



European Commission
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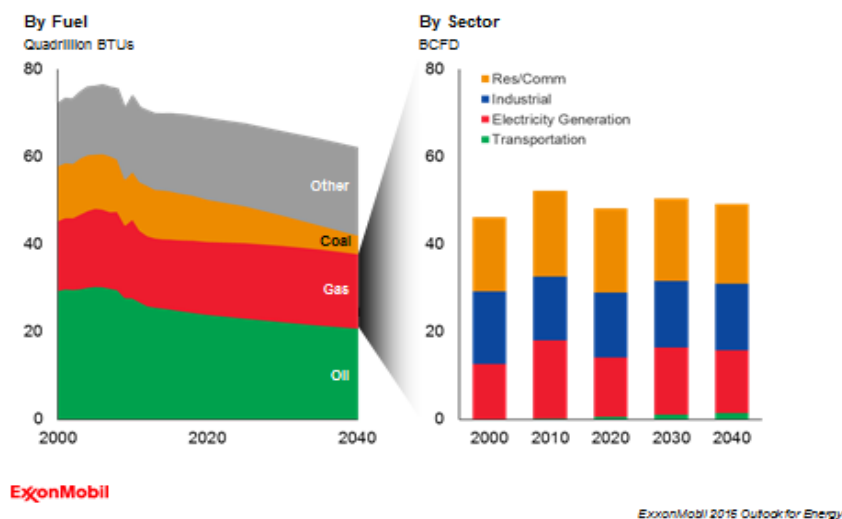
ExxonMobil response to DG Energy “Consultation on an EU strategy for liquefied natural gas and gas storage”

ExxonMobil¹ welcomes the opportunity to respond to DG Energy’s public consultation on an EU strategy for liquefied natural gas and gas storage. ExxonMobil is a key player in the LNG business, with 50 years of LNG project development experience, interests in currently operating liquefaction capacity in Qatar and Papua New Guinea, and with further projects under development. ExxonMobil is also a longstanding participant in the European gas business involved across the supply chain, including upstream production, storage and processing, LNG regasification terminals and marketing. ExxonMobil has an ownership interest in LNG regasification capacity in Europe at the South Hook Terminal in Wales and the Adriatic LNG Terminal offshore Italy.

ExxonMobil agrees with the Commission that gas has a key role to play in the EU energy system, and will continue to do so in the future, because of its scalability, reliability and efficiency, as well as cleaner burning properties and competitive costs. In all expert policy scenarios, even those that seek to limit air and greenhouse gas emissions, natural gas will continue to play a critical role to 2050 and beyond. We believe both LNG and gas storage will have important roles to play in facilitating security of gas and energy supplies in Europe.

In contrast to the projected gas demand outlook included in the Annex to the consultation, ExxonMobil’s 2015 Energy Outlook forecasts EU gas demand to remain relatively stable through 2040.

European Union Natural Gas Demand



¹ The term “ExxonMobil” may include the affiliated business stewarded by Exxon Mobil Corporation, as well as Exxon Mobil Corporation itself and does not refer to any particular member of the ExxonMobil group of companies.

ExxonMobil believes that market mechanisms provide more effective security of supply solutions than regulated structures. We support the Commission's conclusion in 2015's stress test communication that a market based approach should be the guiding principle for energy security, and this can be best supported by a large, interconnected, well-functioning, competitive market and a stable legislative and regulatory framework. Over the past few years, the EU's gas supply security has been enhanced in a cost effective manner by market responses which have facilitated:

- Gas supply diversity through both incremental pipeline and LNG import capacity.
- Continued gas infrastructure development and market interconnection.

However, we recognise some Member States may feel that security of gas supply may be challenged in localised areas in the short term. In addressing these challenges:

- Cost effective implementation of the existing Third Energy Package and the Regulation on Security of Gas Supply should be pursued, where not already fully implemented.
- Actions should be primarily aimed at increasing operational coordination and interconnectivity and removing barriers to cross-border trade without distorting market mechanisms.

1. LNG in 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

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?

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

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?

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)?

- All energy sources will be needed to meet the growth in future global energy demand necessary to support economic growth and improve living standards. Natural gas will be one of the most versatile fuels of the future because of its scalability, reliability and efficiency as well as cleaner burning properties and competitive costs.
- Because of future energy demand growth, ExxonMobil believes the risk of stranded gas assets due to the development of renewables is limited. Moreover in case of market-based investments this risk would be on market parties and not cause unnecessary public costs.
- LNG is simply a method of transportation of natural gas. Like natural gas that is transported through pipelines, LNG delivers cleaner-burning natural gas from remote production areas to distant markets where additional imported supplies are needed. LNG's logistical flexibility helps improve the security of supplies worldwide.
- The market for natural gas supply is becoming increasingly global. Delivery as LNG allows remote resources to reach areas of customer demand and provides linkages between previously regional markets in Asia, Europe and North and South America with multiple supply options. Both suppliers and customers benefit from these developments, which are providing a wide choice of natural gas sales/supply options ranging from traditional long-term contracts to shorter term and spot arrangements to meet evolving customer and supplier needs.
- In ExxonMobil's Energy Outlook, global LNG trade is expected to more than triple, growing from about 225 million tons annually to around 700 million tons annually by 2040. By 2040, we expect about 20 percent of the world's natural gas demand will be met by LNG shipments. To meet this growing demand a significant number of new LNG projects will be needed, increasingly diversifying the number of supply sources.
- ExxonMobil understands that the Commission may be considering actions intended to support LNG supply. In doing so, it is critical that the Commission recognizes and entrenches the principle that free trade is the most efficient and cost effective means of ensuring abundant and secure natural gas (including LNG) supplies to Europe. In this context, the EU should help remove barriers to free trade (e.g. engaging with the US to accelerate the permitting and approval of US LNG exports to Europe) and other natural gas investment obstacles.
- In our view there is no optimal level/share of LNG for a region. The key to security of supply is diversity, and for natural gas this could come from LNG, storage facilities, pipeline imports and indigenous production, as well as demand side response.
- Regasification facilities form an essential component of the LNG supply chain. Investors in a production project utilizing LNG as its method of transportation will require certainty of access to regasification in order to underpin the investment. In many cases, these upstream developers have concluded that they need to invest in such facilities to assure a market outlet.
- Many recent LNG terminal projects in Europe have been built under a Third Party Access exemption, demonstrating the importance of long-term terminal access contracts to underpin the huge investments in the LNG supply chain that cover gas production, liquefaction, shipping and regasification.
- Utilisation of EU LNG terminals will be determined by natural gas supply / demand fundamentals, cost of supply and natural gas prices. Utilisation of existing terminals in Europe has been low because LNG suppliers in a global natural gas market can get a higher margin from sales into other regions like Asia or South America.

- Market mechanisms are best placed to determine whether and where new LNG regasification terminals are built. Investment in LNG infrastructure cannot be assessed in isolation from other forms of natural gas transportation (for example, gas delivered by pipeline may be more economic) or local market conditions (for example, regulated wholesale prices, the small size of the customer base, regulatory uncertainty). All of these factors may discourage investment.
- Market based investment signals for new LNG infrastructure could be distorted by EU and Member State financial support or other public funding for LNG terminals. It could damage private investors who have previously invested in competing non-subsidised commercial LNG terminals and may act as a disincentive for future private investment.
- ExxonMobil favours policies that establish a level playing field for all sources of energy to meet supply needs and environmental goals. Targets and subsidies to promote alternatives have led not only to market distorting advantages to alternative sources, but also to the unintended consequence of greater coal use in power generation, despite significantly higher air pollution and carbon emissions, which seems inconsistent with Europe's commitment to reduce carbon emissions. The EU needs to recognise full cost of renewables.

2. Potential entry barriers for LNG:

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

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?

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?

- Completion of the Internal Energy Market is key for the efficient use of LNG terminals in Europe.
- ExxonMobil does not believe LNG terminal access conditions by themselves are a problem. There is currently ample capacity available at import terminals, and market parties that would like to bring LNG into Europe have a choice of terminals with available capacity.
- However there are still barriers for natural gas (whether delivered by pipeline or as LNG) to reach certain areas in Europe, in particular lack of interconnectivity and market depth. Establishing an efficient, liquid and deep market place which delivers internationally competitive price formation is key to attracting LNG suppliers. The focus should therefore be on removing such barriers through improving interconnectivity and implementation of the Third Energy Package, the associated Network Codes and the Regulation on Security of Gas Supply. This existing EU legislation should be adequate to tackle the outstanding issues.
- In areas such as north west Europe, where a functioning gas market is well developed and served by several LNG regasification terminals, multiple other supply sources and gas transmission systems that are easily accessible and well connected, LNG terminal access regulations should be reviewed with a view to encouraging investment and reducing the regulatory obligations on LNG regasification terminal operators.

3. International LNG markets

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

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?

- LNG is facilitating the continued development of the global gas market. European consumers are competing with consumers in other demand regions, such as Asia, for access to global natural gas supply. LNG allows suppliers to switch from one region to another in response to price movements. Prices will be set on the basis of supply and demand fundamentals and buyers and sellers should be free to negotiate on appropriate pricing mechanisms.
- The costs involved in developing LNG supply chain facilities (production, liquefaction, shipping and regasification facilities) are significant. Investors will therefore look for certainty, clarity and stability to manage this risk. Risk management factors include the potential use of long term sales contracts balancing risks and rewards, a stable regulatory environment and assured access to infrastructure, all of which help toward providing long term security of demand and facilitate the certainty necessary to underpin such large scale investments.
- In determining supply destination, LNG suppliers will take account not just of local wholesale prices at the destination, but also all the costs to supply that destination, including shipping costs, LNG regasification costs, transmission entry charges and any other costs to suppliers. LNG will flow to the most attractive markets based on price signals and costs, although there may be some response time.
- At times of stress in natural gas markets, LNG may not be able to provide an immediate response, but may require some lead time. Response time will depend upon global LNG supply / demand balances, availability of LNG that hasn't already been committed to buyers in other regions, availability of shipping and regasification capacity, together with pipeline capacity downstream of the LNG terminal, and the logistical ability to place the regasified LNG into the receiving market.
- The EU does have a role to play in supporting development of new supply sources and routes, by developing and maintaining good relationships with international partners in order to facilitate the establishment of commercial relationships by market parties. In doing so the EU should place the emphasis on two key messages: the important current and future role for gas in the EU energy mix; and the importance of a market based approach. The EU should also continue its efforts to remove barriers to free trade, such as engaging with the U.S. to accelerate the permitting and approval of U.S. LNG export licences to non-FTA countries. However, commercial negotiations and discussions are best left to market participants.
- Demand aggregation via regulatory / government interventions would distort market behaviour, cause increased market concentration and work against market liberalization. Instead, isolated and potentially vulnerable countries need to be integrated into the wider supply network, via the completion of the Internal Energy Market and by removing restrictions to trade, to achieve similar benefits.

4. 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?

- Technological developments are hard to predict. The economics and use in transportation of natural gas depend on the relative costs of the vehicle and fuel, and vary by transport segment and region. Challenges for greater gas use in transport include vehicle cost, operating range, reduced cargo space, refuelling infrastructure, and fuel quality needs.
- ExxonMobil's Energy Outlook predicts that natural gas will supply 5 percent of the total global transport fuel demand by 2040. CNG is economically attractive for some centrally fuelled fleets and short-haul trucks. There is potential for LNG use in long-haul heavy duty trucking. Growth of LNG in select marine markets is anticipated if bunkering facilities are built and safety procedures are implemented
- Government subsidies, mandates or restrictions related to specific fuels or technologies inhibit competition in, or the efficient operation of, markets and instead work to create a scarcity rather than an abundance of practical, economic options to help meet consumer, investor and broad-based public interests related to energy.
- The EU's role is not to arbitrarily pick winners, but rather to create an environment conducive to the development of economically viable and environmentally competitive technology.
- In the current regulatory and market conditions, LNG into marine transportation is the most affordable / viable option in Europe for gas into transportation. The EU should ensure standardization of bunkering techniques/procedures across ports/terminals and support development of safety procedures by industry

5. 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.

- We do not believe there are sustainability issues specific to LNG that need to be explored as part of the EU strategy for LNG.

6. 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?

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)?

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

- Energy security depends on diversity of energy supply. Europe's energy security can be best supported by a large, interconnected, well-functioning, competitive market and a stable legislative framework. In such an environment there are multiple mechanisms that can compete to help maintain security of gas supply, and provide the necessary flexibility requirements, both on the demand and supply side. It is important that those mechanisms are allowed to compete on a level playing field.
- Europe's gas security has been enhanced over the past decade in a cost effective manner by market responses in an increasingly competitive market place which has facilitated investment in new infrastructure, including gas storage facilities. ExxonMobil's Energy Outlook forecasts that gas will continue to play a critical role in meeting Europe's energy needs. We believe gas storage will continue to have an important role to play in Europe.
- Future challenges for gas storage include changes in the level and volatility of overall gas demand, a key driver for which will be the future power generation mix, and what this means for the level and type of gas storage required. A key input in this area will be the EU's energy and climate change policy and other Member State interventions in the power market.
- Storage will also continue to face competition from other supply sources and demand side response to provide flexibility. Storage operators should have the freedom and commercial incentive to develop storage products that reflect market demand for flexibility services, and compete with other flexibility sources on a level playing field to provide these services.
- ExxonMobil believes a functioning gas market is the best mechanism to ensure supply and demand are balanced and adequate supply flexibility is available. Market participants have a financial incentive to avoid having to buy gas at the time of a crisis at distressed prices. Therefore buyers and sellers will take appropriate measures to prevent this. These measures can be different for different parties and change dynamically depending on the circumstances.
- Regulations to set minimum or mandatory storage reserves are less efficient than market mechanisms and should be avoided. They are also not able to respond quickly to changing circumstances. Moreover they negatively impact on market mechanisms to ensure adequate reserves as they lead to an inefficient valuation of storage relative to other flexibility sources.

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?

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

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 weigh those against risks to gas security and resilience? What options exist in your view to reduce the risk of stranded assets?

- There is no optimal level of storage for a market or region. The key to supply security is a well-functioning, interconnected market, supply flexibility and diversity (which could come from indigenous production and LNG or pipeline imports as well as storage facilities), and demand side response.
- Market-mechanisms are best placed to determine whether and where gas storage facilities are built. Market-based investment signals could be distorted by EU and Member State financial support or other public funding for gas storage facilities. Interventions increase risk for private investors and may cause withdrawal from the market. Instead, a level playing field and stable regulatory framework is required.
- We do not believe further regulation is required. Rather the EU should ensure effective implementation of the Third Energy Package and associated network codes. The EU also has a role to play in facilitating complex cross border projects, where multiple stakeholders need to overcome obstacles caused by different legislative frameworks. For example, the Gas Regional Initiatives provide a good platform to address such obstacles.
- All energy sources will be needed to meet future energy demand. Gas will continue to play a key role in the energy mix. Hence ExxonMobil believes the risk of stranded assets due to the development of renewables is limited. Moreover in case of market-based investments this risk would be on market parties and not cause unnecessary public costs.

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?

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?

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?

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.

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.

- A well-functioning, integrated energy market and liberalisation of gas prices is key to providing energy security in a cost-effective way, since it enables market-based responses to supply issues and enables the efficient use of commercial storages. To this end the strengthening of the EU internal gas market through effective implementation of the Third Energy Package and associated network codes should be prioritized.

- ExxonMobil believes that third party access conditions to gas storage facilities are not the problem, because there are sufficient flexibility instruments available. In addition to storage facilities, flexibility is available from indigenous production, pipeline / LNG imports and demand side responses. Moreover, flexibility can also be secured by spot market transactions.
- However, there are still areas where arrangements could be improved to facilitate the efficient use of gas storage facilities, for example in-country physical stock obligations. Obligations on suppliers or traders that force certain booking behaviour or restrict certain types of access or usage of storage tend to reduce the value of storage and distort market behaviour. They also act to the detriment of the efficient regional use of storage and hence security of supply. The focus should be on removing such distortions.
- In areas where a functioning gas market has developed with effective competition between flexible gas sources the nature of the regulation of gas storage facilities should be regularly reviewed with a view to reducing the regulatory obligations on storage operators.
- We understand that question 21 relates to the transmission tariffs for entry to and exit from gas storage facilities. This question is part of a broader discussion about cost allocation in the tariff network code. We support a cost allocation mechanism that only charges transmission costs on (domestic) exits as this would be the most efficient and overall would benefit end consumers by removing entry barriers. A consequence of such a mechanism would be that LNG terminals and storage facilities would not be charged with transmission charges, but it is not a tariff exemption for gas storage facilities only.
- ExxonMobil has not encountered difficulties in accessing storage facilities or related to feeding LNG from the LNG storage back into the gas network.

ExxonMobil appreciates the opportunity to contribute to this debate and would be happy to continue dialogue with the Commission. If you have any questions or require any clarifications, please contact me.

Best Regards

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