

30th September 2015

RE: Consultation Paper on an EU strategy for liquefied natural gas and gas storage

Dear Sir / Madam,

I am pleased to respond on behalf of Centrica Energy. For clarity, this excludes Centrica Storage. Centrica Energy is the international upstream arm of Centrica plc – a UK FTSE 30 company with 12 million residential gas and electricity customers and 900,000 business accounts. Centrica Energy is involved in gas and oil exploration and production, energy procurement and trading, LNG, thermal power, nuclear and renewables.

The consultation makes a number of very pertinent observations about the LNG and storage markets at a time of significant change. We answer each of the individual questions below. To summarise our position:

- Centrica is firmly of the belief that well-functioning competitive markets are most efficient in providing high-level security of supply and should be used wherever possible to promote the delivery of those objectives.
- We do not therefore believe that policy makers should envisage an ex-ante 'optimal level' of infrastructure utilization for either LNG import terminals or storage facilities. Doing so risks using resources inefficiently, raising costs for consumers, and undermining investment signals which could potentially have a negative impact of security of supply.
- Any barriers that exist preventing the optimal use of LNG and storage infrastructure tend to affect the wholesale gas market generally, rather than LNG or storage specifically. For example, in some markets there is a lack of a liquid traded gas wholesale market and / or a lack of available interconnection to adjacent markets to allow the gas to be traded wider in the region (e.g. Spain, France).
- We believe that barriers such as these will be reduced by the complete implementation of the Internal Energy Market and appropriately implemented EU Network Codes, especially the Gas Capacity Allocation Mechanisms code and Gas Congestion Management code. The Commission should focus on this area.
- There is a case for the EU to support economically desirable critical infrastructure development, especially on a targeted basis in poorly diversified gas markets, provided that this does not distort effective market functioning.
- More generally, policy makers can help ensure the optimal use of LNG and storage infrastructure, and therefore reduce the risk of stranded assets, by ensuring they are able to compete on an even level with other sources of flexibility. This would need to be examined on a case by case basis. Relevant factors include whether regulated transmission charges put these infrastructure types at a disadvantage relative to other sources of flexibility (e.g. pipeline gas).

We hope you will find our comments useful. Please do not hesitate to contact me (email: ricky.hill@centrica.com; Tel: +44(0)7789579169) should you have questions on any aspect of this response.

Yours sincerely,
Ricky Hill
Regulatory Manager

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

We largely agree with the mainly factual assessment on infrastructure challenges. The lack of access to LNG infrastructure is primarily a concern for Eastern and South East European Member States and such, any regulatory approaches to support security of supply should be tailored to these markets such that the wider LNG markets are not distorted. In other regions, such as Iberia, the main issue is not LNG import capacity but rather the limited pipeline interconnection with other member states (in this case, France). Even in a number of markets which are more dependent on Russian gas (e.g. Lithuania, Poland and prospectively Finland), there have been a number of encouraging LNG infrastructure developments in recent years.

We are firmly of the view that the market must determine the optimal level/share of LNG. LNG is in competition with other sources of gas and the relative cost of these at a given time will be the key determinant of the optimal level / share of LNG in a given country or region. This holds true even where traded wholesale gas markets are relatively immature; e.g. imports of LNG and other non-Russian gas into parts of Eastern Europe can be strongly influenced by the competitiveness, or otherwise, of Russian contract prices in any given period. Ministers in Lithuania have been clear that the new LNG terminal has enhanced their negotiating position and supply security in a manner which does not depend on consistently high capacity utilisation.

Open and competitive markets as well as the efficient use of transportation infrastructure are the best means of ensuring that the optimum mix of resources are being used and the best means of supporting security of supply. We believe that the current market arrangements would be bolstered by the complete implementation of the Third Energy Package and appropriately implemented EU Network Codes, namely the Gas Capacity Allocation Mechanisms code and Gas Capacity Allocation Mechanisms code. This would help liquidity and facilitate more cross border flows.

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?

We not aware of any cost/benefit analysis that would favour one alternative over another. As noted above, LNG is in competition with other sources of gas flexibility (e.g. pipeline gas, storage, demand reduction) and analysis of relative costs of these will determine which is most economically efficient to build and utilise. Greater physical interconnectivity will remain a likely policy tool to help improve security of supply. In Central and Eastern Europe, increased pipeline interconnectivity and “reverse flow” capability has facilitated both diversification of import sources and enhanced market integration. There has been significant progress in this respect since 2009, albeit via a series of incremental steps rather than a single eye-catching initiative.

In terms of reasons or circumstances which favour new LNG investments, we would note that all of the LNG terminals built in the UK were built ‘by the market’ (i.e. in response to commercial interest, on an unregulated basis, with the benefit of exemptions from TPA). This demonstrates that an open and transparent functioning wholesale gas market is the key prerequisite to encouraging investment in such infrastructure, rather than government

intervention. Regulated access to LNG terminals may also help to get facilities built, but crucially it does not ensure commercial demand for contracting regasification capacity.

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

We are not aware of anything significant, although this would need to be assessed on a case by case basis. Improved interconnection to adjacent markets and the removal of internal transmission constraints in certain markets may improve the use of LNG infrastructure in some states (e.g. Spain, France). Clearly, major transmission reinforcements such as the Artère Nord-Sud in France take a number of years to implement and policy makers would be wise to allow time for the benefits to be realised.

If there are indeed barriers to optimising LNG gas and existing terminals through incorrect implementation of current legislation or lack of cooperation of TSOs for whatever reason, then these aspects should be addressed by the Commission with ACER's support. In principle, remedying these should be more cost-efficient solutions than new infrastructure. One step that would help to facilitate parties' access to LNG / general gas infrastructure facilities is providing an English translation of the relevant rules and regulations. We have found this to be lacking in some markets and would welcome some action in this area.

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?

The consultation does not distinguish a 'low' utilisation rate versus from an appropriate 'rate'. We would reiterate the point that market is best placed to make efficient choices regarding the choice of infrastructure to bring gas to market and it will ultimately set the 'appropriate' utilisation rate; an import terminal will face competition from pipeline gas or storage flows or other terminals and the economics of each will determine the utilisation rate of a terminal.

The relatively low use of LNG infrastructure in Europe, currently and over the past two years, has precisely been a result of the global LNG market functioning as it should. Falling demand in Europe and (until 2015) higher prices in Asia have attracted more LNG to the Far East, especially since the Fukushima incident of March 2011. Furthermore, oil-indexed supply contracts with Russia have also been economically advantageous this summer due to the lower price of oil, favouring gas from this source once the lags in gas contract price escalation had worked their way through. However, Asian prices have also begun to weaken with lower oil prices and the first nuclear re-starts in Japan, so going forward we are likely to see more LNG flowing to Europe – especially once North American LNG exports begin to come on stream (expected from the early part of 2016).

Regarding the question of stranded assets, there is a difference between exempt terminals and those subject to regulated third party access and funded via regulated tariffs. In the case of the latter, the risks and costs of stranded assets are with consumers rather than terminal developers. To reduce such risks for consumers, it is important to ensure that there are no regulatory or market design barriers preventing efficient use of the infrastructure. The following may be relevant factors: Is the design and operation of the downstream market attractive and certain enough to attract LNG flows and hence terminal use? Do regasification tariffs and the capacity product design make terminal use unattractive? Are policy interventions suppressing power sector gas demand below an economically efficient level? In Great Britain, as set out

above, TPA-exempt regasification capacity is typically fully booked (subject to UIOLI rules) and the market drives the level of capacity utilisation.

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)?

We do not believe that a 'central planning' approach to determining the cost-efficient energy mix up to 2050 is likely to be effective. This approach is leading to multiple, inconsistent national subsidies and other non-market interventions which mean that overall the low carbon transition is costing far more than it needs to. As far as possible, policy makers should seek to ensure an appropriate carbon price signal consistent with long term abatement targets – and a robust ETS is of course the key to this – and allow the market to determine the most cost-effective pathway to decarbonisation.

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.

We have not identified any significant concerns regarding the current access framework that could impact on terminal utilisation rates. However, as noted above, English language translation of TSOs' and terminals' rules and regulations would certainly help to facilitate access for new users.

Any regulatory barriers to flowing gas through European states are not LNG specific but affect the wholesale gas market generally. For example, there is currently no traded gas wholesale market hub in Spain, although Enagas proposes to develop one. In France, the CRE is a strong supporter of North-South transmission reinforcement which should in time provide the basis for a single French gas hub and in turn a more effective, market-driven use of LNG import capacity. We noted in our response to the Commission's consultation on the Gas Security of Supply Regulation that there is the need for completion of the Internal Energy Market, mainly through implementation of the Third Energy Package. Non-implementation slows moves towards market liberalisation and allows for distortive arrangements to remain in place. Linked to this point is the need for full and proper implementation of the European Network Codes. As a real life example, there is a concern that some TSOs are interpreting the bundling requirement in CAM in an inconsistent way which may reduce the amount of cross-border transportation capacity at interconnection points.

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?

We do not believe there are any major commercial barriers to the use of LNG and access to terminals.

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?

As noted above, the completion of the internal market and implementation of the EU network codes are the key actions the EU should take to ensure the market is working effectively.

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?

A couple of key trends are observable. The first is that more suppliers will enter the market. In particular, depending on price dynamics and Asian demand, US LNG could start making up a sizable part of EU imports as the first export trains are due to come online by early next year. Much of this US LNG will be procured under contracts indexed to low Henry Hub prices and not will not be destination specific so the cargoes are likely to be responsive to shorter term price fluctuations.

Second, the diversification of LNG exporters is likely to also lead towards a diversification of price indexation (Henry Hub, NBP), as a way of mitigating price risk. However, as long as oil products continue representing an alternative fuel to gas/LNG, especially at today's oil prices, it is very likely that oil indexation will remain in a substantial number of long term LNG supply contracts – especially to destinations outside Europe.

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?

We welcome the idea that EU should maintain and develop good relationships with international partners but we do not believe that this dialogue should cover commercial negotiations and discussions. These activities must be left to market participants to ensure the market functions efficiently. In terms of entering into any kind of demand aggregation, we should be a choice of market participants. It is not clear from the consultation document what is envisaged by voluntary demand aggregation and why this should have advantages, or whether it is compatible with competition law in the internal market. We believe a better way forward is to increase diversification possibilities (suppliers and routes) in an approach aimed at more buyers and more suppliers enhancing market competition.

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?

We would note a couple of areas where technological developments are taking place. First, an increasing number of traditional regasification terminals are being developed to undertake other activities such as reloading and supplying LNG to small scale LNG vessels and trucks. Second, the cost of regasification import infrastructure and construction times are continuing to reduce. One driver for this is the growing use of floating storage and Regasification Units which are now seen as safe and acceptable import facilities provides a cheaper alternative for short term projects due to the relatively low Capex compared to land based terminals. One example is Egypt which recently installed a floating storage and Regasification Unit in around 12 months which is a remarkably short time. This could potentially be an option for any European markets which have a pressing need to diversify their gas supply sources.

6. 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.

The switch of generation from solid fuels to gas (whether LNG or pipeline supplies) is one of the most cost-effective decarbonisation opportunities available to Europe. Moreover, as mentioned above, small-scale LNG can be an attractive means of reducing CO₂ emissions in parts of the transport sector (e.g. heavy trucks, marine vessels etc.) for which there are few viable alternatives to oil.

7. 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?

Like storage, LNG is a source of flexibility and helps to bridge the gap between seasonal fluctuations in demand. In this respect, LNG could be considered to be in competition with storage. However, whilst the characteristics of LNG enable it to compete with storage to fill gaps in supply when there is sufficient visibility of a gap occurring (e.g. summer / winter), it is less able to compete with storage to deal with a sudden disruption in supply or increase in demand. In this respect, storage is likely to maintain a competitive advantage over LNG in terms of quick response flexibility. On the other hand, the expansion of transmission interconnector capacity in Central and Eastern Europe¹ that has taken place over the last five years, is likely to continue to improve the flexibility of gas flows across the region and reduce the reliance on storage in the event of a supply emergency. Going forward, the changing needs of the power market mean that there will be increasing flexibility requirements and presents an opportunity to storage to play an important role in this.

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)?

It is clear that market conditions have recently been unfavourable to storage. Weak seasonal spreads have negatively impacted the booking of storage capacity. The potential result of this is that it could eventually lead to a decrease in the available capacity due to the mothballing/closing of storage facilities. However, this is the market signalling that global gas supply is ample to meet demand which is also reflected in the relatively weak summer/winter price spreads. To take the example of Germany, it has been reported that Germany's storage stock level, at the time of writing, is just 73% of capacity, which is the lowest ever recorded level for the start of the winter season. However, due to record imports from Russia into Europe and strong Norwegian gas production, analysts believe ample supply is set to continue into early 2016. Introducing any additional regulation designed to favour storage or require minimum stock holdings would distort the price signals for gas flexibility and potentially undermine security of supply.

¹ It is reported that the total CEE reverse flow capacity is now around 147 bcm/year. Furthermore, a extra 42 bcm/year of new interconnection capacity has been added within Eastern Europe and between Central and Western Europe in the last five years.

We do not believe there is any strong case for additional regulation for storage. Regulators already have the ability to provide Third Party Access exemptions for storage projects that are considered important for security of supply and would not be built under the normal regulated regime. Furthermore, where regulators have stepped in to regulate further, especially by regulating prices, this has generally not benefited the storage operators. In particular, there have been under-utilisation issues with regulated storage because prices for the storage capacity have not been able to fall to reflect the new realities of the market (e.g. in France, between 2009/10 and 2013/14). This has not been the case in GB which has a market-based access regime. In this example, storage capacity prices adapt to the market environment and capacity generally gets booked and filled. The best way forward for the Commission would be to focus on ensuring that there are no regulatory barriers which prevent storage from playing on a level playing ground with other sources of flexibility (e.g. ensuring transmission tariffs are not unjustly onerous).

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

As noted elsewhere in this response, Centrica is firmly of the belief that well-functioning liberalised markets are most efficient in providing high-level security of supply. As such, we do not support mandatory reserves (or minimum stockholdings) and would describe the most important factor in ensuring security of supply as having adequate access to gas whenever required, rather than adequate reserves as it is typically understood.

We nevertheless accept that in some States the market is not sufficiently developed to provide a sufficient level of security of supply and regulators / TSOs may implement mechanisms to ensure that a pre-defined level of gas is maintained in storage. It is vital that where such a measure is used, it should be via market-based approach (e.g. auctions, tenders). Even then, it is important that such measures are not considered a permanent market feature but rather as a temporary means of addressing a specific issue to be removed as the market evolves.

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?

No. As we noted in our response to question 1 with regard to LNG, there is no 'optimal' level. The market will most efficiently determine the optimal level of gas coming from any supply source, be it pipeline, LNG or storage. Furthermore, to regulate an ex-ante 'optimal level' for storage is likely to not only distort price signals but also lead to increased costs for consumers. This could ultimately hamper security of supply by distorting investment decisions.

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

We have not identified the need for any further action.

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?

The issue of stranded storage assets representing an unnecessary cost to consumers is only a concern for regulated assets, where consumers would ultimately bear the costs of any failed

investment. Unregulated assets are a private investment, and should it fail commercially, it will be the private investors who face the costs, rather than consumers.

In order to minimise the danger of stranded regulated storage assets, there are areas where Regulators can help, in particular, to ensure that there is level playing field for all forms of flexible gas such that storage is able to compete with other sources. As noted above, this is currently not the case everywhere. In some EU Member States, regulated prices for storage prevent storage operators from adjusting their prices to reflect market conditions which may cause them to be underutilised. Furthermore, regulators should ensure that there are no unnecessary regulatory barriers which blunt the commercial incentives to develop storage products required by the market.

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

Similarly to our response question 3 regarding LNG, any regulatory barriers to the optimal use of storage at a regional level tend to affect the wholesale gas market general, rather than storage specifically. E.g. lack of available interconnection between adjacent markets, incorrect implementation of current legislation or lack of cooperation of TSOs. 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. One barrier that does exist which is specific to storage is the excessive transportation tariffs at storage entries or exists in some Member States (see question 21 for more detail).

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?

A well-functioning, integrated energy market is key to enhancing energy security in a cost-effective way. Such an approach enables market-based responses to supply issues and in doing so provided for most the efficient use of commercial storage facilities. The speedy completion of the Internal Energy Market and EU network codes a key requirement to make this a reality.

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?

Centrica's view with regard to transmission tariffs is that they need to be cost reflective to ensure the optimum use of the network. In some markets, we believe that transmission tariffs for storage are excessive relative to the costs imposed on the network by storage users. We believe tariffs should be set on the basis of the following:

- Recognition of the fact that gas-in-store will already have paid one set of system entry/exit charges and should therefore not be subject to additional charges of this type, i.e. double payment, on any subsequent flows to and from the network; and
- Recognition of the benefits storage may have in helping reduce the need for wider transmission system investment. Clearly, it may be that there is no such benefit and the subsequent tariffs would need to reflect this fact.

We believe that Article 23 of the EU Network Code on Tariffs should be reworded to incorporate the principles above.

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.

We are not aware of any such difficulties.

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.

We are not aware of any such difficulties.