperation between the European LNG terminal operators with a view to facilitating access to LNG terminals, fostering new development, increasing transparency and accelerating progress towards completing the internal gas market.

As already mentioned, LNG terminal operators offer a lot of services (including new ones) such as basic services, ancillary services and specific services.

However, the LNG world is changing rapidly and so the market needs. In order to keep their LNG terminals as attractive as possible, optimise their utilisation and foster investments in LNG Infrastructure, LSOs should be able to quickly develop commercial services in line with LNG market needs.

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?

GIE is not aware of any critical commercial barrier to access the LNG terminals. Nevertheless, GIE members are prepared to improve their terminal services according to the market needs. For this purpose, regulated GIE members would appreciate to be able to design and offer new services in a timely manner (See also answer to question 6).

GIE currently offers tools with commercial information in order to promote the access to LNG terminals.

GIE developed on a voluntarily basis and in agreement with regulators a harmonised transparency tool (called "**LNG Transparency Template**"). This tool acts as a common gate allowing new users to have easy access to information by directing them via hyperlinks from menus and submenus to the necessary information already existing in the LNG Terminal Operators' websites.

The *LNG New Services Inventory* was launched in 2014 and provides an overview of new LNG services offered by GIE members to meet market needs. In addition, it has a special focus on small-scale LNG.

GIE also developed a **LNG Transparency Platform**, under the name of **ALSI**[6]**,** where daily send-out flows, as well as the daily amount of LNG stored at the LNG terminals within each country are published.

As regards **Gas quality,** the present efforts on harmonisation of gas quality standards should be continued. In principle, gas quality parameters should have a range as broad as safely and technically possible in order to keep Europe's competitiveness in the global LNG market and to minimise additional costs in the LNG/ gas supply chain. This applies in particular also to the Wobbe Index.

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[6] ALSI is a GIE public platform making available operational data regarding the operation of the EU LNG terminals. ALSI includes daily information at country level covering the LNG regasification capacity in operation in the EU. Data is published on the website of GIE under the following link: http://lngdataplatform.gie.eu/.

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?

GIE considers that EU should first and foremost ensure the implementation of the existing legislation. GIE does not see any need for additional EU policy initiatives regarding access to LNG terminals.

Moreover, from a general perspective, GIE considers it paramount that the EU institutions develop a strategy for gas which ensures an important role of gas in the future energy mix on the short, medium and long term and to give the right signals for the gas industry in general. Given that gas infrastructure (including LNG infrastructure) is a long term capital-intensive business (2050 and beyond), a sound long term business climate is required. Clear, consistent and enduring policies are required from EU policy makers that natural gas has a key role in the future of the EU energy mix.

3.3   International LNG markets

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?

Data from IHS[7] shows an increase of global LNG output in the medium to long-term perspective – from 240 million tonnes in 2014 up to 410 million tonnes by 2025 and 530 million tonnes by 2035. This will result from projects to be commissioned in Australia, USA, Russia, Malaysia, etc. In addition, one may also expect the LNG spot market to continue to grow in importance.

GIE notes that forecasts are envisaging a return of LNG to Europe, with an increase of LNG volumes entering the EU market.

Indeed, the LNG regasified volume in the first 8 month of 2015 as published by LSOs on ALSI shows an increase of more than 20% compared to the same period in 2014.
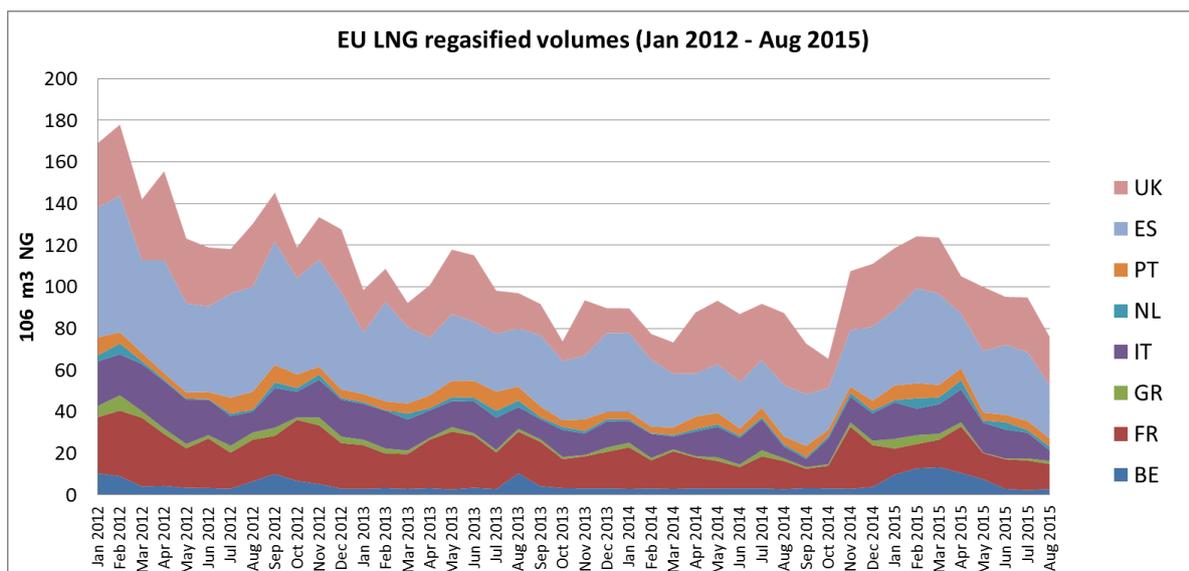
Source: ALSI.

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[7] Long-Term LNG Market Outlook, July 2015.

The following graph, based on data from GIIGNL, shows the evolution of the EU LNG average utilisation factor from 2005 until 2014, as well as the LNG import volume evolution over that period.
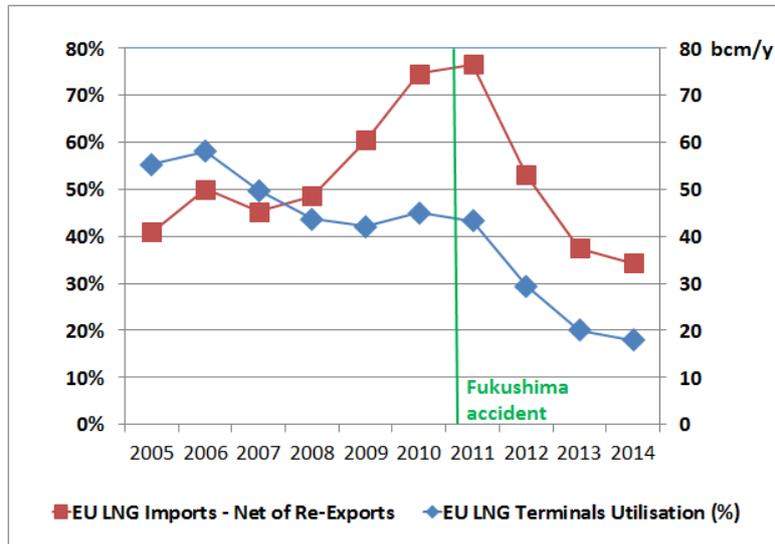
Source: GIIGNL Industry Reports 2005 – 2014

The LNG market is a global market with dynamics which might change rapidly.

LNG terminals are long-term capital intensive investments with an asset life of 40 years and more. It is therefore necessary to review the utilization of LNG terminals based on statistics beyond the last 2-4 years only.

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?

GIE believes that the international LNG market is working properly, also at times of stress as evidenced by the Fukushima accident.

GIE believes that the EU should contribute to remove all possible (e.g. trade) barriers, if any, which are located between the LNG producing countries and the EU gas market.

3.4   LNG technology issues including LNG in transport

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?

An important technological development in the field of LNG relates to the use of LNG as a fuel. LNG is a technology allowing heavy-duty vehicles to meet the stringent pollutant emission limits of Euro VI standards. LNG is also an attractive alternative fuel for ships to meet the requirements for decreasing the sulphur content in marine fuels or to allow large-scale carriage on inland waterways.

In order to contribute to the development of LNG as an alternative fuel for ships and trucks and thus to contribute to a clean maritime and road transport, LSOs think that break bulk infrastructure and services are essential for developing the business.

- LNG refuelling stations for ships /trucks;
- LNG satellite plants/storages;
- Small scale liquefactions;
- LNG bunker ships;
- Reloading;
- Loading of bunker ships;
- Loading of small ships;
- Loading LNG ships;
- Truck loading;
- Rail loading;
- etc.

In some countries LSOs already offer the above services. GIE is of the opinion that these services should be further developed.

GIE support the timely implementation of the existing legislation (e.g. Directive on the deployment of alternative fuels infrastructure, TEN-T programme, etc.).

Floating Storage and Regasification Units (FSRUs) appeared a few years ago and there are presently 21 FSRUs active worldwide and 7 are ordered. FSRUs need less time than onshore LNG terminals to be installed and above all, vessels originally commissioned as FSRUs are able to function as both a floating terminal or as a conventional LNG carrier. Thus, when a FSRU is not used as floating terminal, it may be disconnected and moved to another location or used for LNG trading.

3.5   LNG sustainability issues

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.

GIE would like to underline that any future initiative aimed at making full use of LNG in the EU should duly consider sustainability benefits offered by LNG/natural gas infrastructure. Firstly, by substituting more polluting sources of energy like coal and oil with natural gas and LNG, a quick reduction of greenhouse gas emissions can be achieved against low capital expenditure. This is for instance the case of LNG that may replace oil and coal in remote areas not connected to gas infrastructure. Additionally, LNG contributes to promoting sustainability, given the high level of flexibility of its supplies that make LNG the ideal partner for the development and integration of intermittent renewable energy such as solar and wind.

Furthermore, GIE welcomes efforts to ensure the wide use of LNG as a fuel in the maritime and road transport sector (e.g. trucks). Such technologies can substantially contribute to the EU's energy and climate goals. When taking decisions about the mobility of the future, it should not be forgotten that gas for transportation offers great opportunities for meeting the environmental targets of the transport sector in the most economical way. Switching to LNG will deliver not just CO_2 emissions reductions but also significant air quality benefits for citizens, with lower NOx emissions, lower SOx and few particulates.

The EU directive for the deployment of alternative fuel infrastructure paves the way to further increase the penetration of LNG and CNG in the transportation sector (especially maritime and heavy-duty vehicle). The number of vehicles running on natural gas (exceeding already one million in the EU) and the number of current refuelling CNG/LNG stations in place are just a sign that, with the right incentives, this market can develop much more and replace the more polluting and more carbon-intensive oil-based fuels in a cost-efficient way.

4   Responses to consultation – Storage

Underground gas storages are a vital component of the natural gas chain and a necessary backbone of the European security of supply. Moreover, as a renewable back-up, underground gas storages are a key factor of success for the European climate policy.

However, shrinking European gas demand, competition with other sources of flexibility (LNG, spot gas, long-term gas import contracts with high take-or-pay clauses) and falling summer/winter spreads have negatively impacted the storage bookings and storage prices these last years. If this situation persists it would put at risk the whole storage industry and harm the security of supply in Europe. Therefore, there is an urgent need to address the deep problems affecting the gas storage sector.

The insurance value of storage and its key role as a security of supply provider should be recognized at the European level. At the same time, a result-oriented approach should be maintained, enabling each Member State to decide how to handle its strategy related to security of supply (the Gas Storage Europe "toolbox" approach).

The system value of storage should be recognized by taking into account the benefits brought by storage to the whole system when setting the transmission tariffs at storage connection points.

The existence of a flexibility market should be recognized, where storage competes with other flexibility tools by ensuring a level playing field between them. Responses to consultation – LNG section

4.1   Internal market constraints and challenges for storage

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?

In contrast to other fossil fuels, thanks to its less polluting characteristics compared to oil and coal and its abundant resources, natural gas already plays and is committed to play a key role in world decarbonisation.

According to the IEA, natural gas is the only fossil fuel with a global growing share of the energy mix for the next two decades, with a 21% share in 2012 moving up to 24% in 2040. In Europe however, the share of gas in the energy mix has been diminishing due to the economic downturn, low CO_2/ coal prices, energy efficiency improvements and the development of renewable energy sources. The future share of gas remains uncertain and will depend on clear, sound and stable EU energy policies.

However, despite the challenging storage market situation, GIE believes that UGS will still play an important role in the future due to the following arguments:

Regarding pipeline gas, the fall in domestic production and growth in import dependency through pipelines will get even more pronounced in the coming years. More imports from distant source countries mean more demand for flexibility which can be an important factor leading to more storage being required.

Regarding low carbon indigenous sources: their increase in the energy mix also means more demand for flexibility in the power market that can be provided by gas-fired power plants. Underground gas storage has an important role in providing physical gas flexibility to gas-fired power plants.

Storages seem to be a competent partner for LNG to structure delivered volumes and to optimise the LNG usage, price and delivery. Especially as the transportation of cargos need time or in case of LNG supply disruption already delivered and stored volumes can be used to meet (peak) demand.

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)?

There are various aspects in the market and regulatory conditions that should be improved to let gas storages fully play their role in addressing supply disruptions or other unforeseen events.

Regarding market conditions: summer-winter spreads have always been seen as a fundamental driver of storage value from the shippers' point of view. Their decline since 2009 has removed price signal for storage: shippers prefer to cover their flexibility needs by sourcing gas on spot markets as they might anticipate that the worst situation will never materialize. These unfavourable market conditions prevent storage from fully playing its role as security of supply provider. In the short-term, the impact of the low summer-winter spread on the gas storage levels is dampened as part of the gas storage capacity has already been booked and/ or measures such as storage obligations are in place. However, weak seasonal spreads will negatively impact the booking of storage capacity or will lead to very low market prices that do not justify continuation of the gas storage activity. This will eventually lead to a decrease in the available capacity in the medium term (due to the mothballing/closing of storage facilities, project shifts, termination and depreciation).This development is putting European security of supply at risk on the medium term as closing of gas storage is either impossible or very expensive and time-consuming to reverse. In fact, seasonal spread is a virtual, not physical estimate based on market sentiment about the availability of gas in a given period: it may be a legitimate criterion to valuate storage but it does not reflect the complete value of storage especially the insurance value (insurance against unexpected events). This can be done by demanding shippers to ensure that they have availability of gas to be used in all situations including unforeseen events, be it through market-based instruments, strategic storage or storage obligations depending on the local and regional market conditions provided that the market functioning is not distorted. That is what Gas Storage Europe calls the "toolbox approach".

Regarding regulatory conditions: storage now competes on the flexibility market with other flexibility tools which are more economically attractive and do not have the same constraints (they do not face the same third party access requirements). Therefore, GIE considers that the regulatory framework should be adapted to these new market conditions by ensuring a level playing field between all the flexibility sources and by facilitating commercial innovation. One way forward, while respecting the Third Package rules, would be to facilitate more commercial innovation for storage products, for example the availability of new storage products enabling trading on the hubs. Finally, fair transmission tariffs for gas storages are important in order to continue to attract gas to be flowed in the transmission system as well as using storage and thereby the flexibility and security of supply that it offers.

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

Security of supply is a public good that will not always be met by the simple aggregation of the supply and investment decisions of market players especially in case of market failure. Given the current low spreads, market players seem to disregard benefits of gas storages for security of supply: market players tend to favour spot purchases although they do not guarantee the physical availability of gas in case of unexpected events.

To ensure an efficient use of gas storage facilities, the first thing to do is to repair some regulatory barriers that lead to a disadvantage for gas storages compared to other flexibility sources. In some entry and exit zones transmission tariffs are not appropriately reflecting costs or the benefits of gas storages for the transmission network and for the gas market. Another barrier is that gas storages are not always able to offer products that other flexibility providers can due to regulatory barriers.

In addition to a level playing field with other flexibility sources other measures could be taken in order to ensure gas is available in case of unexpected events By incentivizing the use of storage, provided that the market functioning is not distorted. One example is the UK system where imbalance prices in a gas emergency provide appropriate incentives for gas shippers to balance supply and demand. A second example is the Danish system where the TSO pays shippers that ensure that a certain quantity of gas is in storage (the amount of stored gas can only be withdrawn in case of emergency, the service is tendered).

However, as individual markets differ greatly (see also answer to question 16), there might be a need for traditional storage-related security of supply measures (e.g. France) and strategic storage (e.g. Italy, Hungary) provided that the market functioning is not distorted. For instance, in regards to mandatory reserves it is important to ensure that such mandatory reserves are not used for other purposes than an emergency situation to avoid market distortion. This could be the case if strategic gas reserves are released in order to cope with price spikes rather than having the market to solve an emergency situation. Differences in markets require different solutions: no one size fits solution exists. Consequently there is also No one single level of gas in storage to ensure security of supply.

Under market based conditions flexibility in sourcing requires the proof of the physical availability for the market. Therefore GIE proposes to clarify the responsible entity/ entities to fulfil the Supply Standard and which options in the supply portfolio are allowed to prove the standard. GIE recommends introducing a new criterion such as "physical availability of the supply sources" in fulfilling the Supply Standard.

4.2 Storage infrastructure

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?

There is no common optimal level/ share for gas storage. There is no one common "storage prescription" as each country's energy system is unique, some main parameters can be considered when assessing the storage requirement:

- Import dependency;
- Demand ratio between summer and winter;
- Ability to cover seasonal modulation needs and peak demand;
- Structure of national gas demand;

- Gas share of the energy mix;
- Characteristics of existing storage facilities.

In general, GIE is in favour of using the existing infrastructure before any decision about new infrastructures.

With a view to infrastructure development in relation to gas storage, the market conditions are not conducive to new investment and actually have already resulted to gas storage facilities being mothballed/ and even closed down. More interconnectivity and regional cooperation would be a way forward but does not exclude the need to ensure that gas must be available when needed and this is best done by ensuring that gas storages are being used.

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

TEN-E Regulation is essential for the development of the internal energy market and plays a crucial role in ensuring the security and diversification of supply (see for example the Inčukalns storage facility in Latvia and the Chiren facility in Bulgaria).

However, as already explained, the main concern for SSOs today is to optimize the existing infrastructure by having the storages filled at the beginning of the winter period.

As mentioned earlier, overall there is enough underground storage capacity at EU level. However, this does mean that all Member States count with enough capacity at national level, due to for example, geological reasons. In this respect, the TEN-E regulation provides a good instrument to ensure that countries become well interconnected, providing the necessary infrastructure for those Members States with little access to underground storage capacity at national level with access to the capacity from other Member States.

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?

First and foremost GIE believes that a number of key areas of energy policy need to be addressed:

- Clear, consistent policies are required from EU policy makers that natural gas has a key role to play in the future of the EU energy mix;

- The EU ETS needs an overhaul so that cleaner technologies such as natural gas can compete against less clean technologies such as coal on an equal footing, with external costs being taken into account;

- Subsidies for mature renewable technologies in the power generation sector should be eliminated as they distort the internal energy market.

Indeed, SSOs find themselves in a situation which requires them to compete with price signals that are below the costs they incur to operate and maintain their facilities. As a consequence, the risk of stranded assets regarding underground gas storages is already a reality for some of them (mothballing/closing of storage facilities in France and Germany). In order to reduce this risk and to enable gas storage facilities to fully play their role as security of supply provider, the regulatory framework must be improved (see question 19).

4.3 Regulatory framework and potential barriers for storage

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

Then, GIE considers that there are three main critical regulatory barriers to the optimal use of storage:

- Level of transmission tariffs;
- Restricted access to/from storage facilities;
- Ability to offer customized products.

In some cases high transmission tariffs at storage-transmission interconnection points can account for a significant portion of the storage costs (whereas storage facilities provide numerous benefits to the system resulting in avoided investments and lower operational costs: see question 22). Lowering transmission tariffs for storage is a way to incentivize the use of storage.

For storages to play an effective role within the framework of SoS, adequate filling levels are required. The latter implies that the access to/from storage facilities (i.e. for respectively injection and withdrawal) is not hampered by insufficient capacity at the transmission network. In this respect, storage users should be treated on equal foot with other network users.

Finally, in order to ensure a level playing field between all the flexibility tools, it is crucial for storage system operators to be able to answer to their customers' needs by offering innovative products to the market.

With regards to a regional setting, GIE points out that supply standards can be fulfilled by booking gas storage in another Member State, but it should be taken into account that in that case also interconnection capacity is ensured. Furthermore, double counting (i.e. counting the gas storage capacity for more than one country) should be avoided.

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?

Implementation and compliance with existing legislation is crucial before launching new initiatives.

Having said that, we recognize that Regulation 994/2010 on security of supply, needs updating to reflect practical experience gained in the past few years as well as the opinions of various stakeholders voiced in public consultations organized by the Commission.

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?

Specific transmission tariffs for underground gas storages are needed and should be part of the tariff network code. When setting tariffs for entry/exit points to and from storage facilities, one must take into account that gas storage is not a net source of supply or demand and that users have already paid entry and exit tariffs at import/ production and at end consumption.

GIE believes that transmission tariffs to and from storage facilities should recognize the benefits and value that storage facilities bring to the overall system. .

GIE, therefore, strongly recommends that the proposed Network Code on Harmonized Transmission Tariff Structures reflects the above arguments and points in a specific way so that NRAs can use the

text of the Network Code as a tangible guidance when setting transmission tariffs at storage connection points located on the networks for the regulation of which they are responsible.

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.

GIE believes that when it comes to the market access to storage few difficulties should be expected. The reason is that transparency requirements today give the storage customer full knowledge about the size of storage capacity and how it has been used and TPA requires that this storage capacity is made available to the market. On top of that GIE has implemented the transparency platform AGSI where it is possible to follow the day to day use of storage not only for each EU Member State (and Ukraine) but also for each storage system operator and storage facility.

When it comes to the physical access to storage, however, unrestricted access to/from storage facilities and from/to the transmission network is not always guaranteed which can devaluate the storage business and create unfair competition and barriers to the access to storage. This should be avoided as mentioned earlier (see for example the answer to Q19).

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.

No comment.