Consultation on an EU strategy for liquefied natural gas and gas storage
Q&A Sheet

Section #2. 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 neighbouring countries? Do you have any analysis or view on what an optimal level/share of LNG in a region or Member State would be from a diversification / security of supply perspective? Please answer by Member state / region.*	We agree with the assessment done, which is comprehensive of infrastructure development and challenges and needs to allow potential access for all Member States. In this context, we need to highlight the advantages of Krk LNG terminal to serve the purpose of the most vulnerable countries, potentially increasing their gas supply balance and diversification With regard to the second part of the question, rather than an optimal level of LNG for each EU region or Member State, we believe that there should be a minimum level of LNG infrastructures for each EU region (or Member State where applicable): – From a cumulated perspective, despite its low utilization rate, the EU has an average installed LNG regasification capacity of approximately 20% of its total yearly demand – Compared to the Nordic and Central European regions (where countries such as Spain, France, Greece or UK import between 5 and 20% of their yearly gas needs, but operate installed LNG regasification capacities that reach up to 90% in some selected cases), South East Europe is almost fully reliant upon pipeline gas, mostly Russian – Considering the European average as a general minimum threshold, we may consider that 20% could represent the target LNG coverage ratio for each European area region – In this context, Krk LNG terminal will bring beneficial effects on the same area, increasing the potential LNG coverage closer to 10%
***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?*	Yes, to address this point we would also leverage the CBA study defined for the Krk terminal CBCA application, but also the project specific CBA analysis that has just been completed by ENTSOG, JRC and DG ENER for 2nd PCI list, which may help in assessing the most cost efficient options with regard to LNG terminals and infrastructure development. We believe that it would be appropriate to develop both LNG and pipeline infrastructures: – Pipeline investments are needed to exploit in full the current existing LNG capacity. – The development of new LNG terminals will enhance, particularly in areas that currently do not have access to LNG, the security of supply. In our view, the selective installation of terminals in strategic regions (i.e. Croatia that would also serve the needs for other neighbouring countries), would improve the overall flexibility of the system allowing for quicker reactions in peaks of demand ensuring a better security of supply. However, we would like to stress that the development of new LNG facilities will highly depend on the cost competitiveness of LNG gas vs. pipeline supplies. Among the most relevant conditions to fully exploit existing and future LNG terminals, we see the timely development and construction of the required pipeline interconnections. In this context, we would like to underline the South East European case:

	– Countries such as Croatia, Slovenia, but also Hungary to a certain extent, are net importers of gas and have very limited gas exporting capacities available – The same countries are planning to increase their export capacities with new pipelines/interconnections or improving existing ones, most of them being PCI projects – For LNG investments such as the Krk LNG Terminal, the timely completion of all the key export routes are fundamental in order to ensure the project bankability and its actual commercial viability From a broader European perspective, Europe today has 26 LNG re-gasification terminals under operations for a total annual nominal capacity of approximately 200bcm, the majority being installed in the North and Central-West Europe. Central-Eastern and South-Eastern European countries (CESEC) do not have access to LNG nor it could be feasible nor cost-effective to connect them to the existing LNG terminals in far regions. This is why an LNG terminal in Krk is essentially needed for this region and once this particular LNG terminal is built, the Europe LNG infrastructure would be completed and sufficient. In this context, the EU CBCA mechanism may play a key facilitating role, although in order to do so the EU shall better clarify its rules and strengthen its functioning, enforcing a wider acceptance and application by each Member State and TSOs
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*	EU actions could be aimed at removing the contractual restrictions in terms of delivery points for LNG long-term contracts. Majority of LNG supply contracts are based on DES (Delivery Ex-Ship) terms with deliveries allowed only at a defined regasification plant. EU could establish a discipline where, for contracts entered by EU buyers, the delivery point can be any of the re-gasification plants located in EU Member States, without any limitation, except for those of technical nature. The regulation could be introduced in two steps: i. possibility to select alternative delivery points within a uniform EU region/market area – e.g. Mediterranean Sea, North Western Europe, Baltics; ii. possibility to select any re-gasification facility located in any of the EU Member State. • As above mentioned, we also believe that LNG infrastructure investments will strongly benefit from a closer cooperation among TSOs, starting, for example, from an harmonization of the CBCA procedure
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?*	We believe that a low level of LNG exploitation in some regions might be explained by a substantially lower than expected demand growth combined with and increasing cost competition coming from other sources of gas. The risk of stranded assets could be high; however, EU rules on security of supply require the acceptance of this risk. For what concerns the risk of LNG competition with other energy sources, we would like to highlight the need for Europe to develop a diversified and sustainable portfolio of energy sources. The combination of investment in missing LNG terminal Krk and the enhancement of existing gas pipelines would contribute in phasing out nuclear and more obsolete coal-fired plants.

	To reduce the risk of stranded assets, LNG facilities can be used for bunkering and transportation.
***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)?*	LNG could be a reasonable mid-term solution for smooth transition to meet EU ambitious targets on greenhouse gas emissions. Natural gas, although belongs to the fossil fuel source, has the lowest greenhouse emissions and PM particles of all other fossil fuels. On the other hand it is less costly per energy unit than renewables. Additionally, LNG can use the advantage of becoming a global commodity, not being dependant on limited sources like pipe gas and compared to pipe gas it has far more energy efficiency in sectors like transportation. All above stated makes LNG a perfect candidate for the dominant role in EU energy mix for the transition period towards 2050

Section #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 identify the need to ensure a standard gas quality in Europe as real regulatory barrier An example is some countries, the quality standards in use would prevent a considerable number of LNG gas supplies (e.g. Algerian/Lybian gas) from entering the pipeline network As a matter of fact, the EU shall make sure to harmonize a European gas quality among all Member States, ensuring that all potential gas supplier will not be prevented from entering the network system
***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?*	Long term LNG supply contracts under DES (Delivery Ex-Ship) terms include limitations in terms of delivery point for LNG cargoes. These restrictions may be used by LNG suppliers to pursue different pricing strategies in each of the served markets Another indeed critical commercial barrier is “tariff pancaking”. Tariff pancaking happens when gas flows across multiple – generally small – zones are charged with successive tariffs for each respective zone crossed. Such pancaking can often result in flows from new sources – having to cross several zones – priced out of certain markets due to tariffs
***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?*	An example where EU policy well tackles the issue when one county is bearing all the cost of new infrastructure and other countries share benefits, is a Cross-Border Cost Allocation (CBCA) mechanism. As a mechanism that is seeking a fairer distribution of costs and benefits, is well thought, but there is space for further improvement in shortening deadlines and simplification of procedures, which can be accomplished by strengthening the role of ACER in the processes of decision making and implementation. It is necessary to harmonize network rules and methodologies for determining tariffs at the EU level, as well as to stimulate all TSOs to implementation of a unified central reservation system capacity. National specificities and different levels of economic development should be taken into consideration. In order to do that, it is necessary to strengthen the role of ENTSOG as a EU-level TSO

	coordinator. Under the auspices of the EU, we believe that region-specific plans and forums of cooperation should be developed and encouraged. One-fits-all approach cannot adequately address different needs of all the Member States. High Level Group on Central and South Eastern Europe Gas Connectivity (CESEC) is a good example of a regional cooperation, which seeks to address region-specific challenges.

Section #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?*	Worldwide markets for LNG are subject to a frequency and depth of change that is unprecedented. This concerns economic, geo-political, and technological changes, as well as the way in which gas interacts with other sources of energy. Overall, LNG global demand is projected to reach ~350 by 2020, with an increase of ~110 MTPA compared to 2014, mostly driven by Asia. By then, the market may be oversupplied. However, there is uncertainty on the timing and materialization of additional supply due to project delays or cancellation of initiatives due to current market conditions. At consequence, global LNG market is expected to remain tight to balance until at least the end of the decade. For the years beyond 2020, uncertainties are more pronounced in terms of demand due to: – Additional pipeline capacity between Russia and China; – Shale gas developments in Europe/Asia; – Energy market dynamics affecting main LNG importers in Asia (e.g. future of nuclear power generation in Japan, commercial relations between Russia-China, etc.); – Additional long-term uncertainties in the Asian economic outlook; – Relaxation of permitting policies in US, increasing LNG export capacity; – More uncertainty on oil prices, with consequent impact on natural gas prices and global LNG demand/supply outlook. LNG contracts are mainly based on oil-indexed pricing formulas, and so far, there has been resistance to a switch towards gas-to-gas competition and hub-indexation pricing. However, it is reasonable to expect an increasing level of hub-indexation of LNG supplies in the contracts versus European buyers. The shift might be sustained by a persistent low oil scenario, where oil prices will remain below hub-indexed prices. In this scenario, suppliers could be incentivized to introduce some degree of hub indexation in their long term 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?*	The LNG market is still a fragmented regional market (US, LatAm, EU, MENA, and Asia) characterized by non-interconnected and non-harmonized prices. The main issue in the LNG market is the lack of a strong price signal, since suppliers have the ability to segment prices based on final delivery market.

Section #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?*	LNG is a strategic priority for many market players, starting from OEM to end-users. For example, on a technological point of OEMs of critical equipment in LNG plants are developing innovative modular solution tailored for specific client request to reduce construction timing, while optimizing overall configurations. At the same time, OEM are developing engine and solutions for the potential uptake of the LNG usage for transportation (both bunkering and onshore transportation), which is still at its embryonal phase. Major oil companies are studying potentiality of small scale LNG to serve the market, while others are already playing a leading role in the most developed countries Finally, users (ship owners, logistics companies and global companies) are investigating the potentiality of LNG usage, analysing cost and benefits. Key uptake drivers of LNG for transportation are: costs (Total Cost of Ownership for the end-users), regulation and infrastructure development. Regulation is a crucial enabler of LNG usage for transportation, especially (but not only) for bunkering. In this context, EU actions are required to: – Potentially incentivize the usage of LNG and other less polluting fuels with more stringent environmental regulation (e.g. supporting IMO for bunkering uptake in Mediterranean sea and inland), as well as financing support to environmentally friendly-related investments; – Incentivize the development of infrastructure (e.g. implementation of TEN-T network); – Define harmonized, uniform and reasonable standards on quality and safety (e.g. distance limitations in C-LNG re-fuelling stations, uniform bunkering criteria, allow Ship-to-Ship bunkering).

Section #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.*	When Liquefied Natural Gas (LNG) is added to the mix of natural gas, three additional lifecycle stages are created: liquefaction, transport and regasification Even if considered these three additional stages, gas (as a mix of pipeline and LNG) is still competitive and even lower in terms of emission compared to other fossil fuels (i.e. coal)

Section #7. 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?*	LNG increasing demand may have two opposite effects on the usage of the storage / storage operators: – Thanks to the higher flexibility and capacity and security of supply, LNG terminals will compete with large storage facilities possibly undermining future development – On the other hand, a growth in LNG supply should be supported by a development of small storage facilities able to provide adequate network balancing and modulation services
Question 14: *Are, in your view, current market and*	Storage can play an important role to cope with possible unforeseen events as extreme cold spells or supply disruptions

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)?	Mandatory reserves can further increase storages importance however such mechanism are complex and difficult to implement at EU level across all Member States. In this context, LNG terminals may better answer to any possible unforeseen events guaranteeing the required flexibility in such events
***Question 15**: As an alternative to mandatory reserves, how could market based instruments ensure adequate minimum reserves?*	Market based instruments would be difficult to implement. In principle, they should offer an adequate incentive/remuneration to commercial operators for keeping a certain level of gas stocks against possible supply disruptions or other unforeseen events. Commercial operators should commit to stock and release as needed strategic volumes of gas in exchange of a remuneration based on: i) the value of the commodity, ii) the cost incurred for the storage, iii) the financial charges required to finance the working capital, iv) a margin.
***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 particular comment
***Question 17:** Do you think, in addition to the existing TEN-E Regulation, any further EU action is needed in this regard?*	No particular comment
***Question 18:** Given uncertainties over future gas demand, how would you assess the risk of stranded assets (and hence unnecessary costs), lock-in effects, the risk of diverting investments from low carbon technologies such as renewables, delaying a transition in energy systems and how would you and weigh those against risks to gas security and resilience? What options exist in your view to reduce the risk of stranded assets?*	See answer 4.
***Question 19:** What do you think are the most critical regulatory barriers to the optimal use of storage in a regional setting?*	Storage facilities are different from any other entry and exit points of the local gas system as they do not represent a net source of supply or demand but rather shift supply from one period to another. However, in terms of storage Entry/Exit tariff structure, there are no harmonized EU rules. In most of the countries the costs and benefits that storage facilities provide to the overall system are taken into account by setting free of charge exit and entry tariffs when respectively injecting gas into storage and withdrawing from storage. On the contrary, for instance, in some EU countries storage facilities are treated like any other point of the system leading to a double charge.
***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?*	EU is in the process of adopting a harmonized network code on transmission tariff structures for Gas. This will partially address the outstanding issues.
***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*	EU rules will enhance and increase security of supply in each Member State, nevertheless an analysis at a national level should be made in order to better address and assess the objective of security of supply.

level in view of available measures able to meet the objective of secure gas supply?	
Question 22: *Have you ever encountered, or are you aware of, difficulties in accessing storage facilities? Has this concerned off-site or on-site storage facilities? Please describe the nature of the difficulties in detail.*	No particular comment
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.*	No particular comment.