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E.ON response

DG ENER consultation on an EU Strategy for Liquefied Natural Gas and Gas Storage

E.ON welcomes the opportunity to respond to the European Commission's public consultation on a European Strategy for LNG and Storage. Before elaborating on the consultation questions in detail, we would like to outline the key elements of our view on this topic.

We strongly believe that the Commission's primary mission should be the completion of the European gas market by fully and consistently implementing the existing regulation in all EU Member States, in particular the 3rd internal package and the European Network Codes. This will lead to enhanced cross-border gas flows and improve Security of Supply (SoS) throughout Europe.

Europe needs a level playing field for all sources of flexibility, be it pipeline imports, storage or LNG import flows. We would disagree to any kind of market-distortive measures favouring one flexibility source over another. The optimal share of each flexibility source will ultimately be determined by the market.

LNG is first and foremost a different way to transport gas, and there should not be a different handling downstream of the regasification terminal. Issues that might effect the way LNG flows throughout Europe are issues that effect the overall gas market, and these have already been addressed by the Commission.

Nevertheless, we see a clear need for strategic partnerships if LNG shall complement the European supply portfolio in the long run on a reliable basis. Diversification is a main element of SoS, and the contribution of LNG to that can only be achieved by negotiating supply deals for larger time frames. In the short run, it implies a risk to rely on the LNG spot market, as both prices and lead times in case of an emergency can be high. We strongly argue that strategic partnerships with gas/LNG exporting countries need to be an important element of a LNG Strategy for Europe. Here we see a role for the EU to support an investor friendly climate. Commercial negotiations should be left to companies, and any kind of politically driven demand aggregation should be rejected.

The role of storage facilities differs in EU member states so a one size fits all approach in all regions regarding storage development is not appropriate. In some states it is essential to achieve certain storage levels during the winter period to guarantee SoS. National regulatory authorities should be aware of this mechanism and it might be suitable to consider a reduction or even waiver of regulated network tariffs at storage facilities, which would enhance competition and incentivize the use of storage.

Furthermore, the option for member states to implement a national storage obligation or strategic reserve should remain untouched. But for this option it is absolutely necessary to install a framework with no implications to a well-functioning gas markets meaning only in clear defined events and within a limited time these gas volumes should be delivered into the market.

LNG

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

We agree with the general observation that some EU member states lack proper interconnection to the internal gas market and thus tend to rely on one single supplier ("gas islands"). A better connection to the internal market would improve their supply security significantly. The primary steps to achieve this target are:

1. Full and consistent implementation of the existing regulation/legislation of the European Union in the field of energy, in particular the 3rd package and the European Network Codes. This will enhance the market and improve access to *all sources* of gas in these countries.
2. Close infrastructure "bottlenecks", where it is deemed necessary. This assessment must be based on economic criteria and significant market interest to ensure the efficient use of the infrastructure to be built and avoid "stranded assets".

Both measures then will lead to the integration of these member states into the European gas market. The desired volumes will then be able to flow to these countries – no matter if they come from indigenous European production, pipeline supply contracts or have been imported as LNG. It is neither necessary nor useful to consider additional, perhaps market-distortive measures particularly to "support" LNG.

The question of a potential access to LNG cannot be discussed separately from the completion of the internal market for gas. First of all, there is no need to distinguish between "gas" (pipeline gas) and "LNG" – basically these are just different transport ways, only competitive in terms of routes for the gas, where the most economical decision should be made. LNG as well as pipeline gas imports contribute to the supply picture of the internal European gas market.

From E.ON's point of view, the optimal share of LNG per member state or region should be determined by the market. As a globally traded source of gas, LNG can complement Europe's supply portfolio, thus improving diversification and supply security. In the end, the LNG share will be determined by the market, which is merely a question of **prices**: As LNG is being traded globally, its price is determined at the global markets, thereby exposing European buyers to this global environment as well.

Very briefly: Europe needs to be careful not to add intervention into the gas market. Infrastructure and market design have already been addressed by the European Commission. The existing regulation is sufficient, if only it is applied fully and consequently in all member states.

Our thoughts and suggestions for a LNG Strategy that would refer to the upstream part of the picture are presented in Q 10.

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?

E.ON has no analysis of the sort asked for, but a clear view on how possible measures should be prioritized: Europe has plenty of regasification capacities which are currently not or insufficiently utilized – partly because optionality (meaning an always higher share for regasification compared to liquefaction capacity) is a characteristic element of the global LNG market where volumes follow pricing signals, partly because the existing capacities are not sufficiently connected to the internal market.

The focus should clearly be on completing the internal market by implementing all relevant European regulation in all Member States. This will create gas trading markets with robust price signals to ensure that gas will flow to the place where it is actually needed, using the existing infrastructure efficiently.

Furthermore, bottleneck infrastructure which prevents the gas flow from the LNG regasification terminals to the customers needs to be identified. As already stated in the Commission's consultation paper, the missing links between the existing LNG terminals in South/South Western Europe (limited capacities between Northern and Southern French trading zone, missing South-North interconnection from Spain into France) and the internal market prevent these capacities from being efficiently used. The recently established High-Level Group for this region should carefully assess this topic. Nevertheless, investment decisions should always be based on significant market interest (shown via Open Season/Incremental Capacity Auctions) to ensure that costs will be recovered and the infrastructure to be built actually reflects real market needs.

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.

From E.ON's point of view, the existing TEN-E Regulation is sufficient and no further EU action in this field is needed. We again wish to highlight the need for a prompt implementation of all existing regulation (in particular the Network Codes) to further develop the internal gas market and enhance cross-border trading. This will benefit LNG as well as any other source of flexibility.

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?

The explanation of low use rates mainly relates to global market effects: When the terminals were built, assumptions on further market development were different, not anticipating the economic crisis. Strong demand growth in Asia has caused the spread between Europe and Asia to rise and lets volumes with destination flexibility flow to other markets than Europe. This optionality is a characteristic element of the LNG business: The amount of regasification capacity will always be higher than for liquefaction. With the upcoming "LNG wave" (commissioning of new export projects worldwide), we expect this spread to narrow again, leading to a convergence between European and Asian prices.

Regarding the uncertainties over future demand, it is essentially important to develop a perspective for gas as environmentally-friendly transition fuel in the process towards reaching the European 2030 energy targets. Gas fired generation, due to its flexibility, is the perfect partner for intermittent generation in a portfolio which is increasingly consisting of Renewables. We would appreciate the Commission's support in addressing this important role for gas in Europe's energy future.

To further reduce the risk of stranded assets, a careful cost-benefit analysis is essential before considering any investment. In general, better connecting the existing terminals to the market and thereby ensuring their efficient use should be favoured against building new ones, which would create even more competition between the (idle) regas capacities on European level. From a holistic

perspective, volumes with destination "Europe" should be able to reach all European places of demand, regardless if they arrive via a terminal in Italy or in the Netherlands.

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 2030)?

As the question does not relate to LNG and Storage, E.ON won´t comment on that in this response. We suggest to discuss these issues separately.

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.

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?

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?

E.ON is not aware of any problems with accessing terminals and moving gas from the terminals into the attached TSO grid. Of course, we can answer the question only with regard to our own portfolio.

We would like to highlight once again that only full and consistent implementation of the European gas market regulation can remove trading barriers and enhance cross-border gas flows. We see the immediate need to fully implement the 3rd energy package and the European Network Codes in all European member states. This progress should be closely monitored by the Commission.

Currently, these limitations prevent many EU Member States from gaining access to LNG. It is not necessary to build LNG terminals everywhere in Europe, it is only necessary to provide the right framework for the efficient use of the existing ones.

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?

As new liquefaction projects come online, we expect the next "LNG wave" to reach markets by ~ 2016. This growth will largely be driven by Australian export projects which are not going to reach Europe physically, but due to a temporary oversupply situation, we generally expect more LNG to come into Europe. European and Asian prices are already converging, showing the increasingly global nature of the gas business due to LNG. Large volumes from the US might reach markets as of ~ 2017/18, but their actual potential very much depends on global market prices.

Our analyses show that new, greenfield export projects require a relatively high global LNG price to break even. Under the current market environment, we expect that projects which have not taken FID yet might be postponed. Cost competitiveness varies globally, with US projects in the mid-range when the cost of feedgas is considered. However, the investor friendly environment makes the US a very competitive potential source of further capacity additions.

Another development regards the market structure itself. We observe a growing share of spot and short term LNG trade which supports global liquidity, as well as a greater amount of LNG sold without target destination. Increases in the diversity of market participants and the availability of shipping, opens up arbitrage opportunities between markets. However, this flexibility may also fully collapse inter-regional spreads which may see Europe become a "sink" for excess LNG, and effectively see European hub prices set the spot LNG price, a reversal of the trend of the last five years.

Regarding the question on pricing structures, there is no clear answer if there will be a shift away from oil-indexed LNG contracts. Many customers, especially in Asia, still demand oil-indexed supply. The contract portfolios of new terminals show a mixed picture, reflecting the different structures of buyers' markets. The important point is to secure competitive supplies, matching the market pricing structure where the volumes are intended to flow to. European buyers are exposed to European hub prices when marketing their LNG, therefore there is a clear tendency towards hub-indexation.

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?

In general, the market is functioning properly, as LNG is preferably delivered to markets with high demand and therefore high prices. This means that Europe would have to pay a price at least comparable to Asian buyers to attract the desired volumes. At times of stress (supply tightness) in Europe, we would expect market prices to rise to levels which would be attractive to sellers.

About 20 % of the current LNG supplies are flexible in terms of their destination ("spot"). These volumes are being sourced bilaterally, often also via tenders. To succeed in one of these tenders, it can be expected that a price significantly above current global price levels needs to be paid. As a consequence, the European market price would rise to this level, which could make it possible to attract even more LNG – but this would work only in case the market elsewhere is not in comparable stress: In case of a similar situation in Asia, prices would go up everywhere, without having enough LNG supplies worldwide to cover the whole demand.

It is important to notice that it might be unavoidable that gas prices can also harshly rise in times of stress, which is a signal of a functioning trading market. Gas pricing policies in some EU member states (regulated wholesale/household tariffs) stand against that and can be considered as market distortive. The EU should further strengthen its efforts to abolish such price caps.

On top of that, even a cargo from a nearby location (e.g. from Norway) needs at least seven days to reach a European terminal. To diversify the European supply portfolio and secure supply also for short-term market tightness (stress), in our view LNG is not the most suitable way to get more gas to Europe within hours or a few days.

The most challenging part of bringing more LNG into Europe is to successfully conclude long-term supply deals with producers at a competitive price. As export projects are based in only few countries, E.ON would welcome the EU's political support by providing a climate for strategic partnerships with (possible) suppliers of gas, including LNG. This can be accompanied by concluding free trade agreements with exporting countries wherever possible. From our point of view, a strategic approach needs to focus on the upstream part of the picture, supported by the ongoing implementation of the existing European gas market regulation. In certain cases, individual project promotion could be considered, e.g. by offering guarantees or currency hedging. However, we strongly believe that commercial negotiations must remain in the hands of companies, and that any kind of politically driven demand aggregation should be rejected.

Last but not least, supply can only be attracted to Europe if we manage to offer demand security to LNG exporters. Here it is up to the EU to play an important role by defining and publicly emphasising the role of gas as an environmentally-friendly transition fuel, both in power generation and for industrial and domestic use, and outline ways to grow into new technologies, e.g. LNG in transport, where analyses see a strongly rising demand.

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?

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.

The market for LNG as a fuel for transportation purposes has excellent growth perspectives, both for road transport and for use on ships. LNG can replace less environmentally-friendly fossil fuels in transport and thereby contribute to reaching the European 2030 emissions reduction targets.

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?

Europe is becoming more and more dependent on natural gas imports. Based on a reduced indigenous production with high flexibility and slightly growing gas demand additional imports, mainly from LNG and new pipeline projects, are required. Beside the commodity there is also a need to replace flexibility. This applies in particular, because new deliveries from pipeline projects are expected to be merely baseload.

The integration of these new deliveries in the European gas market by using existing storage assets will most probably the best and cheapest way to solve this challenge.

A major reason for the success has to be that all flexibility sources in the European gas market need a level playing field. In such an environment gas storage will play a key role.

Furthermore it is crucial for a sustainable and economical supply to involve gas storage operators in considerations for new supply projects.

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)?

On European level there is no need to change the regulatory framework. The path to implement the 3rd Energy package is appropriate and should be continued.

That does not restrict the rights for Member States to introduce additional obligations or requirements. But all these should rely on market-based instruments, and therefore not distort a well-functioning market or lead to undue costs.

Currently the security value of gas storage is not comprised in market prices. Shippers booking behaviour to balance their position relates to their individual risk-return-profile, using various flexibility sources showing different reliabilities in terms of availability. While normal demand scenarios are anticipated by the market based on future expectations, extreme events are not taken into account. The market just reacts to short term changes, but these do not set incentive for new

investments / preventing mothballing. Current market rules lead to network users have little incentives to book and fill especially seasonal storage capacity. In times of peak demand, or in case of extreme events (e.g. long lasting and cold winter or late cold spells in spring), supply cannot be secured by means of sources other than storages. Storage usage in order to meet also extreme demand scenarios needs to be incentivized within the market model. All this means that a SoS model needs to strive for a better utilization of storages as source of providing security for gas market. However as a matter of principle, each intervention has to avoid unnecessary distortions or adverse consequences on the market.

15.

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

Beside a diversified supply portfolio an adequate storage level during the winter period plays a major role in ensuring supply security but the dependency varies in the different member states significantly and to determine a general adequate minimum level is not suitable.

A market based instrument covering the need of almost all member states could be the following described mechanism. It works in cases where sufficient storage capacity is available in the right places. It can however be envisaged that in certain market environments some system relevant storage facilities run on unsustainable business models which could in extreme cases even lead to facilities being mothballed or closed, exposing the system to an even higher risk.

As a first step, the TSO would tender for SoS products for securing emergency supply. For this, the TSOs should be entitled to buy products from the market participants ensuring SoS. These products could be designed as a new type of load flow guarantees, i.e. based on its demand and flow data, the TSOs would procure the required products (in terms of structure and volume) to secure the required flow at grid bottlenecks from the market and utilize them in case of clearly defined emergency situations. Shippers participating in this tender would guarantee pre-defined physical flows at certain locations. Depending on country specific supply situations requirements can be defined how this flow guarantees can be met: This can for example be utilized regas capacities (Italy), an upstream position nearby the identified grid bottleneck (Netherlands) , import contracts treated as failure-proof (like from Norway for the United Kingdom) or physical gas in system relevant storage facilities (Germany). In case of non-delivery when requested by the TSO, penalties have to be determined, motivating shippers to secure fulfilment.

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 one fits all approach for every member states regarding an optimal level/share of storage.

For some states, e.g. Germany historical storage levels had been sufficient in the past. In our view it's possible to argue that there are enough storage facilities available to prevent most likely emergency situations.

Due to the market change, the market driven decision to inject/withdrawal combined with the expiration of long term storage bookings an easy projection of historical storage levels into the future is not appropriate anymore. On the contrary economic decision could lead to malfunction with no/less injection during summer and early withdrawal during winter with the result of critical storage levels in February and March. As a main step reduced transport tariffs at delivery points to storage facilities can lead to a level playing field compared to other flexibility sources and would make the utilization of existing storage capacity less costly.

Further, seasonal transport tariffs for imports could foster storage usage. Monitoring of min filling of storage might be useful to judge for further measures aiming to ensure for sufficient seasonal injections and fulfilling min fill requirements on a national/regional level.

17.

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

E.ON does not see any need for further EU actions. We emphasize that the implementation of the 3rd Energy Package in all member states should be in focus.

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?

Gas can play an essential role to support the necessary transition to an independent, sustainable and decentralised energy supply. Using all positive properties of gas there is in general less risk of stranded assets.

To reduce the risk of individual stranded assets, a careful cost-benefit analysis is essential before considering any investment in new storage facility. In many cases expanding existing storage assets and connections to networks should be favoured against building new ones.

19.

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

Barriers to the optimal use of storage in a regional context are similar to those barriers which prevent cross-border trading in general, lack of optimised flows at borders, (congestion, mismatched capacity either side of an IP, non-market interventions by authorities). These can all be addressed in actions to ensure implementation of the Third Package and in the ongoing work on implementation of codes and rules.

It is of fundamental importance that rules for transmission usage do not negatively impact on the value of storage and that they ensure equal treatment of storage users and other network users. In particular:

1. Storages must be allowed to compete with other flexibility sources on a level playing field:
- Transmission fees at storage points should avoid cross-subsidies (storage users should not pay twice for using the network) and should reflect the benefits that storage brings for customers.
- Storage users should not be penalized in emergency situations. Clear and non-discriminatory rules should be ensured in the case a transmission system operator needs to revert to storage in emergency situations as a matter of last resort.

2. To provide for SoS in extreme situations, not covered by market mechanisms, a respective responsibility has to be set up, which has to be as market reflective as possible coming with

the least distorting effect. There should be no risk of not being able to recover any efficiently incurred costs linked to this role of securing supply in extreme situations.

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?

There is no need for further EU level legislation, over and above some modifications to Regulation 994/2010 to clarify and strengthen its objectives, and correct implementation of other relevant current legislation including the Third Package.

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?

There is competition between all sources of flexibility in most European states so it is essential that gas storage operator have the possibility of free pricing. Regulated tariffs on EU level or by NRAs will potentially destroy this market based mechanism.

The focus for the EU should be to implement the 3rd Energy package in all member states.

In addition to this, NRAs should establish equal opportunities of competitors. Tariffs from the transmission system into and from storages significantly impact the economics of the use of these storages. Please refer to our answer to Q19 regarding most critical regulatory barriers.

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.

With the introduction of the 3rd Energy package, the situation has improved. This path should be continued. Nevertheless there are still issues that impede the free access to storage facilities.

The example Austria shows that due to the lack of sufficient reverse flow capacities at the connection points from the distribution system to the transmission system at the ICP in "Baumgarten" withdrawals from all Austrian Storage facilities could not be transported to

neighbouring countries due to several interruptions of transport capacity at the Storage connection points last winter. This is in conflict with solidarity measures in case of an emergency situation but also with the overall aim to further integrate markets.

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.

We are not aware of difficulties of this kind.