IOGP response to the DG Energy "Consultation on an EU strategy for liquefied natural gas and gas storage"

IOGP welcomes the opportunity to respond to DG Energy's public consultation on an EU strategy for liquefied natural gas and gas storage.

The International Association of Oil & Gas Producers (IOGP) represents the global upstream industry. Oil and gas continue to provide a significant proportion of the world's energy to meet growing demands for heat, light and transport. Our Members produce more than half of the world's oil and over a third of its gas. They operate in all major producing regions and also have several decades of experience in LNG and gas storage.

This response does not contain commercially sensitive information and we agree that this response will be published on the Commission's website.

1. Introduction / General

IOGP agrees with the Commission that gas plays a key role in the EU energy system and will continue to be of major importance in the future. We believe that natural gas will be one of the most versatile fuels of the future because of its scalability, reliability and efficiency as well as clean-burning properties and competitive costs.

Natural gas-fired power plants can play an important role in achieving the EU's 2030 climate targets because natural gas is the most carbon-efficient fossil fuel and also offers substantial flexibility to support increasing quantities of variable renewables in the power mix. The existing gas infrastructure with its LNG facilities and gas storages can help to support the reliability of both the gas and power systems.

A sustainable level of energy security can be best supported by a large, interconnected, well-functioning, competitive market and a stable legislative framework. Over the past decade, EU gas security of supply has significantly improved in a cost effective manner by market response. The market has enhanced gas supply diversity through incremental pipeline and LNG import capacity, gas infrastructure development and market interconnections. Today, more than half of the EU gas consumption is supplied by EU countries and Norway. In addition, Europe is within economic distance of 70% of global gas resources[1].

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[1] GasNaturally

IOGP believes that market mechanisms provide more effective security of supply solutions than regulated structures. However, we recognize that some Member States may feel that supply diversity may be challenged in localised areas in the short term due, amongst others, to a lack of interconnectivity. In addressing these challenges, actions should be primarily aimed at increasing interconnectivity and removing barriers to cross-border trade without distorting market mechanisms. Some of the barriers that prevent efficient use of existing interconnections can be removed by effective implementation of the Third Energy Package and the Regulation on Security of gas Supply.

2. 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)?

First of all we would like to note that LNG is simply a method of transportation of natural gas. Just 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.

Because natural gas transported as LNG offers logistical flexibility, LNG helps improve the security of gas supply. The LNG industry is becoming increasingly global and links regional markets in Asia, Europe and North/South America with multiple supply options. Both suppliers and customers benefit from these developments, which are providing a wide choice of options ranging from traditional long-term contracts to shorter term and spot arrangements to meet evolving customer and supplier needs.

IOGP understands that the Commission may be considering actions intended to support LNG supply security. 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 LNG supplies to Europe. Energy security is best served by policy-makers enacting trade rules and policies to facilitate open markets, infrastructure development and promote international cooperation. In the context of TTIP, the EU should work with the U.S. to encourage acceleration of LNG export licenses (over 30 projects are currently awaiting DOE approval, with only a handful approved to date).

In deciding on new locations for LNG terminals, we believe that market mechanisms are best placed to determine whether and where LNG terminals are built. Market based investment signals could be distorted by EU and Member State financial support or other public funding for LNG terminals. Also the lack of market interest for investments in LNG terminals in certain regions in the EU could be caused by barriers to access the market (e.g. regulated wholesale prices), the small size of the market, regulatory uncertainty or an assessment by the market that LNG will not be a competitive source of gas for that region.

A number of the recent LNG terminal projects have been built under a TPA exemption, indicating 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. On a global scale, the capacity of LNG receiving terminals is currently twice the world LNG liquefaction capacity. This means that terminal utilisation rates of $\leq$ 50% are quite normal by nature in a global LNG market. Although LNG will flow to markets on the basis of economic signals, the LNG-terminals that have been built or sponsored by market parties are more likely to be utilized because those parties have access to supply sources and shipping facilities designed for those terminals.

In our view there is no optimal level or share of LNG for a market or region. The key is supply diversity and this could come from LNG, storage facilities, pipeline imports and indigenous production. It will be more cost effective for some Member States to get access to LNG supplies indirectly through efficient use of interconnections with neighbouring Member States rather than to try and develop their 'own' LNG terminals.

In north-west Europe – a functioning market which has ample regasification capacity available from several LNG-terminals – all customers effectively have access to LNG supplies (and other supply options) through the region's gas hubs such as TTF and NBP. By making more efficient use of existing pipelines to connect with this region, these supply options could be extended to

adjacent Member States. This demonstrates the importance of having connected regional markets for supply diversity and flexibility.

With respect to the questions on the risk of stranded assets, IOGP believes that all energy sources will be needed to meet future energy demand. Hence the risk of stranded gas assets due to the development of renewables is limited. We recommend the Commission to compare its declining gas demand projections with the IEA New Policies scenarios which show a 15% growth in demand between 2012 and 2040 and other publicly available outlooks produced by IOGP members[2].

Moreover in case of market-based investments the risk of stranded assets would be on market parties making those investments and not cause unnecessary public costs.

3.   Potential entry barriers for LNG:

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

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?

IOGP does not believe that LNG terminal access conditions by themselves are a problem. Given that there is ample capacity available at import terminals, this provides the market with a choice of options and allows prices to dictate flows. There is a choice of LNG-terminals which have capacity available to bring an additional spot cargo of LNG into the market, and even trades of LNG ex ship or ex terminal (reloads) are possible.

There may be some merit in reviewing the regulatory regime that applies to LNG terminals. This is because in regions – such as the north-west of Europe – where a functioning gas market has developed and one that can be supplied by several LNG terminals (or other supply sources), these terminals should be considered as competing facilities and regulated as such. Therefore, specific terminal access regulations put in place when a facility was deemed essential should be reviewed with this thought in mind. As such, competition law and anti-hoarding measures combined with adequate transparency of relevant data should be considered sufficient to ensure that terminal access is not being abused by the primary capacity holder.

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[2] Such as: BP Energy Outlook 2035; Statoil Energy Perspectives 2015; ExxonMobil 2015 Outlook for Energy.

There may be areas where current arrangements could be improved. Where there are still issues with the lack of transparency and publicly available and reliable data relating to the use-it-or-lose-it (UIOLI) slots for existing facilities, these should be addressed. However, the significant barriers regarding LNG – or any other form of gas – are not so much to do with LNG terminal access or UIOLI arrangements as they are with ensuring the efficient flow of gas between European grids. We would reiterate our view that interconnected and integrated EU energy markets (and this includes resolving the problem of markets where there is currently insufficient interconnection) represent the most attractive conditions for LNG flows; help ensure the efficient utilisation of existing import terminals; and reduce the possibility of inefficient investment.

In that regard, completion of the Internal Energy Market is crucial for the efficient use of LNG terminals in Europe. IOGP urges full and speedy implementation of the Third Energy Package, the associated EU Network Codes and the Regulation on Security of Gas Supply. However, speedy implementation should not be at the expense of appropriate Network Code development.

For example, the nature of some EU Network Codes designed to integrate markets may act as another potential barrier to attractiveness of European networks for LNG flows, and hence the optimum use of import terminals. In particular, with regards to the Network Code on Capacity Allocation Mechanism (CAM) and the requirement to bundle capacity, the way in which network operators are interpreting this obligation is at best unhelpful. At worst, the approach to this aspect of CAM implementation is damaging, as the capacity mismatch at interconnection points may lead to unutilised unbundled transmission capacity, potentially forcing the renegotiation of existing transportation agreements.

Also the discussion on gas quality harmonization has demonstrated that a too narrow common EU Wobbe index range would exclude part of the current LNG supplies and also a part of the potential sources imported into Europe. We believe the CEN standard should not create unnecessary barriers for gas to enter the EU and IOGP is willing to participate in the further work on the standard.

Finally, the Tariff Network Code that is currently under development should be used to remove barriers to the efficient use of LNG facilities. We refer to our response to question 21.

4. International LNG markets

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

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?

IOGP believes that LNG will increasingly connect gas markets across the globe with a multiplicity of buyers and sellers, with flows remaining responsive to price signals. However, an important consideration to bear in mind is that given the nature of the LNG chain, this form of gas will require some lead-time to respond to a sudden and significant supply loss. Also, potential LNG suppliers will look at all the costs elements to supply a specific market, not just the wholesale price of that destination market but also shipping costs, LNG terminal costs, transmission entry charges and any other costs to suppliers.

The EU does have a role to play in developing and maintaining good relationships with international partners. In doing so, the EU should place the utmost emphasis on two key messages: the current and future role for gas in the European energy mix; and the primacy of a market-based approach. However, there should be a clear understanding that commercial negotiations and discussions are best left to market participants.

Regarding demand aggregation, there is a lack of clarity as to what this would involve. For example, IOGP would not support such a measure being agreed at governmental level. Rather, the possibility of demand aggregation should be a choice left to market participants, subject to any legal considerations regarding the nature of the agreement.

Even then, demand aggregation may have negative impacts. For example, it may prolong or strengthen the existence of 'energy islands'. These would be damaging outcomes and for that reason IOGP considers a far more preferable goal to be the quickening of EU market integration.

It should be recognised that completion of the internal gas market is in itself an implicit form of demand aggregation and that this has proven to be sufficient in terms of creating an attractive market for suppliers of pipeline gas and LNG.

5. LNG technology issues including LNG use in transport

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

Technological developments are hard to predict, but we expect the use of LNG in transport to grow significantly and predominantly in marine transportation and heavy duty vehicles. However, in terms of total natural gas consumption the transportation segment is expected to remain below 5% of total gas demand in 2035/2040[3].

6. LNG sustainability issues

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[3] Source: BP Energy Outlook 2035; ExxonMobil 2015 Outlook for Energy.

There are no sustainability issues specific to LNG that should be explored as part of the EU strategy for LNG.

7. Storage

Internal market constraints and challenges for storage

Challenges for gas storage will be broadly two-fold. First, there will be the impact of changes in the level and volatility of overall gas demand, including key drivers such as the power generation mix, and what this means for the level and type of gas storage required. A key input in this area will be energy policy, e.g. the EU's Energy and Climate Change policy and national interventions in the power market.

Second, storage will also face competition from other supply sources and demand-side response with regards to its position in the broader flexibility market. It is important that storage should be provided with a level playing-field such that it can compete with other flexibility sources to address demand volatility and possible supply disruptions. Storage operators should have the freedom and commercial incentive to develop storage products that reflect market demand for flexibility services – this is not always the case. We believe that auctions are an efficient mechanism to bring storage products to the market and to determine and achieve the market price for those products. Storage operators should not be restricted by regulations in the use of this tool. When auctions are used in a regulated access regime, the reserve price should be used in a flexible way to incentivise storage bookings.

IOGP maintains that a functioning gas market where market participants face appropriate commercial incentives is the best and most efficient way to ensure an ongoing supply/demand balance. As such, anti-market measures, e.g. mandatory reserves or shipper/supplier obligations, should be avoided. However, where such measures are considered necessary to address specific issues in isolated areas with limited room for market development, the extent of the intervention should:

1. be time-limited and proportionate to the specific issue identified (for example a local or temporary issue should not be used to justify permanent widespread intervention);

2. take into account the costs of mandatory reserves compared to alternative options (for example transport capacity expansion or reverse flow could be a more cost effective way to address a security of supply concern); and

3. be structured in a way best designed to isolate its impact on the gas wholesale market or, in any event, minimize any negative impact on the wholesale market or cross-border flows.

Moreover, any mandatory reserve should see the TSO accessing storage at the same time and on the same terms as market participants. Anything else would likely lead to an inefficient valuation of storage relative to other flexibility sources. On that basis, a TSO could tender for maintenance of a pre-determined mandatory minimum reserve in terms of flow commitments; minimum physical stock; availability of gas obligations or demand-side response.

Importantly, when markets are better interconnected and gas pricing is liberalised, the market can assume a greater role in providing supply security. At such a point, any existing mandatory reserves should be revisited and the use of commercial stocks encouraged.

In this framework, it is important to ensure that national regulatory systems do not provide any limitations to the use that storage users can make of their booked capacities (e.g. daily or monthly caps on the amount of stored gas that a network user can withdraw). Such limits make the market unable to quickly react to emergency situations.

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 and 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 is supply flexibility and diversity and this could come from LNG, storage facilities, pipeline imports, indigenous production or demand-side response. In deciding on new locations for gas storage, IOGP believes that market mechanisms are best placed to determine whether and where storage facilities are built. What is key for storage is to get all capacity brought to market and we would reiterate our preference for auctions as the means for doing so.

Moreover, a pre-determined 'optimal level' for storage is not only likely to distort the market mechanism but also lead to increased costs for consumers. In the longer-term it could also potentially hamper security of supply by distorting investment decisions.

However, in areas or regions where supply diversity is lacking or there has been limited market development, if the Commission or Member States are considering temporary regulatory

interventions, the extent of the intervention should be supported by a cost-benefit analysis and any intervention should be designed to minimize distortion of the gas market and limited in time.

With regards to the increase of renewables in the EU energy mix and stranded gas assets, it is important to realise that under any scenario gas will remain a vital part of Europe's requirements. Moreover, the issue of stranded assets should only be an area of concern for price regulated facilities.

This is because in contrast to non-regulated or exempt infrastructure where the developers are liable for the costs of any stranded assets, consumers ultimately bear the costs of any inefficient investment in price regulated infrastructure. More generally, with regards to avoiding stranded assets, creating a level playing field for storage in relation to pipeline and LNG flows would likely help it compete, as would the identification and elimination of barriers to enhancing storage flows between markets.

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.

IOGP 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 LNG imports, pipeline imports, indigenous production and demand-side response. Moreover flexibility can be contracted on the gas spot markets.

However, as stated earlier, completion of the Internal Energy Market is crucial and key to help ensure the creation of functioning, integrated gas markets characterised by effective price signals. It is these markets that will be vital for the efficient use of gas storage facilities in Europe. To this end the strengthening of the EU internal gas market through effective implementation of the Third Energy Package and appropriately drafted associated network codes should be prioritized.

Despite the above, there may be areas where current arrangements could be improved. In some markets, despite developed third party access rules, it remains the case that the question is one

of *effective* access to storage, e.g. in markets with an in-country physical stock obligation. 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 therefore should be on removing such barriers.

At the same time, it is also important to remove any national limitations to the use that storage users can make of their booked capacities (e.g. daily or monthly caps on the amount of stored gas that a network user can withdraw). Such limits make the market unable to quickly react to demand changes.

Moreover, in regions where a functioning gas market has developed – such as the north-west of Europe – with effective competition between flexible gas sources, e.g. several storage facilities, import options, liquid hub, etc., the nature of the regulation of gas storage facilities should be reviewed. In particular, consideration should be given to reducing the obligations on storage operators by moving from r-TPA to n-TPA to no-TPA. In a functioning market, competition law and anti-hoarding measures combined with adequate transparency of relevant data should be considered sufficient to ensure that storage access is not being abused by the primary capacity holder. Not only would such an approach be more appropriate for a competitive market but it would also provide storage facility operators with the commercial flexibility associated with such markets.

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 EU Tariffs Network Code and in that context IOGP supports a mechanism that focusses transmission charges on (domestic) exits. This would be the most efficient overall approach and would benefit end consumers by removing system entry barriers, thus enhancing competition in the wholesale & traded markets. A consequence of such a mechanism would be that not only storage facilities but also production entry points, LNG import terminals and interconnection points would not face transmission entry charges.

We look forward to a continued dialogue with the Commission. If you have any questions please feel free to contact me.

Best regards,

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FINAL VERSION 29 September 2015