QUESTIONS	ANSWERS
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**.	Trafigura regards the Balkans and Baltics as the critical regions where the ability to access LNG could diversify their supplies and increase security of supply. (For further information, please see pages 13 to 16 of Trafigura paper)
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?	Onshore terminals are generally constructed on a significantly larger scale to ensure sufficient capacity to cover future demand increases. Additionally, they are usually paired with correspondingly large infrastructure projects to deliver gas to future customers, particularly in neighbouring countries. Given the number of governments, companies, and other entities involved, the development process can easily become a long and drawn out affair as various interests submit their needs and proposals. Even if the economics are favourable, it is important to account for the effect of inevitable political delays. The smaller scale of FSRU projects, combined with their lower financing requirements, allows for a much greater chance of following the initial development timeline. Also, assuming a standard 5-10 year lease, host countries can begin importing LNG at current demand levels while continuing discussions on infrastructure projects. If domestic demand increases and/or if any associated infrastructure projects become viable, a larger or a second FSRU can be leased. Conversely, if a new fuel source pushes LNG out of the energy mix, the FSRU can be released. Furthermore, FSRUs offer additional flexibility in that they can be utilised variably throughout the year. Currently FSRUs are leased in three different time charter arrangements. 1) The FSRU is permanently docked at the terminal and a STS transfer is performed with the LNG carrier. 2) The FSRU is leased for a fixed period of time each year. Kuwait currently leases an FSRU

	from Golar LNG for nine months out of the year, leaving the vessel in Golar's control for the other three. 3) The FSRU is brought in only when there is demand. Even within the first two arrangements, there is further flexibility. During the lease period, if the FSRU is experiencing a period of low utilisation, the vessel can be sub-leased to another terminal or used as a standard LNG carrier, thus recovering some of the operating costs. An onshore terminal provides none of this flexibility and essentially forces the host country to gamble hundreds of millions of dollars that its specific project design is the optimal solution to its energy needs for the next 20-30 years. The optionality offered by FSRUs lets policymakers continuously re-evaluate the situation, ensuring the best decision is always made. (For more details, see page 11 of Trafigura paper)
Question 3: **Do you think, in addition to the already existing TEN-E Regulation**, any further EU action is needed in this regard? Do you think **the use of LNG gas and existing LNG infrastructure could be improved** e.g. by better storage possibilities, better network cooperation of TSOs or other measures? Please give examples.	We suggest that it is time for a renewed focus by policy-makers on building the basic infrastructure to support LNG imports in these vulnerable regions – essentially the Balkan states and the Baltic states. As this paper argues in more detail, this no longer means spending billions of euros and enduring the lead-times of several years required for the construction of major onshore regasification terminals, with all the financing and decision-making challenges they entail. Technological progress has created an altogether more flexible and affordable approach, through the use of specialised vessels known as Floating Storage and Regasification Units (FSRUs).In summary, leasing an FSRU is the fastest and cheapest way for a country to start importing LNG. It is flexible - subject to periodic contract negotiations with specialist providers - and reliable, given the back-up the owners can provide. Even more important are the cost and time advantages. The initial investment required by way of capital expenditure to build basic jetty and pipeline facilities for an FSRU – typically between $50 and $150 million – is a fraction of the sums required to build an onshore terminal, and the lead-times involved are measured in months rather than years. These factors make FSRUs an optimal solution for countries contemplating importing LNG, even on a modest scale. In nationally fragmented markets where gas demand needs to be built over time and future needs are not easily forecastable, an FSRU offers a modular approach to building import capacity. The low up-front capital expenditure radically simplifies and accelerates the task of securing an investment decision and in cases where government spending is involved minimises

	the call on the public purse. While operating costs are higher than for an onshore terminal, they can be funded entirely out of operating income. (For more information, please see pages 4 and 5 of Trafigura paper)
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**?	N/A
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)?**	N/A
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.	N/A
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?	N/A
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?	N/A

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?	As mentioned before, LNG supplies have been growing rapidly in recent years, a trend which is set to continue until 2020 and beyond, with total expected volumes of 250 mtpa this year compared to 170 mtpa in 2008 and only 100 mtpa in 2000. The number of importing countries has almost doubled to 30 in the past seven years 1 . More important still for future development is the radical shift we are witnessing in the structure of the market, from dominance by LNG producers to a leading role for independent traders. By 2020 we expect the proportion of global supplies controlled by producers to fall from 170 mtpa to 160 mtpa, while the share taken by companies able to trade rises three-fold to 180 mtpa. This means that surplus supplies will be readily available for purchase by an increasing number of gas importing countries, including EU member states currently over-reliant on Russia for their supplies. In other words, the spot LNG market now has the critical mass to offer security of supply. It is worth emphasising that securing adequately diversified supplies of natural gas is not a uniform challenge for EU member states. While Europe is already the third largest importer of LNG globally, those imports are overwhelmingly concentrated in the western European countries that have heavily invested in LNG regasification and storage facilities, namely the UK, Spain, France, the Netherlands and Belgium.(For more information, please see pages 4 and 5 of Trafigura paper)
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?	N/A
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?	Over the last few years, the technology aboard FSRUs has progressed significantly and we expect this trend to continue over the medium term, thus solidifying the advantages of FSRUs over onshore terminals. In summary, leasing an FSRU is the fastest and cheapest way or a country to start importing LNG. In summary, leasing an FSRU is the fastest and cheapest way or a country to start importing LNG. It is flexible - subject to periodic contract negotiations with specialist providers - and reliable, given the back-up the owners can provide. Even more important are the cost and

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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.	N/A
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?	Typical FSRU lease structures allow countries to continuously adapt supply requirements to downstream demand through any type of market environment. Importers can purchase the asset and operate it long term if they are confident forecasting future demand. Opex tends to be the strongest argument against FSRUs, but this is defrayed by the immense optionality embedded in the asset. In sum, any coastal European country over-dependent on a single source of supply should look to FSRUs to tap into the resources of the global LNG market.
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.	N/A

extreme cold spells)?	
Question 15: As an alternative to mandatory reserves, how could **market based instruments ensure adequate minimum reserves**?	N/A
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?	N/A
Question 17: Do you think, in addition to the existing TEN-E Regulation, **any further EU action is needed in this regard?**	N/A
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?	N/A
Question 19: What do you think are **the most critical regulatory barriers to the optimal use** of storage in a regional setting?	N/A
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?	N/A
Question 21: Do you consider **EU-level rules necessary to define specific tariff regimes** for storage only or should such assessment be made rather on a national level in view of available measures able to meet the objective of secure gas supply?	N/A
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.	N/A
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,	N/A

technical problems) in detail.	