AFG Response to DG ENER Consultation on an EU strategy for liquefied natural gas and gas storage

LNG

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

AFG considers that a well-functioning gas-market in Europe contributes to security of supply. If it is considered that the market is not working well enough in some parts of Europe, notably in particularly vulnerable Member States, and if market-based investments are not sufficient to improve the situation, specific approaches to support security of supply can be considered for those regions, but the related infrastructure projects should not distort the global market for LNG and storage nor be detrimental to existing infrastructures and market-based projects ; they should be subject to cost-benefit analyses.

LNG and pipelines are different ways of transporting gas, which both bring gas to the market (with their own specificities, the main one of LNG being to be transported by ship) and thus contribute to the security of supply ; the market should determine the most economic routes. Therefore, LNG may play different roles in different regions/countries and we do not support an optimal "one size fits all" level of LNG : an optimal level/share of LNG in any particular region should be determined by the market. . Terminals and access conditions to them have to be in line with the needs of a well-functioning market and market based infrastructure should be in place to ensure that gas delivered to terminals will be able to benefit directly or indirectly neighbouring including land-locked Member States.

In addressing the issue of an LNG strategy, the global market context has to be respected. If not, interventions in LNG trade might distort the market, be inefficient and costly.

Finally, as regards the statements made by the Commission about each region / country, AFG leaves its members to comment in their individual responses.

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 ?

AFG has no cost/benefit analyses of the sort asked for.
Project analyses will be required to answer the economics of the question if new LNG investments are needed as opposed to new pipeline investments to carry gas away from existing terminals.
The underlying assumptions of the cost benefit analyses have to be clear, transparent and shared by all stakeholders : suppliers, traders, all infrastructure operators (TSOs, LSOs, SSOs) as well as energy experts (IEA, ...). These cost benefit analysises should take into account the geographical situation of the concerned region/country, the level of the gas demand of that region/country as well as the probability of the risks that are envisaged. From a general perspective, any cost benefit analyses deserves to be made by experienced and truthful experts.

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

AFG doesn't see a need for further regulations on top of existing TEN-E regulation.
Market players should be in a position to optimize their LNG positions including storage possibilities. An efficient network cooperation between the TSOs should be encouraged, to be treated within the ongoing development of rules and codes of the internal gas market.
However, some incentives should be introduced to favour the development of new products, such as FSRUs and small scale LNG.

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 ?

This question reflects the ongoing contradictions in DG ENER policies, envisaging the need for more gas infrastructure investment while at the same time reflecting reluctance to acknowledge the vital role of gas in the energy mix on the long term. Acknowledging this vital role will give positive signals to investment and reduce the risk of stranded assets.
To minimise the risk of stranded assets, LNG terminals as well as pipelines aiming at to carrying gas away from existing terminals should be required by the market. Furthermore, any project should be subject to a rigorous cost-benefit analysis with alternative solutions : as already mentioned, each case is specific.
In exceptional circumstances, it can be acknowledged to build a LNG terminal even if it is not required by the market, if it is demonstrated by a cost-benefit analysis that it is the best solution to improve security of supply of a region/country depending on a single gas supplier. But this project should not be detrimental to existing infrastructures or other market-based projects.

The low use rates of terminals are largely due to global market conditions.
Falling demand in Europe (partly structural and in recent years attributable to mild winters) at a time of a bullish global LNG market and the consequent price spreads between Europe and Asia are factors.
However, perceptions among companies are that these price spreads are narrowing and terminal use rates are increasing in Europe.
Small scale LNG will represent additional demand that could slightly increase the utilisation rate of LNG terminals.

The risk of stranded assets exists for LNG, pipeline or storage infrastructures (and in some countries it is no more a risk but a reality).
But a low use rate does not necessarily mean that an asset is stranded. LNG terminals, since the market has committed to pay. The terminals are then used by the market for arbitrage. It is up to the market to determine what should be the optimal use of each LNG terminal. So, to limit the risk of stranded assets, it is essential LNG infrastructure to be developed on market basis, with long term commitments from shippers.
Moreover, when security of supply is at stake, priority should be given to given to the most flexible investments. In that respect, FSRU's technologies should be seriously considered as when a FSRU is not used, it may be moved to another location or be simply used as LNG carrier.

As a matter of consequence, emphasis should not be placed on easing the investment framework through subsidies or mandatory planning but rather on making sure that each LNG terminal project is required by the market.
Lack of supply diversity might be driven by lack of infrastructure in some countries but not generally speaking as suggested in §1.2.

Moreover, AFG would like to underling that LNG is per se diversified, as it traded on a world market.

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) ?

Price spikes are the natural result of supply and demand in a liberalized market, and AFG does not see why there should be a goal to eliminate these or indeed reduce imports if global market opportunities can make energy more affordable and secure.
Like question 3, this will depend on case by case assessments. Switching in the heating and cooling sector from gas to another energy would be an expensive solution. Gas technologies, either on their own or combined system solutions with RES offer significant consumer benefits in terms of better cost effective energy management. The use of efficient gas boilers, together with good insulation, is the right direction for an efficient, low emission EU heating strategy.
Furthermore, a greater use of gas in the thermal power generation, in substitution to coal, is the best solution for immediate, cost efficient, EU GHG reduction.

AFG supports the promotion of advanced technologies as essential for reaching EU targets, but framework policies should be fuel and technology neutral. They should instead correctly assess externalities, such as level of local and global pollution and implement mechanism to make users bear the full cost of their energy choice. Explicit or implicit cross subsidies between energies should be discouraged. The development of mature renewables should not rely on subsidies, they should be progressively integrated into the market.

<u>Potential entry barriers for LNG</u>

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.

AFG is not aware of any critical regulatory barriers by Member States to the optimal use of LNG, or of any critical problem in accessing EU's existing LNG terminals.
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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 ?

As mentioned above, the ambivalent policy of the EU towards gas is a source of concern and risks making Europe look unattractive as a market for gas relevant to pipeline and LNG gas, so no distinction should be made.

AFG doesn't see any critical commercial barrier, including territorial restrictions.
As for financial barriers, the tax on fuels is an important parameter for the economic viability of the use of LNG in transport. The TCO (total cost of ownership) of alternative fuels must be competitive with the TCO of traditional fuels (oil). The tax framework for fuels should be stable, predictable and better coordinated within the EU.

Non regulated/private investments should keep a large role in developing LNG import infrastructures, as well as in developing pipelines aiming at serving as an outlet for LNG import infrastructures in excess, at the own risks of the project promoters, and of the shippers whose long term shipping commitments bring

the necessary support to the investment. To keep the right investment climate, one should avoid any market distortion or any cross subsidy potentially in prejudice of the long term shipping commitments.

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 ?

Gas demand has been decreasing for several years in Europe. Some factors, such as the economic recession, can explain the situation, but one of the main reasons is that EU policy initiatives do not give the right signals for gas on the long term.

Gas offers many qualities, and there are many gas based solutions for reducing CO_2 emissions across all sectors. Therefore, EU policy initiatives should definitely favour the share of gas in the energy mix on the short, medium and long term. In addition, the EU initiatives should promote a coherent and stable policy framework, that ensures adequate returns for shareholders, visibility for network users and end-users. They should also design an efficient ETS.

Moreover, it is essential to complete the internal market, by effective implementation of the Third Energy Package and associated rules, as this will also improve market liquidity and investment signals.
On the other hand, facilitating permitting and public acceptance is also important.

<u>International LNG markets</u>

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 ?

AFG' members expect to see new suppliers enter the LNG market, with a potential oversupply driving supplies to Europe which will not necessarily be a "last resort" market as a result.

Cheaper LNG, and consequently cheaper gas in the EU, should help gas to regain market share in the power market against coal. This development would lower the EU GHG emissions at very competitive costs. A significant part of the presently "uncommitted" LNG export capacities under construction should eventually be delivered into Europe at gas market prices, based on worldwide arbitrage on destinations, meaning with no direct relation to oil indexation.

To a certain extent, LNG competes with pipeline gas in Europe. Therefore the underlying assumptions about this competition are paramount for LNG EU import forecasts. Overestimated forecasts are likely to lead to wrong analysis which may pave the way to stranded assets, in particular if investments are not market-based.

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 ?

AFG does not see any significant problem with the functioning of the international LNG market. It works rather well : gas flows where it is the most valued, as it should in a well-functioning liberalized market.
In addition, AFG does not see any specific actions for the EU with respect to the functioning of the International LNG market, even at times of stress, nor with respect to any dialogue with international partners other than ensure that diplomatic relations are sound and there are no restraints on global market trading through, where possible the negotiation of free trade agreements. The EU should fully respect the role of companies in determining and establishing commercial relations.

Also as mentioned above, a well-functioning market with gas playing its vital role in the energy mix in the short, medium and long term will make Europe an attractive market. EU policy should recognise the significant contribution gas can make to achieving its climate and energy goals.

It is far from clear what is envisaged by voluntary demand aggregation, why this should have advantages, or whether it is compatible with competition law in the internal market.

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 ?

LNG terminal technology is developing, in particular floating terminals (the number of Floating Storage and Regasification Units (FSRUs) is expected to increase, thanks to their ability to operate both as a floating terminal or as a conventional LNG carrier) as well as small scale LNG which contributes to the development of LNG virtual pipelines. Improved technology allows the range of services to be expanded including reloading.

Demand for gas in transport has significant potential. Its case is supported by environmental, economic, and technological drivers. The 2011 White Paper on Transport rightly recognised the value of the development of infrastructure for LNG.
The advantage of Europe as the technological leader globally for the use of gas in transport should be strengthened. European manufactures produce gas-fuelled vehicles, complying with very stringent regulations. LNG offers advantages used in long-distance travel and in maritime transport.

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.

Regarding the "well to wheel" GHG emissions, gas/LNG will always remain the lowest emitter amongst fossil fuels.
The EU domestic gas production, including biogas and potential shale gas, would always be the lowest option in term of "well to wheel" GHG.

STORAGE

Internal market constraints and challenges for 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 ?

Why does the heading of the section refer to constraints only ? The internal market, when functioning well does not constrain storage use, but sets it in a wider range of portfolio choices than previously.
AFG believes that demand for underground storage is likely to remain stable in the future due to the following supply projections:

- Pipeline gas: the fall in domestic production and growth in import dependency through pipelines will get more pronounced in the coming years. More imports from distant source countries mean more demand for flexibility[1]. This can be a factor leading to more storage being required.

[1] Due to increases in exposure to supply disruption.

- Low carbon indigenous sources : the increase of their share in the energy mix and a higher carbon price after the ETS reform will increase gas demand for power. Furthermore, flexibility demand will also increase with the development of intermittent RES. Storage facilities, given their ability to inject gas quickly onto a transmission system, have an important role to play in providing physical gas flexibility to gas-fired power plants.

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) ?

The statement of §7.2 (no correlation between the seasonal spread and the storage filling levels) is incorrect : the declined trend of storage subscriptions since 2010 is clearly due to the decline of the seasonal spreads since this date.
Indeed, summer-winter spreads can be seen as a fundamental driver of storage value from the shippers' point of view. Their decline since 2010 has removed price signal for storage : shippers prefer to cover a grower part of their flexibility needs by sourcing gas on spot markets.
These market conditions impact not only the storage system operators - that 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 - but also, possibly, the European gas security of supply in the long term (reduction of the amount of available storage capacity).
Indeed, since a couple of years, European storage operators are reacting with mothballing/closing of storage facilities[2] (as observed in France and Germany), project shifts, termination and depreciation, to save operating costs or to reallocate capital to more profitable uses.

Therefore, in order to prevent storage system operators from closing down storage facilities and to enable storage to play its role as a security of supply provider, a clear, stable and relevant regulatory framework has to be implemented that :

- recognizes the full value of storage including the insurance value - be it preferably through market-based instruments or through strategic storage or storage obligations - and the system value (through lower transmission tariffs: see questions 19 and 21)
- takes into account new market conditions through (i) ensuring a level playing field between the different flexibility sources and (ii) facilitating commercial innovation (see question 19).

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

The current study underway for the Commission will provide material on advantages and disadvantages of strategic storage or mandatory obligations. Possible interventions should not act as disincentives to cost-efficient use of storage.
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. There is a range of options available to improve security of supply, from market-based measures to traditional storage-related security of supply measures.

Market-based measures can help to incentivize adequate minimum reserves like for example in the Danish system where TSO pay for a certain quantity of gas to be stored by storage customers for a given period (the stored gas can only be withdrawn in case of emergency).

Traditional storage-related security of supply measures can also be an efficient way of addressing the insurance value of storage through storage obligations (in France, they provide a certain degree of certainty regarding the level of storage bookings and might be maintained for security of supply reasons) or strategic storage (like in Italy).

[2] Closing down underground storage facilities is costly and almost irreversible. Thus, considering the long lead time for (re)-developing capacity, such a short term decision would endanger the gas system on a long-term basis.

AFG does not support a "one size fits all" approach, but rather believes that the choice of the most appropriate measures should be up to each Member State according to its own assessment of the risks. That is what Gas Storage Europe calls the "toolbox approach".
As a matter of consequence, AFG considers that a security of supply result-oriented approach should be maintained by the European Commission as Member States have different levels of exposure to risk and hence different gas security of supply requirements.

Storage Infrastructure

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 ?

The optimal share of storage is not the same everywhere because each country is different in terms of its energy mix, indigenous resources, import dependency, seasonal demand ratio, ability to cover seasonal modulation needs and peak demand, structure of gas demand (households, industry, power generation…), characteristics of the existing storage facilities (seasonal or quick storage)….

As to initiatives related to an adequate framework for infrastructure development, AFG welcomes the statement of § 7.12. Indeed, low transportation tariffs at interconnection points between storage and transmission and availability of firm transmission capacity to/from storage facilities would make access to storage facilities more attractive for storage users (see question 21).

In the frame of the TSO's development plans, a "make or buy" analysis could also be a way of addressing the system value of storage and optimizing the use of storage. Before each investment in new transmission pipelines, this "make or buy analysis" would compare the related investments costs to the costs of renting, on a long term basis, a gas storage (new storage or capacity increase) substituting these investments.

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

No further action is required.
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.
However, the main concern today is to optimize the existing infrastructure by having the storage reasonably filled at the beginning of the winter period.

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 ?

Far from contributing to any so-called "lock-in" effects or "diverting investments from low carbon technologies", gas contributes to the reduction of CO_2 emissions across all sectors (through innovative gas-based solutions) and provides part of the flexibility needed by intermittent renewable energy sources.
Therefore, clear and consistent policies are required from EU policy makers that natural gas has a key role to play in the transformation of the EU energy system on the short, medium and long term.

However, in the context of decreasing gas demand, gas competitiveness should be maintained through the optimized use of existing infrastructure and limited investments in new infrastructures (see the "make or buy analysis" mentioned in question 16).

Gas infrastructures are "renewable"-ready : replacing fossil natural gas with biomethane (whose production is on the rise all over Europe) will be an efficient way to replace fossil-fuel electricity by

renewable electricity. Investing in natural gas infrastructure also means investing in tomorrow renewable energy infrastructure.

Regulatory framework and potential barriers for storage

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

The statement of § 7.13 (risk that mandatory storage obligations distort market functioning by crowding out commercial stocks) is misleading: mandatory storage obligations do not crowd out commercial stocks as gas remains at suppliers disposal and can be valorized on markets.
There are three main critical regulatory barriers to the optimal use of storage :

- Level of transmission tariffs
- Constrained connection with the transportation network
- Ability to offer customized products

Whereas storage facilities provide numerous benefits to the system resulting in avoided investments and lower operational costs(see question 22), AFG believes that the system value of storage should be taken in account by lowering transmission tariffs for storage.
In case of congestion of the transport network, capacity at the interconnection points between transport and storage can be unavailable at injection or withdrawal. These capacities cannot be guaranteed as firm capacities, thus creating uncertainty at the usage of the concerned storage when subscribing the capacity. Unconstrained access to/from storage facilities from/to transmission network should therefore be guaranteed by way of firm transmission capacity so that storage users are treated on equal footing with other network users.
Finally, in order to compete with other flexibility tools that do not face the same third party access requirements (spot purchasing like virtual trading points, virtual storages or hubs), it is crucial for storage system operators to be able to answer to their customers' needs by offering innovative products like, under certain conditions, "commodity-backed capacity products" (capacity and commodity bundled products).

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 ?

Implementation and compliance with existing legislation is crucial before launching new initiatives.
On the other hand, regulation 994/2010could need 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.

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 ?

Specific transmission tariffs for gas storages are needed and should be part of the Network Code on Harmonized Transmission Tariff Structures in order to reflect the benefits that storage provides to the overall system.
Indeed, storage facilities reduce the costs that TSOs incur when operating their systems because :

- Storage is not an additional source of demand or supply : gas storage is different from all other entry/exit points in that it is not a net source of gas demand or supply. Rather, it shifts consumption from one period to another.
- Storage helps rational and efficient investments in the grid : because storage facilities are usually located close to centers of demand, transmission pipelines need to be seized only so that they can meet the average and not peak demand, with storage facilities making up for the difference between actual and average demand. Storage therefore allows a reduction in the size and cost of the transmission network. By way of example these savings have been estimated at the level of up

to GBP 70 million per annum in the UK alone[3] and are considered to range between 9 and 16% of avoided capital expenditure across Europe[4].

- Storage reduces operating expenses of TSOs : storage facilities help TSOs reduce the cost of compression, which is one of the most significant elements of their operating expenses.
- Storage enhances system stability and balance: storage facilities help maintain system integrity and balance thus supporting transmission operators in operating their pipeline network. This may be particularly crucial in system stress situations.

The proposed Network Code on Harmonized Transmission Tariff Structures should reflect 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.

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.

As an Association, we have not been made aware of specific difficulties in accessing 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.

This is a question for companies.

[3] Waters Wye Associates: "UK gas transmission system benefits from gas storage – an update to the initial report produced in 2007," 23 April 2014

[4] Pöyry: "Transportation tariff discounts for gas storage," November 2012