



30 September 2015

Re: Ireland's response to consultation by the European Commission on strategy for LNG and gas storage – closing date 30/9/2015.

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Dear Sir/Madam,

The Department of Communications Energy and Natural Resources (D/CENR) – Ireland's Energy Ministry - welcomes the opportunity to submit Ireland's response to this consultation by the European Commission on strategy for LNG and gas storage. We would like to commend the Commission for the attention it is devoting to this important area.

This response provides context and objectives for Ireland and answers questions raised in the Commission's consultation paper.

Context in Ireland

- Around 95% of Ireland's gas supply comes from the UK(Scotland) via two pipelines.
- 48% of Ireland's electricity is generated using gas – higher than many other Member States
- There is very small level of storage in Ireland (at Kinsale)
- EU Connecting Europe Facility (CEF) funding, for example for Project of Common Interest (PCI) for twinning the gas interconnector from Scotland, will contribute to improving Ireland's security of gas supply. In addition, previous EU funding for the East-West Electricity Interconnector and potentially also the France/Ireland "Celtic" electricity interconnector projects, which was recently recommended for CEF funding for a study, improve our security of energy supply
- The high cost of gas infrastructure projects, where part of a regulated asset base, places a higher cost burden on a small customer base. Increasing costs on this small customer base could cause a "domino effect" of gas customer decline, leading to higher costs on remaining customers, leading to more customer decline.
- The Corrib gas (a gas field in the Atlantic) is due to come on stream in late 2015 and will temporarily reduce Ireland's import gas dependency for a relatively short number of years
- There is currently very little LNG/Storage facility on the island of Ireland and power stations have only a back-up secondary fuel of 5 days or less leaving Ireland more vulnerable (after Corrib declines) to a long-term disruption. Ireland

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has a private sector LNG project, Shannon LNG, on the first PCI list, but construction, which is a matter for the project promoter, has not yet commenced

- The risk of a major emergency incident, on the existing gas interconnection between Ireland and with the UK (Great Britain), would be a High Impact low Risk (HILR) event, but, because of the high impact, it cannot be ignored. A key issue for Ireland, given our high dependence on gas for power generation, would be keeping the electricity system working in the event of a prolonged disruption
- Ireland, because of its import dependency, is highly dependent on regional cooperation with the UK on gas Energy Security and Ireland greatly values its excellent cooperation with the UK
- Ireland is closest EU Member State to Canada and the USA, a potentially reliable and secure source of supply of gas imports

Key objectives for Ireland

- Ensure all Member States can access LNG/Gas in the event of internal EU long term gas deficit – for example, to ensure that Member States such as Ireland could continue to get gas in the event of a long term UK gas deficit
- Incentivising private sector investment
- Protecting priority customers and power generation, which is heavily reliant on gas
- Protecting businesses, including current and future inward investment, by ensuring that electricity would continue to be supplied on the island of Ireland to companies in the event of a longer-term gas disruption
- Minimise the cost burden on an already small base of consumers – to avoid a “domino effect” of gas customer decline, leading to higher costs on remaining customers, leading in turn to more customer decline
- In the event of a non-interconnector related disruption, ensure that sufficient regulatory forecasts and mitigation arrangements are in place to ensure enough gas gets to Ireland. In this regard we greatly value the excellent cooperation with the UK, and strongly support regional cooperation at EU level
- Avoid market distortion
- In light of Ireland’s closest proximity to the North American Gas market, facilitate the private sector in developing this potential opportunity.
- An EU Strategy for LNG/Storage should also consider, the different situation in individual Member States, for example given Ireland’s unusually high dependence on gas for Power Generation and absence of any LNG/Storage facilities on the island and the high cost on a small consumer base of such provision, EU funding

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support may be needed to ensure gas could continue to be available in Ireland in the event of a long term disruption.

- Fair burden sharing.

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Consultation Questions

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

Answer:

Ireland is in the region North-South Interconnections in Western Europe. Around 95% of gas is imported from the UK (Great Britain (GB)) via two interconnectors, and 48% of Ireland's electricity is generated using gas. The remainder of our gas comes from indigenous sources. The expected coming on-stream of the Corrib gas field, in late 2015, will temporarily enhance Ireland's security of supply. Storage facilities also currently exist for a small amount of natural gas in Kinsale off the South Coast of Ireland. Current requirements on power stations for secondary fuel are only for short term disruptions to gas supplies.

The strategy needs to consider potential for internal EU gas deficits in emergency situations for all Member States. There are currently no LNG storage facilities on the Island of Ireland and currently any LNG gas would have to be imported via the Moffat Interconnector with Great Britain. An issue would be how to get gas to the island of Ireland if LNG gas could not be imported via the inter-connector(s), most likely due to an emergency situation. Such a situation would be a High Impact low Risk (HILR) event, particularly given our dependence on gas for electricity, so it needs to be considered.

The Ministry has no current analysis on the optimum level/share of LNG in Ireland.

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

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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?

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Answer:

Ireland's Energy Ministry has no current reports (cost/benefit) as requested. While there may be potential merit in terms of cost savings and efficiency in focusing on pipelines, we need to ensure in the strategy that gas can get to all Member States in the event of a situation where pipelines may become fully or partially unavailable in a longer gas deficit emergency (e.g. a breach of a sub-sea interconnector). In this regard, Ireland, as a peripheral Island Member State, has currently no other alternative of getting LNG, should the interconnector not be available in such an emergency situation. The Shannon LNG private sector PCI, if constructed and fully commissioned, would provide an LNG alternative.

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

Answer:

The Projects of Common Interest (PCIs) and particularly Connecting Europe Facility (CEF) EU funding have the potential to improve Ireland's security of supply. In examining any potential further EU action, the optimum mix of Energy supply sources and network infrastructure needs to be considered for each Member State in the context of national and EU priorities. The existing PCI process lacks this to some extent, as the project promoters submit their individual projects for inclusion the Entso-e or Entso-g Ten Year Network Development Plans (TYNDP), and then submit them for assessment as candidate PCIs by the regional groups. A possible missing step here is a strategic overall prioritisation of infrastructure projects for each Member States, particularly projects where approval of expenditure will subsequently be required by the National Regulatory Authorities (NRAs). While the existing regulation allows for Member States and NRAs to give their views on individual candidate PCIs, there is no formal process for NRAs/Member States giving a strategic national prioritisation of projects in accordance with specified transparent criteria. The role of the NRAs, as regulators of the industry, would be very important in such a process.

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

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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?

Answer:

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There are no LNG facilities on the island of Ireland. However, there is a PCI (i.e. PCI on the first EU list and also a candidate for the 2nd list) – Shannon LNG - which is advanced in the granting of its permits, but has yet to be constructed, which would enhance Ireland's security of supply. This project is a private sector initiative. The efficient utilisation of such an asset would be a matter for the project promoter. It is important to strike the right balance between security of supply and resilience on the one hand, and, on the other hand, not adversely impacting on the market or the progress to meeting our decarbonisation targets. In Ireland a key issue is the small size of our customer base and our continued high reliance on imported gas for electricity generation. The strategy should address the objective of ensuring energy supply in all situations in a gas deficit, for the period while the issues causing the gas deficit are being rectified. This is particularly important to Ireland given our high dependence on gas for electricity generation. Given our small customer base, EU funding support would be needed to support an LNG facility in Ireland.

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)?

Answer:

The Ministry has no specific analysis or reports on this balance.

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.



Answer:

In the event of an gas disruption (inside or outside the EU), there is a need to ensure that sufficient protection and fair arrangements are in place to ensure Member States can source gas and other energy sources. Ireland is highly dependent on imported gas, and its use for power generation, and greatly values the excellent cooperation with the UK, and strongly support regional cooperation at EU level. Any regulation should have sufficient flexibility to allow for particular circumstances in different Member States.

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?

Answer:

An important barrier for Ireland, given our small customer base, is the cost of LNG infrastructure. While an LNG facility would improve our security of supply, and enhance energy security, the cost of investment is high.

The business case for LNG can also be impacted by developments in other non-EU regions. In this regard, Ireland, although it doesn't have an LNG facility, is the Member State closest to a secure supply of gas in the United States and Canada. In this regard it would be important to have an EU regulatory framework that could incentivise inward investment from America, while not compromising on the EU's Energy Union objectives. In this regards, a clear roadmap for incentivising potential inward investors, would be beneficial.

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?

Answer:

EU policy initiatives and existing legislation such as EU Regulations 347/2013 (TEN-E), 994/2010 (gas security), 1316/2013 (CEF), have been very useful in providing the regulatory framework and financial support for energy infrastructure projects. There is clear merit to an overarching strategy that seeks to get the most out of resources and minimise the need for State funding.

It would be important to ensure that all Member States could continue to be supplied in the event of a longer term gas deficit. Under the Stress tests carried out in Summer 2014, Ireland was shown to be one of the countries least affected under the Ukraine/Russia disruption scenario. However, under other potential scenarios that might cause an emergency gas deficit, Ireland could be more vulnerable, in part due to our continued heavy reliance on imported gas and its use for power generation.



The advent of Corrib gas in the Atlantic will, while this supply lasts, provide a back-up but this is temporary. An alternative would be some form of gas storage or LNG facility on the island. However, barriers to these include cost and small market to bear this cost burden.

Given this, the strategy should, in addition to ensuring flow of gas under normal market conditions, also factor in scenarios where gas disruptions might occur in each Member States and how these could be overcome.

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?

Answer:

The Ministry has no specific analysis or reports on this.

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?

Answer:

The Ministry has no specific analysis or reports on this. Intuitively, in times of stress, an issue that might arise is difficulty sourcing enough LNG due to demand from other regions. In this regard, externally it will be important that the EU is not disadvantaged compared to other non EU regions competing for LNG on international markets. The Ministry has no reports or analysis on voluntary demand aggregation. However, in exploring this issue, caution is needed to avoid any inadvertent barriers to Member States sourcing LNG and to minimise and to avoid unfair or unnecessary associated administrative or cost burdens.

Internal EU regional cooperation and solidarity will be important to ensure that gas is shared appropriately across Member States. The regulatory framework should underpin such cooperation but allow sufficient flexibility to take into account their specific circumstances in individual Member States.

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?



Answer:

Transport vehicles used in Ireland are manufactured in other countries and so it is largely expected that other countries will lead in the area of LNG technology. The challenges faced by Ireland are likely to include the costs of putting in place the necessary infrastructure and any measures deemed appropriate to incentivise the market. Common Standards at EU level, or even globally, could supplement the benefits of scale and have a subsequent cost reduction in the transport market.

Directive 2014/94/EU, which outlines the main alternative fuel options as a primary fuel source for transport (both road and maritime), supports the development of relevant standards, including detailed technical specifications, for LNG (Art.6.10). The Directive also contains mandatory requirements to establish targets for the build-up and coverage of alternative fuels infrastructure for transport as well as common technical standards for the provision and interoperability of the infrastructure itself.

For the development of LNG for road transport, Member States must ensure a sufficient number of publicly accessible refueling points, with common standards, on the TEN-T core network, ideally every 400 km, to be built by end-2025. The Directive also requires a minimum coverage to ensure accessibility of LNG in main maritime and inland ports. As there are currently no LNG facilities in Ireland due to high investment costs and low demand, Ireland may be able to cooperate with neighbouring Member States to satisfy requirements related to LNG for maritime transport in the Directive.

Despite little or no demand for LNG from shipping lines at present, it is recognised that further market analysis will be necessary and major Irish ports do intend to future proof planned developments to allow for the provision, subject to market demand, of LNG facilities at a later date.

In relation to road transport, natural gas (both CNG and LNG) offer a viable, economic, environmentally friendly alternative to oil, especially for large freight and public transport vehicles. However, we expect that LNG will meet a different market need to Compressed Natural Gas (CNG). CNG would mostly be used for travelling short to medium distances (as the fuel is bulkier in gaseous form) while longer distances might be better served by LNG. As an island nation, our peripherality would suggest that limited LNG re-fuelling infrastructure will be required given the indicative average distance between refuelling points (as per Directive 2014/14/EU) on the TEN-T Core Network is 400km. Nevertheless, issues related to infrastructure targets and barriers to uptake of LNG will be fully considered in the context of Ireland's National Policy Framework on Alternative Fuel Infrastructure. This Framework is currently being developed by the Ministry for Transport, Tourism and Sport and a public consultation on the issues outlined is expected to commence shortly.



On the basis of the above, the need for additional EU action in this area should be kept under review pending the implementation of Directive 2014/94/EU.

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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.

Answer:

The Ministry has no current report or analysis on sustainability issues specific to LNG.

Section 7 – Storage

Internal market constraints and challenges for storage

Question 13: What opportunities or challenges do the supply projections for different sources, in particular LNG and pipeline gas and low carbon indigenous sources, present for the use of gas storage / for gas storage operators?

Answer:

The Ministry has no current report or analysis on this.

Question 14: Are, in your view, current market and regulatory conditions adequate to ensure that storages can fully play their role in addressing supply disruptions or other unforeseen events (e.g. extreme cold spells)?

Answer:

Around 95% of Ireland's gas is imported from the UK (Great Britain (GB)) via two interconnectors, and 48% of Ireland's electricity is generated using gas. The remainder of our gas comes from indigenous sources. The expected coming on-stream of the Corrib gas field in late 2015 will temporarily enhance Ireland's security of supply. Storage facilities also currently exist for a small amount of gas in Kinsale off the South Coast of Ireland. Current requirements on power stations for secondary fuel are only for short term disruptions to gas supplies.

Ireland is highly dependent on imported gas, and its use for power generation, and greatly values the excellent cooperation with the UK, and strongly supports regional cooperation at EU level.

The strategy needs to consider potential for internal EU gas deficits in emergency situations for all Member States. Currently, there is no dedicated mandatory storage of gas in Ireland in the event of a long term gas disruption. Given the small



customer base, the cost of such storage may place an excessive burden on an existing small customer base.

Given this, it would be important that, in the event of an emergency, energy supply including power generation could be maintained in Ireland. The regulatory regime needs to ensure that in the event of a long term deficit that one Member State is not unfairly prioritised over another.

It may make sense to have a strategic approach to shared storage facilities in order to reduce costs. However, if this is the case, it would be important that the necessary infrastructure and processes were in place to ensure gas could be transported from one State to another.

There are currently very limited storage facilities on the Island of Ireland and currently any gas would have to be imported via the Moffat Interconnector with Great Britain. An issue would be how to get gas into the island of Ireland if gas could not be imported via the inter-connector(s), most likely due to an emergency situation. Such a situation would be a High Impact low Risk (HILR) event, particularly given our dependence on gas for electricity, so it needs to be considered.

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

Answer:

Market rules would need to incentivise provision of needed reserves.

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?

Answer:

It would be important, in the event of an emergency, that energy supply including power generation could be maintained in Member States. This is a particular challenge for Ireland given our high dependence on imported gas for power generation. An important issue, as set out above, would be ensuring that gas got to a Member State in the event of a gas deficit emergency situation, until this was rectified. There is currently no mandatory gas storage in Ireland, for a long term disruption. EU funding support would be necessary to develop storage facilities.

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

Answer:

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As storage can be required for energy security purposes, which may be outside the remit of normal market incentives, clear objectives need to be set out in the strategy, which includes ensuring that all Member States can access gas in the event of a gas deficit. Important issues for Ireland, as a peripheral Member State, which is heavily dependent on imported gas, include:

- getting gas: to the island, protected customers and continuing power generation, and
- The high potential cost of gas storage, given the small customer base on the island.

Question 18: Given uncertainties over future gas demand, how would you assess the risk of stranded assets (and hence unnecessary costs), lock-in effects, the risk of diverting investments from low carbon technologies such as renewables, delaying a transition in energy systems and how would you weigh those against risks to gas security and resilience? What options exist in your view to reduce the risk of stranded assets?

Answer:

There are very limited gas storage facilities in Ireland, and these could not address a long term deficit.

It is important to strike the right balance between security of supply and resilience on the one hand, and, on the other hand, not adversely impacting on the market or the progress to meeting our decarbonisation targets. In Ireland a key issue is the small size of our customer base and our continued high reliance on imported gas for electricity generation.

We acknowledge the need to avoid stranded assets but the strategy should address the objective of ensuring energy supply in all situations in a gas deficit, for the period while the issues causing the gas deficit are being rectified. This is particularly important to Ireland given its high dependence on imported gas for electricity generation. Given our small customer base, EU funding support would be needed to support a storage facility in Ireland.

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?

Answer:

In a regional setting, it is important to ensure that there are no adverse incentives, which might unfairly impact gas flowing to from one Member State to another. It will be necessary to address, for each Member State, potential of internal EU or external



emergency gas deficit scenarios and ensure that in such scenarios, gas could get to all Member States.

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?

Answer:

The strategy should set out clear objectives for the role of storage in each Member State, including the potential for underpinning all aspects of regional cooperation and solidarity, to ensure that stored gas can be fairly shared across Member States in a region in the event of an emergency. This needs to address both the regulatory rules but also the infrastructural barriers in Member States, including in potential emergency scenarios. Such a scenario might include for example a gas deficit from the UK, from which Ireland currently imports around 95% of its gas. In addition, the cost of meeting such an emergency scenario is challenging for Ireland, given our small customer base. This potential emergency scenario will be temporarily addressed for a relatively short period when Corrib gas in the Atlantic comes on stream. After Corrib production declines Ireland could again rely quite heavily on imported gas.

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?

Answer:

Any consideration of EU-level rules needs to factor in the cost implications for Member States. In Ireland we have a small customer base, which may contract further, should gas tariffs prove too burdensome. Notwithstanding this, it would make sense to consider if storage could be done in a more cost effective way at EU level, while ensuring the needs of peripheral Member States such as Ireland are addressed

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.

Answer:

The Ministry has no current reports or analysis on this.

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.

Answer:

The Ministry has no current reports or analysis on this.

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Once again we would like to commend the Commission for this work, which is important part for the EU's energy security and Energy Union objectives.

If you have any follow-up questions or require any further information please contact our Ministry.

Yours sincerely,

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