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Question	Proposed answer from ENGIE
LNG in the EU today	
Question 1: Do you agree with the assessment for the above regions in terms of infrastructure development challenges and needs to allow potential access for all Member States, in particular the most vulnerable ones, to LNG supplies either directly or through neighboring 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	ENGIE believes that the response to the diversification and security of supply (SoS) issues concerning gas in Europe first passes through the best use of existing infrastructure and the development of appropriate LNG import infrastructure close to the markets that highly dependent on Russian gas, i.e. Eastern Europe and the Baltic States. The geographical aspects are paramount in order to optimize costs and maintain the competitiveness of gas. From a general perspective, it should be noted that **LNG is highly flexible in terms of transportation** : - LNG is transported by ship. This enables LNG to be directly delivered closest to where gas is needed, thereby avoiding in many cases the need for long and costly pipelines; - LNG can also be easily reloaded from almost any EU LNG terminal and sent by ship to any other EU terminal, closest to where gas is needed. These LNG specificities are important in the EU context, as the EU has large sea coasts on almost all its sides. Moreover it should be noted that these LNG specificities make LNG infrastructures per se similar to "LNG flexible floating pipelines" (i.e. "LNG virtual pipelines") that are in some cases an efficient alternative to physical pipelines, in terms of cost, delay, risk of stranded asset…. **Thus, ENGIE considers that the specificities related to LNG flexibility should be taken into account as the basis for any EU LNG Strategy**. In addition, ENGIE would amend some of the findings mentioned in the consultation : - Regarding the South-West interconnections in Western Europe it should be recalled that a third interconnection (Midcat) has been refused by the market through a transparent and non discriminatory public consultation (open season). - **Contrary to the assessment stated in § 2.3, Spanish LNG can easily flow towards France via the Pirineos interconnection point, whose capacity significantly increased in April 2013 to 5.5 Bcm/y.** The interconnection capacity between France and Spain will be expanded to 7,5 Bcm/y (225 GWh/d) from Spain to France in December 2015. All market players have been noticing a real integration of the Iberian and French markets since 2013, with a significant increase of flows from France

	to Spain, simultaneously with the increase of the forward France > Spain capacity. The increase of forward France > Spain capacity and associated flows enable Spanish actors to reduce their LNG imports for further diversions towards others regions (e.g : Asia). **As regards making Iberian LNG regasification available for the rest of the EU** : - We would like to insist on the fact that Spain can already export a surplus equivalent to more than a quarter of its consumption. - Exporting a volume equivalent to more than 30% of Spanish consumption would require a new major gas corridor crossing several European countries, thus requiring several G€ of investments : ~ 3 G€ only in France, plus additional costs on both the upstream and downstream sides, and still to be properly assessed. In this regard, the High Level Group for South-West Europe will have to tackle both feasibility and cost/benefit analysis of such a huge project. Furthermore, global availability of LNG to supply this huge corridor, in addition to other existing European LNG terminals, will be an additional challenge. - It should be recalled in this regard that all terminals in Iberian Peninsula do propose LNG reloading services, which allow LNG to be sent by ship to another terminal in Europe. A large deployment of reverse flows capacities all over Europe may not systematically be the appropriate answer. Global approaches at a European or multi-regional scale have to be considered with caution. Reverse flows and interconnections projects have indeed to be systematically economically benchmarked against alternative solutions, via unbiased costs/benefit analyses : if securing a vulnerable zone requires additional LNG somewhere in Europe (e.g. : South Eastern zone as mentioned in § 2.4), a terminal built close to such zone can be more cost-effective than reverse flows. In addition, ENGIE disagrees with the statement of the LNG consultation (paragraph 2.7 p 4), mentioning that "*The High-Level Group for South-West Europe looks at bottlenecks and infrastructure options to allow the substantial LNG regasification capacity in the Iberian Peninsula to be made available for the rest of the EU*". **This statement is misleading with respect to the aim of the High Level Group:** - According to the Memorandum of Understanding signed on 30 June 2015 (establishing the High Level Group), the High Level Group should prepare an Implementation Plan of the Madrid Declaration which "*for gas should focus on the development of the Eastern axis, allowing bidirectional gas flows between the Iberian Peninsula and the French gas system*".

	- Neither the Madrid Declaration nor the Memorandum of Understanding mention anything about "*infrastructure options to allow the substantial LNG regasification capacity in the Iberian Peninsula to be made available for the rest of the EU*". - Indeed, it is not obvious at all that it could make sense for shippers to unload their LNG cargoes in Portugal or Spain, thousands kilometers away from the targeted markets, while LNG transportation is highly flexible (see above). In this case, why developing interconnection capacity which will not be used since shippers do not regasify their LNG? As final remarks, there is no optimal share of LNG to be considered for any region or Member State from a SoS perspective. ENGIE considers that the use of LNG should not be limited to countries which are exclusively dependent on one single supplier. On the contrary, it represents a valid alternative in terms of enhanced diversity of supply and flexibility. LNG is diversified by nature as it may involve different sources of supplies from different countries.
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	Each project must be studied in detail, and there are no "standard rules" which can be developed on the choice between pipeline investments vs LNG investment. Given the numerous and long EU seashores it is in some circumstances more efficient - both economically and geographically/logistically – to use and / or develop reception capacity of LNG close to the target markets. In countries which are "pipe dependent" on one supplier (mainly in Eastern Europe and the Baltic States), LNG investments are a good solution for the diversification of gas supplies and thus, for security of supply. For economic reasons, these investments should be located closest to the affected countries. The underlying assumptions of a cost benefit analysis are paramount and need to be clear, transparent, realistic and shared by a large panel of stakeholders, including in particular market players, gas infrastructure operators other than TSOs (i.e LSOs and SSOs) as well as leading energy experts (eg IEA, energy consulting companies). In this regard, the present ENTSOG methodology is perfectible. Indeed, it is based on some overly simplified hypotheses which led to unpersuasive results, in particular regarding LNG, and deserve to be reviewed. Arguing that Europe may benefit from substantial LNG regasification overcapacities located in the Iberian Peninsula is an economical nonsense. As already mentioned, this would mean investing billions of euros in gas pipelines in France and in other neighboring countries, whereas the needs are located in the East, at the opposite side. Investments in pipes and LNG terminals should be located in the East of Europe. **In addition, one should also seriously consider LNG Floating Storage and Regasification Units technology (FSRU).** Indeed, FSRU presents the tremendous advantages of taking less time than onshore terminals to be installed and also, of being reusable. For SoS in

investments in new locations as opposed to pipeline investments to connect existing LNG terminals to those new markets?	respect of LNG, FSRUs are a much better alternative than pipelines: by nature, a pipeline that is dedicated to SoS, is not used most of the time. On the contrary, an FSRU that is not used, may be disconnected and used for trading. For solving issues that may happen with a low probability (e.g; a few days per year if not per decades), one should favor the project with the lowest Capex. Moreover, small scale LNG offers many opportunities since it makes gas available to energy users not currently connected to the pipeline network. This allows to distribute LNG from either an LNG plant, a LNG import terminal or directly from a LNG carrier using a combination of both sea and land based transport directly to the end user. Since small scale LNG makes possible the distribution of LNG in smaller and medium quantities, it will open up new markets for natural gas like the maritime fuel market and trucks. At last, it offers significant possibilities to reduce CO2 emissions. (See also question 12). Uncertainties on the future utilization rate of LNG terminals make stakeholders reluctant to invest in new gasification capacities, even if those investments may provide a solution to comply with SoS standards (ex : N-1 criterion). The following remarks list what can be done to improve the situation: - a clear and stable regulatory framework is a prerequisite to favor such investments; - SoS standards applicable in the Member State / region, for which such investment is required (exports flows to adjacent countries /regions and their respective SoS standards in force), have to be clearly defined and implemented. Beyond geopolitical considerations, the current regulatory vagueness on SoS standards and LSOs costs coverage definitely hamper investment in such assets facing a nearly worldwide competition.
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	No, there are already enough regulations. Most investments should be required by the market. Nevertheless, incentives should be introduced for new and innovative products, such as FSRUs and small scale LNG. We understand that this question refers to storage of LNG in tanks. Storage in tanks is a good way to provide flexibility, but they should be located close to the areas of consumption. For instance, storage offered by LNG terminals in Spain are not the best placed to provide flexibility in France since they are remote from demand areas. The use of LNG import capacities firstly depends on shippers' and market players' decisions, in a worldwide concern. Nominations in LNG terminals are deeply linked to the whole LNG chain (LNG contractual source, cargoes availability and shipping constraints, subscriptions of LNG unloading slots), with gasification costs (entry costs to the networks included) as a key parameter to be valued by shippers in their

possibilities, better network cooperation of TSOs or other measures? Please give examples	portfolio optimization strategy. Network cooperation between TSOs have to be favoured, notably for emergency situations management , but they mainly focus on flows management, driven by shippers' decisions. However, some improvements in the use of the existing LNG infrastructure may be proposed by LSO's via innovative services & products, in order to emphasize or better capitalize onthe flexibility of such assets: LNG infrastructure provide modulation services, to a certain extent, through LNG tanks. In case of cold snap, such facilities can enable LSOs to increase emission capacity, providing LNG tanks are filled and that additional unloadings of vessels in the terminal are secured (by shippers) on the short term. As an example, Elengy has been proposing for 2 years an experimental allocation of dedicated LNG storage product ("Nominate") to its existing customers, at the Montoir LNG terminal in France. Such initiative incentivizes shippers to store LNG in Montoir to comply with potential future peak situations in case of cold snap. In other words, it strengthens the modulation value of LNG gasification terminals. Moreover, cooperation between TSOs would foster a better use of LNG terminals, by a joint optimization of their respective technical transport capacities (e.g. capacity interruptibility management). In this concern, questions 7 and 8 address key market design issues, due to the expected development of spot LNG market.
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	ENGIE would like to remind that roughly 20% of import capacity in OCDE Europe are utilized which leaves around a 60 bcm/year LNG import volume without major investment in northwestern Europe. **Explanations of low use rates :** The world LNG regasification capacity is currently twice the world LNG liquefaction capacity. Targeting a 100 % utilization rate for LNG infrastructure development is therefore today unrealistic : LNG regasification units can be considered as flexible tools for investment decisions, not as full base load assets. Moreover, shipping and contractual constraints may not guarantee full diversion from an LNG market or region to another one, whatever their respective economic attractiveness. **The low utilization rate of LNG terminals that has been observed in Europe over the last years is a direct** consequence of: - the fact that all these terminals have been built on the basis of a future growth of gas demand; - the liberalization of the European gas market. LNG flows to where it is the most valued : for several years, Asian markets have been more attractive than European ones. This proves that the world LNG market works. Noticing use rates ≤ 50% for European LNG gasification terminals is today quite normal by nature in a worldwide LNG market. Moreover, the level of use of LNG terminals simply results from the

risks to gas security and resilience? What options exist in your view to reduce and/or address the risk of stranded assets?	balance between supply and demand : the relatively low demand experienced in the last years makes pipe gas sufficient to supply most of Europe. - the economic crisis and the major change in the European energy policy; - the Fukushima crisis; A low utilization rate does not necessarily mean that an asset is stranded. Stranded assets are those which are not economically viable. In this regard, one should make the distinction between : 1) LNG terminals required by the market: - In this case, the market has committed to pay (and it may use the terminals for arbitrage). There is no risk of stranded assets, unless there is a failure from customers. 2) LNG terminals, decided without commitments from the market: - This is for instance the case for Spain, where all extensions or new LNG terminals built in the last fifteen years have been decided under national mandatory plans based on forecasts only. This kind of situation can lead to the risk of "stranded assets". Unfortunately, stranded assets are no more a risk in Spain, but a sad reality: This is the case for example for the brand new "El Musel" LNG terminal in Spain, mothballed since 2012, just after its construction. - On the local use rates see footnote[1] for some specific explanations.

[1] In Italy, the highest rate of 35 % in 2013 among European countries mentioned by the EC in its consultation may be explained by the specificities of the Italian gas system : few LNG import capacities, in comparison with the domestic demand to meet, so pulled to higher use rates (scarcity effect). Furthermore, incentives such as those implemented by the Italian authorities in 2014 for peak shaving services, as evoked above, contribute to increase local use rates.

The Spanish case (use rate not exceeding 25 % in 2013[1]) mentioned in the answer to the question 1 proves that the doubling of the Pirineos interconnection capacity as from April 2013 significantly lowered the use rate of the Spanish LNG terminals, with higher imports of gaseous gas from France. The increased Pirineos interconnection capacity has been indeed incentivizing Spanish shippers since 2013 to divert additional cargoes out of Europe, for arbitrage purposes, thus without any additional LNG source supplying Europe, all other things being equal.

	Risk of stranded assets : In order to avoid the risk of stranded assets, LNG terminals should be required by the market (via open seasons), and commitments should be made by the interested parties on the long term. However, in some exceptional circumstances, a LNG terminal could be built for SoS reasons, even if it is not market based, on the condition that the related country is dependent on one gas source only. In this case, the related project of LNG terminal should be close to the consumption area, should not be detrimental to existing infrastructures or to other market-based projects. FSRU could be considered as a flexible solution (cf answer to question 11). In addition, a stable, coordinated long-term legislation concerning parameters having an impact on the activity (tax-regimes; emission policies etc.) at both national and European levels is essential to avoid the risk of stranded assets. The concern of uncertainty on the evolution of demand, as well as the current gas bubble, leads to moral hazard phenomena, where some individual actors take more risks because others agreed to bear the burden of those risks : - as a shipper only foresees its own portfolio perimeter, for each balancing zone, he cannot assess the eventual collateral effects on the gas system induced by the absence of a storage or of a LNG terminal and how this might jeopardize the security of supply on end-users (either its own customers or those of its competitors). - as traders do not perceive the security of supply criteria assigned to shippers for end-users, the insurance value of physical assets against extreme scenarios is mainly revealed only in case of occurrence of such scenarios. As no extreme scenario was observed in the recent years, the associated risks may not be currently integrated in the forward markets prices formation, neither in their volatility, thus making markets participants reluctant to book capacities in physical assets to mitigate for them such risks. - as commodity-only markets may not give the appropriate signals to address specific issues, such as SoS gas (as extreme scenarios are rare and expensive to hedge), some shippers could be tempted to skip such constraints and take the risk of paying high balancing penalties. Therefore gas consumption need to be reactivated. Under-subscriptions in both LNG gasification terminals and underground storages may lead to lock-in effects and erode the future SoS in the EU as follows :

	Lasting under-subscriptions in storages may lead to the mothballing of some underground storages, then to their dismantling or closing. This risk is very high in countries where storage facilities are mostly aquifers or salt caverns for which regular breathing cycles or annual filling have to be guaranteed to prevent respectively from performance degradation or creep behavior which could hamper assets reliability and/or operability over the midterm. As some countries cannot comply with SoS requirements without storages, any significant dismantling of part of the domestic storage fleet would dramatically jeopardize SoS on the mid or long term, either locally or in adjacent countries, whatever the maturity and liquidity of the local gas commodity markets; Any mothballing on an LNG terminal may lead to the temporary unavailability of whole LNG supply chains (ex : cancellation of LNG supply contract, diversion of vessels fleet). Thus, time response constraints related to the rescheduling of a whole LNG supply chain may lead to significant disruption risks for gas end-users in case of sudden change in the global gas balance : cold snap, infrastructure outage or supply source shortfalls. In such a case, gas markets may face a severe supply crisis, for instance on a within-month or a within-seasonal basis, in case of lack of several LNG terminals previously mothballed, whatever the spikes of spot markets prices. Such a risk seems particularly high in countries for which SoS requirements cannot be met without LNG supplies, whatever the maturity and liquidity of the local gas commodity markets. In addition, a worldwide production surge of LNG is expected in the coming years, thus potentially radically change the LNG market. As a result, the risk of stranded assets cannot be assessed. In addition to this, Europe's total regasification is representing only a fraction of the total demand.
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.	Gas is the best partner to cope with the intermittency of renewables and contributes to their successful development. Moreover, there are gas based solutions for reducing emissions across all sectors. For heating, condensation boilers, and tomorrow, gas-fired heat pumps will reduce both energy consumption and CO2 emissions by 25% to 90%. In transport, LNG for trucks, ships or rail bring new opportunities. In production, biomethane represents a source of indigenous and renewable gas supply. Biomethane production should increase in the future. Moreover, power to gas is the most flexible way to use the excess production of variable renewable energy sources in the electricity system. For the above reasons, the EU scenarios should be positive towards the use of gas on the short, medium and long term. At this stage, it is difficult to provide any evidence on the most cost efficient balance between the different options. It depends on the incremental technical innovations that will occur in the future.

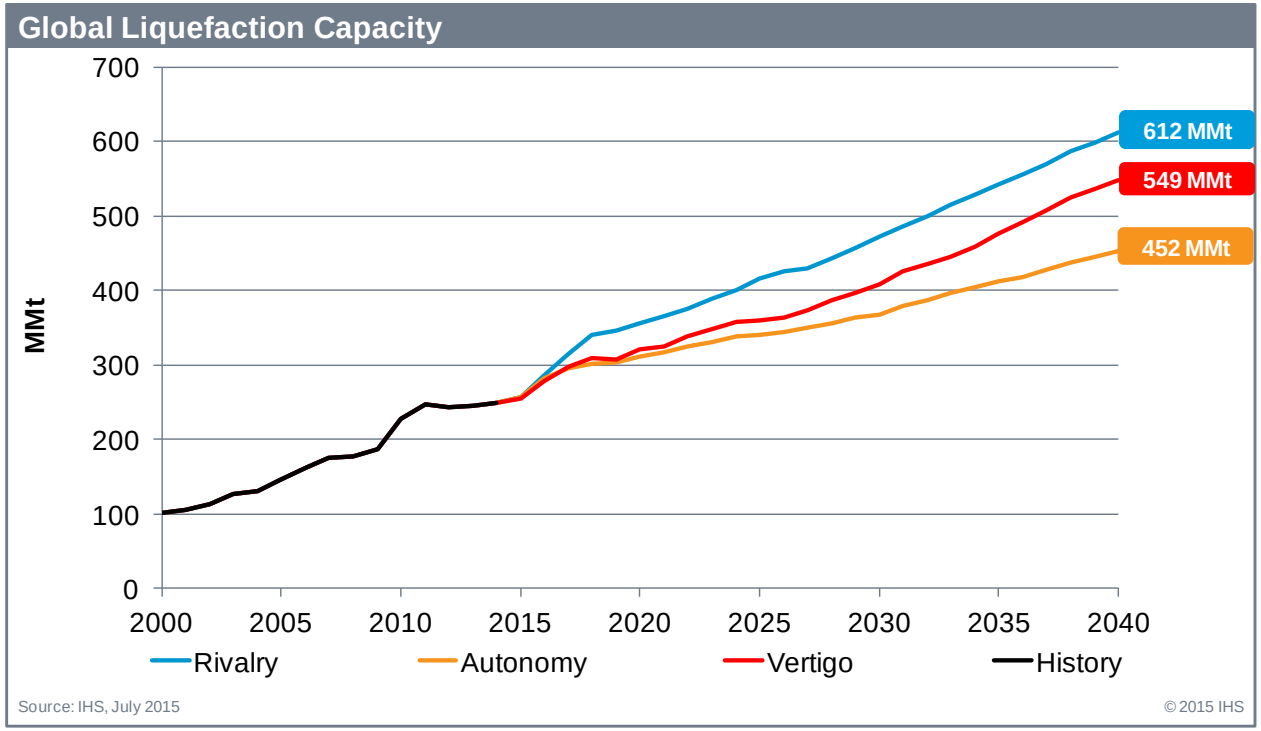
Moderating energy demand and fuel-switching to low carbon sources such as renewables, particularly in the heating and cooling sector, can be highly cost- effective solutions to such challenges, and ones that Member States will wish to consider carefully alongside decisions on LNG infrastructure. In this 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)?	ENGIE's opinion is that development of renewable energies (RES) in Europe undertaken in the last decade requires significant sources of flexibility for intermittency management, for which LNG and storages can play a key role in an efficient and reliable way. However, the means deployed to foster RES development were clearly detrimental to both power and gas sectors, and especially at a cost to end-users : - The feed in-tariffs regimes settled in some Western European countries (ex : Spain, Germany, France) in the early 2000's led to uncontrollable development of wind farms and photovoltaic (PV) projects that have an impact beyond national authorities' control, whatever the maturity of the RES fields. - Moreover, the EC's environmental and energy aid guidelines provide more harmonized rules, long-term view on forthcoming investments and more regulatory stability to European companies ; - The huge development of RES power generation has lead since the early 2010s to the collapse of CO2 price on the markets, thus enlarging the gap with the resulting CO2 matching to in the feed-in tariffs applicable, worsening the depreciation of power markets prices; - The resulting collapse of CO2 price then pushed gas-fired generation out of the merit order of power plants required to meet the demand (in addition to the collateral effect linked to the increased penetration of RES in electricity generation itself), to the full benefit of coal-fired plants, in complete contradiction with the goals of reduction of greenhouse gases emissions settled by environmental policies at European scale ; - The high penetration of RES generation on power systems requires additional sources of modulation for intermittency management, notably for wind power (see the Northern German case). - Depressed gas markets prices, as well as their associated seasonal spreads, do not incentivize investments or long term LNG emission capacity booking, which may dramatically jeopardize both gas and power SoS in the mid-term. - RES should no longer rely solely on subsidies passed on to electricity customers' bills. The development of mature RES should be underpinned by market rules and progressively integrated into the energy market. On the other hand, R&D support should be destined to non-mature RES to help them kick-start. The Commission's environmental and energy aid guidelines provide more harmonized rules, long-term view on forthcoming investments and more regulatory stability to European companies. The major stakes related to the issues described above require a major evolution of the European regulatory framework, to set appropriate

	tools ensuring an efficient use and a sustainable availability of existing LNG and underground gas storages, in order to prevent major disruption risks on both gas and power systems : the key issue is to maintain existing gas infrastructures available and reliable ; investments in new infrastructures must be very carefully addressed, at both local and European levels. The costs related to the investment – or the maintain in operational conditions – of existing modulation tools, such as an LNG terminal2, is worth to be placed in perspective with the billions of euros mentioned above as financial costs for support of RES development and the collateral effects induced on gas sector. As stated by the EC 2050 road map, the transition to a low carbon energy mix will not happen without gas.
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	Some entities may refuse gas, arguing that there is a problem linked with odorization. In fact, this could also appear as a kind of protectionist measure.

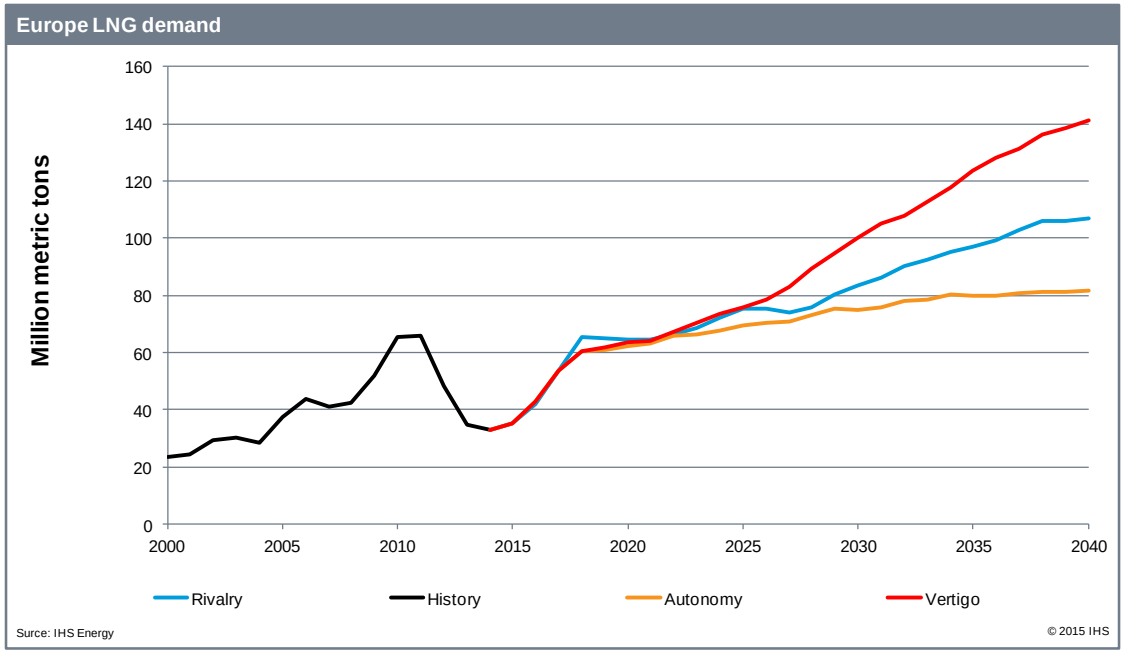
[2] See the regulated asset base settled at 810 M€ for Fos Cavaou terminal (committed in 2010) for 2013, to be amortized in 40 years – Source : *Délibération de la Commission de régulation de l'énergie du 13 décembre 2012 portant décision sur le tarif d'utilisation des terminaux méthaniers régulés*

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?	We are of the opinion that there are not territorial restrictions as such. However, to ensure an optimal use of LNG, the related infrastructure must be required by the market. This means that the geographical location is of utmost importance. Concerning the use of LNG in transport, the tax on fuels is an important parameter for the economic viability: the TCO (Total Cost of Ownership) of the alternative fuels must be competitive with the TCO of traditional fuels (oils). The stability and predictability of tax evolutions over time (in particular, spreads between competing fuels) should be more coordinated within the European Union. Also on transport, the European Commission should develop more on standardisation in price comparison and refuelling infrastructure**,** in line with the Alternative Fuels Directive (Art 7. Point 3). Otherwise customers cannot make a simple price comparison and cannot recognise the price benefits of alternative fuels (e.g. gas or electricity), where this is the case. There is no major barriers as the access to LNG terminal infrastructures concerning available information and capacities (either primary or secondary ones). The remaining barriers related to the optimal use and access to LNG, as supply source for Europe, are to be found at the entry into the gas markets downstream of the LNG terminals : - TSO entry costs have to be added to the terminal costs for any shipper, increasing its entry costs to the market –thus lowering the competitiveness of the LNG supply chain – whereas system value of LNG terminals, as underground gas storages, can avoid huge equivalent transmission pipeline investments. In this concern, networks tariffs at the exit of LNG terminals could be lowered, with TSOs to be compensated of the induced under-revenues by end-users through exit transport capacity tariffs. - TSO's gas specifications may not be suitable for the various LNG sources : significant additional costs to adapt gas quality (blending, forced send-out to prevent LNG ageing in tank, thus becoming off-specs) are required. Therefore, TSOs should be incentivized to accept larger specification at interconnection points of terminals, with blending costs to be socialized in the transmission tariff, rather than be exclusively paid by LNG suppliers. - Some interconnections still need to be upgraded in Eastern and South Eastern Europe to allow supply of a large region from one terminal, if it is economically relevant. In some cases, with very limited investments, or even with slightly improved administrative and

	commercial procedures, some interconnections could be developed to increase downstream flows from an LNG terminal. This is particularly key for areas that currently have no access to LNG. - In many LNG terminals, the send-outs towards the network are not, or not enough, controlled by the shippers : the use of LNG as a flexibility tool is thus limited. - Some downstream hubs are not liquid enough to integrate significant LNG supplies : Requirements for supply vs. end-users demand balancing may make mid-streamers reluctant to LNG supplies, as they consist in discrete unloadings of large volumes inducing significant flows over a limited period of time (1 standard cargo = 1 TWh that is usually regasified over 2-3 weeks, sometimes less). Risks induced by delivery of spot cargoes (under short notice mode) are quite high : financial hedging may not be feasible, as well as the valorization of such large unloaded volumes on markets (in case of lack of counterparts). In this concern, shippers must be given maximum flexibility, while sharing emissions constraints between short term and mid-term shippers to ensure a level playing field. In this concern, medium & long term LNG structured supply chains will remain relevant and Europe attractive for LNG, providing LSOs commercial offers ensure a level playing field between "spot" customers and mid or long term shippers.
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?	**Indeed, the evolution of gas demand is very important for the development of gas infrastructure**. For several consecutive years, demand has decreased in Europe. This is partly due to the economic recession, and to energy efficiency measures – efficiency being a good thing in itself-. However it is also due to EU policy initiatives which do not favour gas in the energy mix, despite its intrinsic qualities and its ability to drastically reduce CO2 emissions. The infrastructure built today will be used in 2050 and beyond**.** The EU institutions should take the right options to ensure the proper role of gas in the future energy mix on the short, medium and long term and to give the right signals for the gas industry in general. The achievement of the internal energy market requires adequate infrastructures in both the gas and electricity sectors. All the instruments put in place at European level (Connecting Europe Facility, EU Investment plan, etc.) should contribute to help the industry, via attractive regulatory conditions or guarantees, build infrastructures responding to a real market demand. The EU should look at other European tarification models that would at the same time promote lower tariffs for LNG terminal access and cost recovery for infrastructure operations.

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?	According to IHS, the LNG global world output will significantly increase in relation to the development of liquefaction capacities in the USA, in Australia, Mozambique,… However, depending on the scenarios, the range of uncertainties is important (see figure below on global liquefaction capacity).  This increase in supply will outweigh global LNG demand as Asian growth is expected to slow down : Japan and South Korea decrease could be mitigated by increase in new "small" importers such as Egypt, Pakistan, Jordan or Thailand, with China remaining a wild card. Hence, we could expect LNG flows to Europe recovering to levels seen in 2010-2011 and even reach the milestone of 100 Bcm/y by the end of the decade.

Regarding Europe, LNG imports are expected to grow significantly and reach, in the best case, about 80 million tons in 2025 and about 120 million tons in 2035 (see figure below on European LNG demand). These forecasts seem much more realistic than the "Maximum LNG scenario" of ENTSOG which foresees the saturation of all LNG terminals in Europe. Therefore, no infrastructure policy should be solely based on an extreme scenario of TYNDP, especially without further consensus on the assumptions.



Finally, the last five years showed no indication (except for US LNG contracted by the main asian buyers) of a shift-away from oil-indexed LNG contracts.

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 a fast growing market driven by recent or upcoming commissioning of numerous liquefaction units worldwide (Qatar, Australia, United-States). Liquidity development is also fostered by the increase of LNG vessels fleet over the recent years. ENGIE does not identify any specific problem in the international LNG market. Similar to the gaseous gas chain, LNG supplies can also face various reliability issues : - Technical outages; - Political risk; - Shipping constraints; - Weather hazards; **Regarding the dialogue with international partners, trade negotiations and potential voluntary aggregation demand as pointed by the EC, ENGIE would like to stress the following points :** - Building new commercial relations should stay clearly in the hands of energy companies: any switch of responsibility (e.g. towards national governments or the EC) would be detrimental to the functioning of gas markets. Imposing burden for industries as regards commercial contracts and transparency requirements which put confidentiality of commercial information at stake will not help EU energy companies to find new supply partners. Moreover, it will send bad signals to suppliers (EU would become less attractive). - Furthermore, it remains the companies' responsibility to conduct commercial relations with suppliers - Ideas on grouped gas purchasing for security of supply reasons recently emerged during the discussions on the Energy Union should be addressed with extreme caution. ENGIE would particularly like to warn against approaches hampering established commercial practices and not respecting the requirements of the EU internal market rules and competition law. As mentioned by the Magritte Group in April, common gas purchasing is only likely to add complexity, challenge key internal market and competition principles and, potentially, send a negative message to energy suppliers, which in turn could lead to lower diversification and reduced security of supply. The real issue affecting most of Eastern Europe is a concrete lack of supply alternative that can be solved by interconnecting the market, with investments decisions (interconnection, reverse flow or local LNG terminal) to be exclusively driven by economic criteria, via cost/benefit analyses and benchmarks with potential alternative solutions. Finally, the dialogue at EU level with producing countries should be intensified to promote a better use of energy in their domestic market through public policies. The aim is to avoid any supply break because of a drastic change of internal demand.

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 acknowledge the actions taken by the EU to facilitate the use of LNG in transport (sea-going shipping and inland shipping, road transportation) as well as the initiatives launched. LNG is a competitive fuel with proven efficient technology available for decreasing one of the most emissions intensive source and meeting the GHG emissions targets. As such, LNG is a cost-efficient technology allowing heavy-duty vehicles or trucks to meet the stringent pollutant emission limits of Euro VI standards. LNG is also an attractive fuel alternative for ships to meet the requirements for decreasing the sulphur content in marine fuels or to allow large-scale carriage on inland waterways. Floating Storage and Regasification Units (FSRUs) appeared a few years ago and there are presently 21 FSRUs in the active global fleet. Moreover, the order book includes 7 orders for newbuild FSRUs**. FSRUs should continue to develop as they allow to react and adapt quite quickly according to the needs**. In particular they need less time than onshore LNG terminals to be installed and above all, vessels originally commissioned as FSRUs are able to function as both a floating terminal or as a conventional LNG carrier. Thus, when a FSRU is not used as floating terminal, it may be disconnected and moved to another location or used for LNG trading. There is a strong potential for the development of LNG in transport in the EU and ENGIE has launched initiatives to contribute to the development of these activities (e.g. ENGIE is a participant to the Blue Corridor initiative and active stakeholder in the dialogue with national authorities). **In order to gain a level playing field in the market for LNG, ENGIE would like to put forward the following points:** - a clear and stable taxation policy on LNG is primordial for the development of the market: as of today, tax policies on LNG differ between countries and no stable and reliable outlook is available making LNG's attractiveness uncertain. We recommend to establish a harmonized and stable taxation framework at EU level over the long term that would provide a clear and stable view for the investments. An initiative as in UK with the 10 years' commitment (until 2024) is key to support the development of LNG as fuel. - technical requirements and standards would benefit from harmonization at the EU level. Elements such as requirements for LNG installations and equipment (hose connections and nozzles), (low) operational fuelling pressure, fuelling and emergency procedures should be standardized and harmonized for ensuring compatibility and safety in operation. - enforcing a strict emissions regulation (with possible penalties in case of non compliance) is also primordial for fostering use of alternative fuels. Any uncertainty on application of these regulation will delay potential investments in appropriate equipment and infrastructures.

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 growing interest for natural gas, LNG in particular for maritime and inland-waterways and long distance road haulage applications – witnesses that it is possible to increase the use of gas for transport and hence reduce dependency on imported oil, while improving overall air quality. LNG as alternative solution should be even more developed : - The EU should support the extension of Retail LNG : network of refueling stations, train connections etc - Anticipate the impact of increased LNG supplies on the general gas quality in Europe : final appliances, gas-fired power stations etc.
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	**ENGIE believes that demand for underground storage is likely to remain stable in the future due to the following supply projections :** - The fall in domestic production and growth in import dependency will get more pronounced in the coming years. More imports from distant source countries mean more demand for flexibility[3]. This can be an important factor leading to more storage being required. - Low carbon indigenous sources: the increase of their share in the energy mix (as required by the European decarbonisation policies) and a higher carbon price after the ETS reform will increase gas demand for power. Furthermore, demand flexibility will also increase

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

indigenous sources, present for the use of gas storage / for gas storage operators?	with the development of intermittent RES. Storage facilities, given their ability to inject gas quickly onto a transmission system, have an important role to play in providing physical gas flexibility to gas-fired power plants. Gas-fired power plants play an important role as back-up for renewable and this role will increase in the future due to the increase of RES in the energy mix. Storage is the best partner for CCGTs as a provider of flexibility. Storage and LNG regasification capacities significantly increased since 2009, whereas European gas consumptions dropped, making flexibility market much longer. In this context, storages compete with others flexibility tools (LNG, interconnections, virtual products and demand side management), but with a disadvantage due to the physical constraints and the uncertainties of its final/real value : storages must be subscribed and filled in summer, i.e. before the period for which they may generate economic value. Flexibility tools are indeed not strictly fully comparable to each other : - demand side management measures can be deployed on a day-ahead basis, but they are more risky in terms of the volume and reliability of the demand response capability ; - additional LNG unloadings require notices of several days/weeks, whereas LNG in tanks can also state as a short term response to meet demand in stressed situations. As answered to question 3, most of market participants only valorize the arbitrage value of the storages in a commodity-only market. The system value is not considered at all, whereas the insurance value against extreme scenarios is not considered by the majority of them or only very partially. (Also developed under question 14).
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)?	First and foremost, the statement of §7.2 (no correlation between the seasonal spread and the storage filling levels) is incorrect: the declined trend of storage subscriptions since 2010 is clearly due to the decline of the seasonal spreads since this date. Moreover, where long-term storage contracts exist, subscription fees have to be considered as "sunk cost" by shippers and price signals hardly cover variable costs. In this concern, a key challenge for storage is that transportation tariffs should consider the benefits and costs that storage facilities provide to the overall system : storages help the balancing of the gas system and contribute to the development of liquidity in the markets. In this regard, in the current market context, it clearly appears out of proportions that most of the market value of storage is due as transportation tariffs, leaving a too small part to the Storage System Operators (SSOs). Indeed, summer-winter spreads can be seen as a fundamental driver of storage value from the shippers' point of view. Their decline since 2010 has removed price signal for storage: shippers prefer to cover their flexibility needs by sourcing gas on spot markets - even if these products do not ensure the physical availability of gas - as they might anticipate that the worst situation will never materialize. Commodity-only markets do not suffice to value SoS correctly, notably because extreme SoS scenarios occur very rarely. Some actors consider that the NWE markets are well-functioning, but there are proofs of the contrary :

	- the cold snap in early Feb 12, with a huge spread Germany/France (up to 7 €/MWh on Feb 8th, 2012) and small cross-border flows, - the subscription of French storages for the winter 13/14, not sufficient to face SoS requirements, whatever actions on other means of flexibility, - in 2014, what would have happened if the Russian-Ukrainian crisis had begun in autumn instead of spring ? Weak seasonal spreads reduce the amount of gas stored and undermine investments in gas storages, in a context where market actors only valorize arbitrage value of storage, but not its insurance value nor its system one. They undermine the profitability, and availability of storages in the long run, thus eroding the future security of supply in the EU. If incentives are not set for an efficient use of storages, some storage facilities risk to be mothballed or closed, without new investments in storages, potentially decreasing the total storage volume below a threshold needed to meet supply standards defined by Member States, even taking into account other available flexibility tools. These unfavorable market conditions impact not only the storage system operators - that find themselves in a situation which requires them to compete with price signals that are below the costs they incur to operate and maintain their facilities - but also the European gas security of supply in the long term (reduction of the amount of available storage capacity). Since a couple of years, European storage operators are reacting with mothballing/closing of storage facilities[4] (as observed in France and Germany), project shifts, termination and depreciation, to save operating costs or to reallocate capital to more profitable uses. **Therefore, in order to prevent storage system operators from closing down storage facilities and to enable storage to play its role as a SoS provider, a clear, stable and relevant regulatory framework has to be implemented that** : - **recognizes the full value of storage including the insurance value - be it through market-based instruments, strategic storage or storage obligations - and the system value (through lower transmission tariffs**: see questions 19 and 21). - **takes into account new market conditions through (i) ensuring a level playing field between the different flexibility sources and (ii) facilitating commercial innovation** (see question 19). ENGIE underlines that storages, as well as others physical assets (ex : LNG), have a role to play in terms of SoS: storage operators need visibility to decide investments for creating new facilities or for maintaining existing facilities or adapting them to the market needs. In the

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

	same way, shippers need visibility to book long term capacities. The possibility of changing the access regime to storage (from regulated to negotiated or vice versa) creates an uncertainty, which is not to the benefit of a stable investment environment and can thus dissuade investors. As answered to questions 4 and 13 above, some countries cannot comply with SoS requirements without storages. Other flexibility sources cannot be considered as fully comparable : LNG supplies could be an efficient solution for managing both a sudden cold snap or a crisis on another supply source, but they are dependent on the shipping constraints on the short term, as additional LNG unloading require notices of several days/weeks. LNG in tanks, with their limitation, can nevertheless be a prompt response to meet demand in stressed situations. Based on the assessment that storage is needed to ensure SoS in some countries, any significant dismantling of part of their domestic storage assets would dramatically jeopardize SoS on the mid or long term, either locally or in adjacent countries, whatever the maturity and liquidity of the local gas commodity markets. The current European framework jeopardizes gas SoS on the midterm and could also be detrimental to power sector, considering the growing needs for flexibility required for intermittency management induced by fast-developing RES generation.
Question 15: As an alternative to mandatory reserves, how could market based instruments ensure adequate minimum reserves?	**Security of supply is a public good that will not always be met by the simple aggregation of the supply and investment decisions of market players at an optimal level.** There is a range of options available to improve security of supply, from traditional storage related security of supply to market based measures. Traditional storage-related security of supply measures can be an efficient way of addressing the insurance value of storage through storage obligations. In France, they provide a certain degree of certainty regarding the level of storage bookings. In France, for example, before the decree n°2014-328 of the 12/03/2014 which strengthened storage obligations, suppliers mainly sourced modulation needs with market products, a part of it remaining to be sourced within winter. Seen from summer 2013, the sum of market modulation purchases planned within winter could not be physically sourced: DGEC identified a gap of 770 Gwh/d in case of peak 2% even with saturation of all GRTgaz entry points. Seen from end October 2013, a remaining gap was assessed by DGEC of 450 GWh/d considering the planned contribution of LNG imports in case of peak demand. To secure the system for winter 14/15, DGEC urgently issued a more stringent decree notably expanding the initial storage obligation at distribution perimeter at 80% of both volume and peak storage rights dedicated to those protected customers. This had a positive impact in terms of storage booking levels. We can also mention the Italian system which notably consists in an auction mechanism for storage subscription. Market-based measures can also help incentivize adequate minimum reserves like for example in the UK system where imbalance prices in a gas emergency are meant to put pressure on gas shippers to balance supply and demand, or in the Danish system where TSOs pay for a certain quantity of gas to be stored by storage customers for a given period (the stored gas can only be withdrawn in case of emergency).

	There is no "one size fits all" instrument to ensure adequate minimum reserves : the choice of the most appropriate measures should be up to each Member State according to its own assessment of the risks. That is what Gas Storage Europe (GSE) calls the "toolbox approach". Market-based measures shall, as far as possible, be preferred to non market-based measures. However they are not always sufficient. The gas undertakings should respect the obligations related to the supply standards and the competent authorities should check that the obligations are met. SoS standards in force have clearly to be met, at any time, by any undertaking supplying protected customers. Such constraints have thus to be integrated by suppliers in their daily business. In this concern, the recent Russian-Ukrainian crisis (see the stress tests performed in summer 2014) should not be considered as an "extra" stressed situation, neither a specific event, for most of member states, as it has to be continuously anticipated by suppliers on behalf of their supply standard related to the disruption of the single largest gas infrastructure". In other words, this should have been tackled by anticipation by all suppliers in line with their SoS obligations, as a "business as usual" constraint. Impositions of means may be required to address SoS issues that commodity-only markets do not solve, and cannot be considered as a major barrier to entry : they are not discriminatory, because they are linked to categories of customers and not to suppliers. As alternative to such impositions or obligations, specific market-based mechanisms can be envisaged to ensure minimum levels of gas in storages, complementary to gas markets themselves, such as : - an auction mechanism for storages subscription that could be set, combined to a financial (tariffs) regulation of the storages assets required for ensuring long term SoS. This would not only secure the coverage of – regulated – costs of SSOs' storage assets base, but would also favor the emergence of a real market value of storage, via the auctioning process. Suppliers would be free of their storage subscriptions, and the gap between SSOs' regulated costs and auctions revenues would be compensated via a regulated contribution attached to exit transport tariffs, so charged to all protected end-users, concerning insurance and system values of storages potentially not valued by market actors. Such a mechanism will ensure storages to be subscribed at their market value. This option has been implemented in Italy for several years. Even if the "no one size fits all" principle has to be kept in mind, such a scheme may be appropriate in some Member States and seem worth being investigated by the EC. However, in certain cases (to be determined via national risk assessment), complementary adequate measures might be necessary to guarantee the minimum level of storage required to ensure security of supply.

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?	ENGIE considers that the optimal share of storage depends on the region or Member State because each country is different in terms of its energy mix, indigenous resources, import dependency (ratio between imports and demand), demand ratio between summer and winter, ability to cover seasonal modulation needs and peak demand, structure of gas demand (households, industry, power generation…), characteristics of the existing storage facilities (seasonal or quick storage). As to initiatives to an adequate framework for infrastructure development, ENGIE welcomes the statement of paragraph 7.12. Indeed, ENGIE believes that low transportation tariffs at interconnection points between storage and transmission and availability of firm transmission capacity to/from storage facilities will make access to storage facilities more attractive. In the frame of the TSO's development plans, a "make or buy" analysis could also be a way of addressing the system value of storage and optimizing the use of storage. Before each investment in new transmission pipelines, this "make or buy analysis" would compare the related investments costs to the costs of renting, on a long term basis, a gas storage (new storage or capacity increase) substituting these investments. The key issues first passes through the efficient use of existing infrastructure and the development of appropriate additional storage capacities within the regions or Member-States which are, for instance, not compliant with the N-1 standard. Infrastructure development should be investigated at market relevant zones scale regarding SoS requirements. Moreover, Member States should increase transparency and facilitate functioning markets by creating rules around the non-discriminatory access to storage facilities. NRAs should be able to monitor the effectiveness of each Third Party Access regime. ENGIE welcomes the support of storage projects needed for SOS requirements via instruments such as Project of Common interest and the Juncker Investment Plan providing those projects have been economically benchmarked against alternative solutions.
Question 17: Do you think, in addition to the existing TEN-E Regulation, any further EU action is needed in this regard?	No further action is required. The TEN-E Regulation is essential for the development of the internal energy market and plays a crucial role in ensuring the security and diversification of supply. However, the main concern for SSOs today is to optimize the existing infrastructure by having the storage filled at the beginning of the winter period.
Question 18: Given uncertainties over	In the context of energy transition, gas has an important role to play, as clean energy and ideal complement to renewable energy. Gas storage capacity particularly develops flexibility within the gas system, which is one of the prerequisite to a large deployment of renewable :

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 renewable , 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?	this flexibility is needed to accommodate a significant Gas to Power capacity. The path to a low carbon energy mix will not happen without gas. Market players who signed long term contracts several years ago participated in the development of flexibility (market places) and of balancing tools, that benefit all gas market players today. However, these long term contracts are mostly out of the money now (see the many arbitration procedures in Europe between shippers and SSOs, and the recent impairments of several European utilities). As explained in the answer to question 4, the risk of stranded assets concerns numerous existing storage capacities, with the current context clearly being unfavorable to new investments. Risk of unused capacities is already a reality, with mothballed storage capacities in France (due to under subscriptions) and in Germany (due to profitability issues). See also question 15 for proposed specific measures. Far from contributing to any so-called "lock-in" effects or "diverting investments from low carbon technologies", gas contributes to the reduction of CO2 emissions across all sectors (through innovative gas-based solutions) and provides the flexibility needed by intermittent renewable energy sources. The role of gas in the decarbonisation policy must be highlighted as natural gas has much potential that is yet to be fully realized: - Increasing natural gas in the power generation mix can significantly reduce CO2 emissions - CNG and LNG present road and maritime transport sectors with significant opportunities to reduce costs while also significantly reducing CO2 emissions, - Gas-fired micro combined heat and power (CHP) generators can provide local heating and electricity at high efficiency factors, - Power-to-gas technology can store energy in large volumes Therefore, clear and consistent policies are required from EU policy makers that natural gas has a key role to play in the transformation of the EU energy system on the short, medium and long term. This will in turn reduce the risk of stranded assets. However, in the context of decreasing gas demand, gas competitiveness should be maintained through the use of existing infrastructure and limited investments in new infrastructures (see the "make or buy analysis" mentioned in question 16). More specifically, regarding underground gas storages, they seem to be stranded assets today (see mothballing/closing of storage facilities in France and Germany) but the main reason is that the regulatory framework and current market conditions do not recognize the value they provide to the whole system. In order to realize the full potential of gas infrastructure, we believe that a number of key areas of energy policy need to be addressed: - Clear, consistent policies are required from EU policy makers that natural gas has a key role to play in the future of the EU energy mix on the short, medium, and long term

	- The EU ETS should remain as the primary EU mechanism for CO2 reduction. Appropriate and equivalent measures are also required for the non-ETS sectors. Subsidies for mature renewable technologies in the power generation sector should be eliminated as they distort the internal energy 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?	First and foremost, the statement of § 7.13 (risk that mandatory storage obligations distort market functioning by crowding out commercial stocks) is totally misleading: mandatory storage obligations do not crowd out commercial stocks as gas remains at suppliers disposal and can be valorized by the market. The existing regulatory framework has been focused and built on the assumption that storage capacity was in high demand and hence that available capacities would always be booked and used in the value chain. **ENGIE considers that there are three main critical regulatory barriers to the optimal use of storage:** – **Level of transmission tariffs** – **Constrained connection with the transportation network** – **Ability to offer customized products** High transmission tariffs at storage-transmission interconnection points can account for a significant portion of the storage costs (whereas storage facilities provide numerous benefits to the system resulting in avoided investments and lower operational costs: see question 22). Lowering transmission tariffs for storage is a way to incentivize the use of storage. In case of congestion of the transport network, capacity at the interconnection points between transport and storage can be unavailable at injection or withdrawal. These capacities cannot be guaranteed as firm capacities, thus creating uncertainty at the usage of the concerned storage when subscribing the capacity. Improved access to/from storage facilities from/to transmission network should therefore be offered.. Different elements can be seen as regulatory barriers : - The definition of strategic storage is causing non optimal use of spare capacities at costs of all market participants. This strategic capacity is withdrawn from the commercial capacity, hampering storage assets market valuation. With an optimal market mechanism to access storage capacities, ensuring adequate incentive for market participants to subscribe and cycle the capacities, there is no more need for such strategic storage. On the contrary, blocking the capacities for strategic storage is a barrier to a transparent commercialization of the capacities.

	- Lack of transparency or constraints in the access to storage regarding the available capacities is also a barrier to an optimal use of the storage capacities. Market participants have to be able to anticipate and optimize their subscription, receiving clear and transparent information from the storage operators on costs and characteristics. - Storage is a critical piece of the puzzle to balance the system, avoiding important investment in transmission network and helping the global optimization. High tariffs at interconnection points between storage and the network (on annual as well as on short term basis) are counterproductive to an efficient use of storage, eroding system value of storage assets. In this concern, incentives, through limited transport tariffs, should be implemented to foster both insurance and system values of storage. - In case of congestion on the transport network, capacity at the interconnection points between transport and storage can be unavailable at injection or withdrawal. These capacities cannot be guaranteed as firm capacities, thus creating uncertainty at the usage of the concerned storage when subscribing the capacity. These interruptions should be done in full transparency by the TSO and allocated with the latest priority to the installations helping the global system. - In most storage assets, variable costs are due at injection and withdrawal of gas – on top of the subscription costs. Lowering, or preferable cancelling those variable costs, would favor a larger utilization of the storage capacity. The trigger to inject and withdraw gas would purely be market based. Under the current market conditions, this would promote a more dynamic usage of the subscribed capacities. The equivalent operating costs could be included in the subscription cost. Indeed, as shippers will take their decision taking into account both subscription and variable costs, shifting all costs to subscription fees won't change significantly the level of bookings but it will favor the optimal use of these subscriptions. And the solutions detailed in question 15 if market conditions lead to insufficient reserves regarding SoS will have to be implemented whether or not there are variable costs billed. On the other hand, some measures cannot be considered as regulatory barriers, contrary to the statements of the EC : - Long term capacity contracts do not lead to any difficulties for new entrants (§ 7.9) : they are free to arbitrate between short term or long term (pluri-annual) bookings, whatever the booking policy of their competitors. Furthermore, long terms bookings contribute to SoS, especially for storage capacities and give visibility to the market, thus fostering development of mid and long term market liquidity. Long term contracts should thus be valorized for this risk reduction and visibility they offer as well for the SSOs, the shippers and the network. This should be reflected in the prices of long term contracts bookings in order to be lower than prices of short term booking). - Domestic storage obligations are not detrimental to the level playing field in countries for which SoS requirements cannot be met without storages : once the domestic imposition of means is sized assuming saturation of interconnection (entry) capacities, foreign assets are considered not eligible to the respect of the shipper's individual obligation of means. There is a need for developing regional approaches, but the implementation should be decided at national level

	- Mandatory storage obligations do not crow out commercial stocks, contrary to strategic storages mechanisms : gas stored for compliancy with storage obligations remain at suppliers' disposal and can be valorized on markets, thus playing an integral part in correct gas market functioning. Finally, in order to compete with other flexibility tools that do not face the same third party access requirements (spot purchasing like virtual trading points, virtual storages or hubs), it is crucial for storage system operators to be able to answer to their customers' needs by offering innovative products like, under certain conditions, "commodity-backed capacity products" (capacity and commodity bundled products).
Question 20: Do you think ongoing initiatives and existing legislation can tackle the remaining outstanding issues or is there more the EU could do? Do initiatives need to include additional issues further to the ones described here?	Implementation and compliance with existing legislation is crucial before launching new initiatives. Having said that, we recognize that Regulation 994/2010 needs updating to reflect practical experience gained in the past few years as well as the opinions of various stakeholders voiced in public consultations organized by the Commission. Ongoing initiative in France and Germany are led to challenge the current access mechanism to storage capacities. In Germany, even if capacities are well subscribed[5] and used, the profitability of SSOs is put under high pressure, clearly jeopardizing the viability of the installations
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	Specific transmission tariffs for gas storages are needed and should be part of the network code on harmonized Transmission Tariff Structures in order to reflect the benefits that storage provides to the overall system. **Indeed, storage facilities reduce the costs that TSOs incur when operating their systems because:** – Storage is not an additional source of demand or supply: gas storage is different from all other entry/exit points in that it is not a net source of gas demand or supply. Rather, it shifts consumption from one period to another. – Storage helps rational and efficient investments in the grid: because storage facilities are usually located close to centers of demand, transmission pipelines need to be seized only so that they can meet the average and not peak demand, with storage facilities making

[5] This is due to the long term Storage contracts 'subscribed by German storage users) that are expected to end roughly from 2016.

to meet the objective of secure gas supply?	up for the difference between actual and average demand. Storage therefore allows a reduction in the size and cost of the transmission network. By way of example these savings have been estimated at the level of up to GBP 70 million per annum in the UK alone[6] and are considered to range between 9 and 16% of avoided capital expenditure across Europe[7]. – Storage reduces operating expenses of TSOs: storage facilities help TSOs reduce the cost of compression, which is one of the most significant elements of their operating expenses. – Storage enhances system stability and balance: storage facilities help maintain system integrity and balance thus supporting transmission operators in operating their pipeline network. This may be particularly crucial in system stress situations. **ENGIE strongly recommends that the Network Code on Harmonized Transmission Tariff Structures reflects the above arguments, which should provide guidance to NRAs when setting transmission tariffs at storage connection points located on the networks they regulate. In this concern, this Network Code should propose a zero transmission tariff for storages, as a default rule, and the implementation being left to the discretion of each Member State.**
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.	In the current context, storage facilities in Europe are facing low subscription rate or low filling levels. The current valorization of storage capacities could be an issue where the tariffs are not market based. Other difficulties in accessing storage facilities are identified – as already defined in question 19 – such as : - Lack of transparency or constraints in the access to storage regarding the available capacities or the commercialization method. - Regarding interconnection points between storage and the network, those issues contribute currently to dissuade market participants to subscribe storage capacities. The tariffs at interconnection points between storage and the network should be lowered in order to take into account the contribution of storages to the overall system. Currently, they are too important, which sends a contradictory message to the market regarding the system value of storage.
Question 23: Have you ever encountered, or are you aware of, difficulties related to	No comments.

[6] Waters Wye Associates: "UK gas transmission system benefits from gas storage – an update to the initial report produced in 2007," 23 April 2014
[7] Pöyry: "Transportation tariff discounts for gas storage," November 2012

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.	