

Response

Q1. Are there any other security of supply risks that you can identify in addition to those set out in section 6?

Gas Supply Side Risk – imports from the UK

The report misses the point that it is not a risk of supply from the UK, but rather a risk of supply disruption from Norway. The UK itself a net importer of gas, relied on Norway for 77% of these imports in 2021 <https://www.ons.gov.uk/economy/nationalaccounts/balanceofpayments/articles/trendsimportsandexportsoffuels/2022-06-29>. Norwegian gas fields are in some of the harshest environments in the world which leads to regular outages. Except during planned maintenance these cuts in output are never intentional; the Norwegians are not being political or “playing games”. The stoppage of supply can last weeks if not months and unfortunately often occur during winter. The cases below were during a time when there was regular supply of gas into Europe from Russia so the UK’s shortfall (and indeed Ireland’s) could be made up from pipelines from Belgium and the Netherlands, UK’s storage and the UK’s LNG imports. At this time also the Norwegian gas did not have to be shared so freely with other Continental European countries such as Germany, and Poland since the Baltic pipeline opened in September 2022.

2009

UK terminal problem stops Norwegian gas – 20/4/2009

<https://www.reuters.com/article/uk-britain-norway-gas-idUKTRE53J25Q20090420>

2010

Energy security questioned as National Grid cuts off gas to factories – 7/1/2010

Exclusive: Severe weather and creaking power infrastructure lead to first tangible sign that fears over energy shortages are translating into supply disruption

<https://www.theguardian.com/business/2010/jan/07/gas-rationing-national-grid-factories>

Russia comes to the rescue as Norwegian gas supplies to Britain falter – 13/1/2010

<https://www.theguardian.com/business/2010/jan/13/russia-aids-gas-uk-gas-supply>

2012

Shell's Ormen Lange gas field output hit by plant glitch – 25/8/2012

<https://www.reuters.com/article/uk-shell-ormenlange-idUKBRE87004X20120825>

2013

UK Gas Hit As Norway Pipeline Supply Cut – 29/4/2013

A key North Sea pipeline is hit by an outage - with supplies possibly affected until May 6

<https://news.sky.com/story/uk-gas-hit-as-norway-pipeline-supply-cut-10447303>

Ormen Lange problem cuts Norway gas output – 28/11/2013

<https://www.reuters.com/article/norway-gas-outage-idCNL5N0JD0YB20131128>

2014

Norway's Troll field gas outage to end Dec 11 – 21/11/2014

<https://www.reuters.com/article/norway-gas-outages-idAFO9N0ST00X20141121>

2015

Norwegian gas output hit by several field outages- 18/2/2015

<https://www.reuters.com/article/norway-gas/norwegian-gas-output-hit-by-several-field-outages-idUKL5N0VS53X20150218?edition-redirect=in>

Norway gas flows fall on Oseberg, Heimdal outages – 24/2/2015

<https://www.reuters.com/article/norway-gas-outages-idAFO9N0UT01N20150224>

2017

Impact of Gjoa outage on Norway natural gas flows to UK set to dampen – 7/6/2017

<https://www.spglobal.com/commodityinsights/ko/market-insights/latest-news/natural-gas/070617-impact-of-gjoa-outage-on-norway-natural-gas-flows-to-uk-set-to-dampen-friday>

2018

Norway's Troll natural gas field output down 11.0 mil cu m/d - 5/2/2018

<https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/natural-gas/020518-norways-troll-natural-gas-field-output-down-110-mil-cu-md-gassco>

Outages At Norwegian Gas Fields To Cut Supply Up To Four Weeks – 3/9/2018

<https://oilprice.com/Latest-Energy-News/World-News/Outages-At-Norwegian-Gas-Fields-To-Cut-Supply-Up-To-Four-Weeks.html>

2020

Norway's Nyhamna gas plant suffers outage, impact on exports unknown – 6/2/2020

<https://www.reuters.com/article/norway-gas-outages-idUKO9N28G007>

2021

European Gas Extends Gains as Giant Field in Norway Cuts Output – 8/12/2021

<https://www.bloomberg.com/news/articles/2021-12-08/european-gas-extends-gains-as-giant-field-in-norway-cuts-output>

2022

UK Gets Reminder From Norway of How Fragile Gas Supplies Are -12/7/2022

Gas flows from the Nordic country drop amid outages this week

<https://www.bloomberg.com/news/articles/2022-07-12/uk-gets-reminder-from-norway-of-how-fragile-gas-supplies-are>

Alas, outages happen here too - Statoil says Ireland's Corrib gas outage extended to Oct 7 – 5/10/2017

<https://www.reuters.com/article/norway-gas-statoil-idAFL8N1MG51K>

In Ireland we are relying on Norwegian gas which enters Britain through a series of pipelines:

Firstly, a number of gas fields are serviced by the Statpipe <https://en.wikipedia.org/wiki/Statpipe> @ 890km/550 mi. One spur lead to the Vesterled @ 360km/220mi long <https://en.wikipedia.org/wiki/Vesterled>

Natural Gas flows at c30 miles per hour in a pipeline <https://www.aga.org/natural-gas/delivery/how-does-the-natural-gas-delivery-system-work-/#:~:text=Natural%20gas%20moves%20through%20the,receipt%20point%20in%20the%20Northeast.>

Ignoring the time from well head to the collection pipeline which could be several hours. Therefore for the gas to travel from the length of the above pipelines would take 25.5 hours at which point the gas is on the east coast of Scotland. The gas is then pumped to Moffat in Scotland c370km/230mi, another 7 hours 40 min. Then to Kirkcudbright on the Scottish coast 77km/48mi, another 1.5 hours. Off to Ireland 203km/126mi or 4 hours travel time https://www.mdmeng.ie/ireland_uk_gas_interconnector.php. to arrive in Gormanston. From there to a Dublin power station c1 hour and Cork 7 hours. From well head to power station takes from circa a day and half to 2 days+.

The biggest worry that Meredith Angwin <https://meredithangwin.com/> mentioned in her book <https://www.amazon.co.uk/Shorting-Grid-Hidden-Fragility-Electric-ebook/dp/B08KZ51SDP> with the proliferation of natural gas powered stations on standby to replace intermittent wind power was that the gas they need can be a long way away when you instantly require it. There is no comfort in not being able to see your fuel in the way a coal plant can visually see their fuel piled high, not the case if it miles away in a pipe. She was also not describing the gas fields several countries and oceans away, and at nearly 2,000km away; closer to the Arctic Ocean than the Irish Sea. The gas we need when the wind drops had to travel from several km under the seafloor in deep water off Norway 2 days earlier. If any of the above outages re-occur we may not be so lucky with our always on power, and if one station fails the whole grid can drop.

Secondary fuels stored at power stions would need to be able to last for much more than the proposed 5 days especially when there would be such demand on Norwegian gas from countries that had previously used Russian gas. A windless cold spell could settle for more than 5 days over NW Europe while their infrastructure is more vulnerable in winter. Off course there is a financing cost to storing this extra fuel but the extra fuel might only be mandated from October to March, the coldest months. Building the extra storage would take time but should be accorded exemplary planning permission.

Q2. If there are other risks that you have identified, could you outline some mitigation options to address the risk(s)?

Gas Supply Side Risk – Geopolitical risks

As the gas we need travels through Scotland I would be slightly worried that a Scottish politician being overtly nationalist and decide despite any intergovernmental agreements that gas should not leave Scotland if that was

where it was needed. A likely line might be that the Scottish Government itself was not the Government that agreed anything about sharing scarce natural gas with the Republic of Ireland. Their voters in a particularly cold spell in Northern Scotland may not appreciate cuts to their gas supply so that it can be diverted to perhaps much warmer parts of Ireland. We would be seen as wealthier than the Scots but less willing to put in place measures such as storage/LNG terminals that would have protected us and now the less well-off Scottish must suffer for us. There will be no votes in depriving Scottish people of their gas.

Section 8.3 refers to the 1993 and 2004 IGOs. These are agreements, not treaties. We can huff and puff but if we are cut off from gas supplies for a time, what realistically can Ireland do. We need to have self-reliance measures in place already.

Kites are being flown already by politicians: 29/6/2022 UK plans to cut pipelines to EU if Russia gas crisis intensifies - <https://www.ft.com/content/175ef927-efa2-439e-8ede-1dfc7edd23a6>

3/10/2022 Ofgem admits Britain is at risk of 'gas supply emergency' <https://www.ft.com/content/f737a827-a069-41c4-8141-73b8f9f56fae>

Algeria was the 3rd largest supplier of gas to EU in 2021 with c18%. Also in 2021 they broke off diplomatic relations with their neighbour Morocco, both are furiously increasing military spending, conflict would target the gas exporting facilities. It was similar when in 2003 militants attacked a facility that controlled 10% of exports https://en.wikipedia.org/wiki/In_Amenas_hostage_crisis. As one of the pipelines to Spain runs through Morocco, Algeria has suspended supply. A resolution in the dispute though unlikely would increase gas exports to Europe.

Q3. Are the five shock scenarios that were considered, and the additional scenarios related to the Russian invasion of Ukraine, sufficiently broad?

Your modeller did not factor in enough things that could go wrong – combine cold and windless weather that lingers, an outage in the North Sea, the tightness of supply; the nationalism on the island of Britain will grow itself if they must let some of their people freeze so we get to keep the lights on!

While it would be preposterous a few years ago to suggest this, it is now possible that sabotage from an unnamed country will be a factor. While maybe not targeting Ireland, any damage to the energy infrastructure (at a windless time) could destabilise an already fragile structure. Other items could damage us such as a repeat of a major power station having to shut down as occurred in 2020 when Whitegate power station (10% of Ireland's capacity) in Cork closed for a year, or less important but more visual, the Arklow wind turbine struck by lightning.

Q4. Do you have any additional mitigation options that you think should be considered?

Yes. Consider nuclear it is carbon free. More people are realising it should be an option. We as a country can change our minds. The people of Finland and Slovakia are glad they started the long process as both countries have new nuclear stations proving power this year, a pair of stations in Slovakia's case. We import electricity every day that was generated by nuclear power stations with the East West Interconnector.

We need more companies using their money, to risk it looking for oil and gas offshore (and onshore). Unlike the Norwegian State which has very prospective ground, Ireland has had only 4 commercial discoveries of hydrocarbons out of the 160 wells drilled since 1970 <https://iooa.ie/irelands-offshore/#history-of-irish-offshore-exploration>. In Norway tax on offshore profits is 78% but equally if a well is unsuccessful their State pays 78% of the cost of a failed well. Luckily for them there are much more successful wells. In Ireland if we adapted this model we would be refunding 78% of all the expensive failed exploration attempts; hence we need risk capital rather than State money to be spent. A high tax rate on zero income yields zero.

Anyone working now will be using hydrocarbons for the rest of their lives – plastics and fertilizers for farmers, we will be eating what they grow, and the nitrogen they add is made from natural gas. Maybe we will be all driving EVs at some stage but an internal combustion engine car bought in 2022 will be still on the road in 15 years. Bring back the exploration licences, we need many more Corrib Gas Fields, not less. It is hypocritical to use hydrocarbons but refuse the difficult part of producing them.

Allow farmers a percentage, say 1 or 2% of the value any hydrocarbons found on their land; there would be a rapid change in the opinion on whether land should be drilled. As land owners own the mineral rights in the

USA and thus benefit from finds, this explains why you do not see farmers objecting to oil and gas drilling. Animals will happily graze next to a (fenced off) oil or gas pump.

As mentioned in 5.5 page 31 "As a result of Ireland's geographical location as a small island on the periphery of Europe, it is more limited in term of interconnection with neighbouring countries compared with countries in continental Europe" it needs to be much more self-sufficient.

Q5. Which gas supply mitigation options, if any, should be considered for implementation?

There were proposals for 4 LNG import terminals: allow them all advance. It will be private capital financing them. If they lose money because there is no demand in the future that is their hard luck, it is a "hot" area at the moment so promoters can obtain money from institutions who chase the latest investment fad. The State should not invest, sure they can be regulated but not managed by the state.

The locations:

Foynes: It is embarrassing that it is still being delayed, it should be approved immediately. There is an emergency.

Mayo: The infrastructure is in place so sensible but it has not even started in the planning process

Cork Harbour: Some infrastructure is in place so sensible, but it has not even started in the planning process. Local politicians are trying to gauge which way the wind is blowing as to whether they will support it.

Drogheda: No infrastructure in place, and has not even started in the planning process. An advantage is it is close to Dublin.

At this stage even parking a FRSU in a harbour would be progress but Ireland has left it a little late with Albania, Croatia, Finland, Germany, Italy and Netherlands tying up contracts for some of the last available ships.

Ireland has to move on from hating the word "fracking". Every ICE vehicle in Dublin is driving on diesel or petrol that arrived on the daily shuttle tanker from the refinery in Pembroke, Wales; who refine crude oil that was fracked in the USA. Our food is grown with fertiliser that was formally fracked natural gas, peoples' clothes and footwear, and the PPE in the hospitals was made with fracked fossil fuels.

If the UK imports fracked LNG, and we import from the UK, can we be sure no molecule of gas we import has been fracked?. Is it acceptable to import electricity through the East West Interconnector that had been generated using fracked gas. Are we either passing the parcel or acting like hypocrites.

Banning LNG that had been fracked on environmental grounds is illogical if the alternative is to take LNG from Qatar who abuse migrant workers and do not respect LGBT rights, never mind women's rights. There are plenty of women petroleum engineers in Texas. While LNG from Australia would be ethical can we justify the extra miles it would travel versus cargos from the much closer Gulf of Mexico. Canada is the 3rd largest producer of natural gas and it would be a highly ethical source but due to their political reasons they do not have an Atlantic LNG export facility. Their proposed export terminal on their Pacific coast would have similar distance issues as Australia.

Gas Storage

The report did not mention a potential local storage site. The salt caverns at <https://www.islandmageeenergy.com/> in Antrim have planning permission and a coveted EU award "Project of Common interest". It appears the final sign off is being delayed by a politician but otherwise it is ready to begin work. At least the gas would be stored on this island, and could be sent south. It would be a "quick win" but politicians here would have to lobby with their Northern colleagues for it to progress.

The Kinsale gas field has the advantage of being in the Republic but it is much further behind than the Island Magee project in terms of planning. There appears to be no urgency with this project.

6. Which electricity supply mitigation options, if any, should be considered for implementation?

Customers with a smart meter should be offered contracts that both radically hike the price of units at peak times but also slash the price at off peak or when it is windy and there is a surplus of power. When last observed here it was more economical to maintain the old style of billing with a unit cost that did not fluctuate. While we run washing machines and dishwashers in the middle of the night there is no financial benefit.

The pricing and conduct of solar sales people reminds me of the movie "Tin Men", or the pushy PVC windows salesmen. There is an opaqueness to the actual cost of the materials which is allowing the supernormal markups and profits.

7. What measures should be considered on the demand side to support security of supply of electricity and gas?

The retrofitting that is needed for houses is a tricky problem to solve. While there are grants available, the whole process is fraught; on the one hand the legit contractor needs to charge what will be to most an astronomical amount as he and his employees will be only receiving the net amount after the VAT has been paid to the Revenue Commissioners, and they will pay all the taxes leaving them with a much more modest sum. Against this will be the black economy operator who can off course undercut the legitimate as he does not pay any taxes and may also have a social welfare payment and accommodation. It is attractive for some one looking to save money to not be charged the VAT which is of no direct benefit. Having a scheme where the legit operator can charge 0% (or like the UK 5%) will allow the legit operator compete with the black economy. While the insulation is the important part, each home has to be then replastered and painted making it a much larger job, much of the cost is not related to the energy efficiency per se.

Many of the properties in most need of energy upgrades are Georgian/Victorian/Edwardian or per war and are in Architectural Conservation Areas meaning nothing can be done to the outside nor windows. Internal insulation is not as effective and reduces room size and may not be possible in some protected structures.

If the grants are available for houses build before 2011, it means house with comparatively good insulation versus say, a 1960s or 70s house that is more in need of insulation, are on an equal footing. It means all the Celtic Tiger houses are eligible, and there are not the properties that should be first targeted. The scope of the grant is too large. Users of the "one stop" grants system complain about the paper work and time taken. This just feeds into the black economy. Lay people (and builders) often do not understand the VAT.

Going legit allows the 2/3 rule be implemented where items @ 21% can be legally billed @ 13.5% thus saving people money but is seldom used or explained. Builders often incorrectly add 13.5% VAT on top of the 23% VAT inclusive price. An educational video or campaign from the Revenue commission should be implemented.

To have retrofitting done on the mass scale needed, there will never be enough experienced trades people. More effort should be put into showing (on YouTube) people how to do the work themselves.

A few years ago on a Webinar for the Oriel Wind Farm they listed all the special interest groups, small quangos etc, that were going to be getting "sums" so that they would effectively not object. It read that the planning system was so pliable that they had to sprinkle a million here and a million there so that they or their sponsors would not object. These millions were going to be ultimately recovered from those having to pay the bills whether they liked it or not. Having to pay these amounts should be banned. They were not commercial decisions. Using a quick and dirty guide of 1 million homes in the country (there are 1.3m but the maths is easier with 1 m), €10m in grants to allow a wind farm proceed is €10 per household, but if the operator earns say, a 10% margin they need to charge an extra €100m to pay for these sprinklings of money, that translated into an extra €100 in cost for the household, from their after tax income, or perhaps €200 in gross income just to pay these special interest groups. These "grants" look cute and nice but just increase the cost of living in Ireland.

Wind farms should be treated like the CPO of land for a road, after it has been fairly looked at, the project should be advanced. This Oriel project has been in the offing for nearly 20 years and is nowhere near started. We can't keep dragging out every project, the Foynes LNG is also in planning hell for a similar length of time.

Using some form of time limited planning/consultation on transmission lines is another area that needs to be treated with the CPO powers that had had motorways built. Otherwise there is no point in building windfarms if the physical power lines to connect them to the cities can not be built. Those transmission lines planned by Eirgrid in the 1990s have yet to be built.

All on street power poles should have a modest (slow?) charge either side of the pole to allow recharge, there should be a fee, that ramps up if the vehicle is parked there for say more than 12 hours It would encourage people to move and allow someone else charge. Future public/supermarket carparks should have again a

modest 4 way charger in the middle of every 4 parking spaces, again at a fee. Free is not valued, a revenue producing item has its own money to keep it maintained.

All commercial buildings, shops, schools etc should be mandated to have EV solar panels, as for the most part they operate during the day and thus will consume some of their own electricity.

8. Do you have any views on how the mitigation options should be implemented?