



**Chambers
Ireland**
Advancing business together



Chambers Ireland Submission to the Department of Environment and Climate and Communications regarding the Review of the Security of Energy Supply of Ireland's Electricity and Natural Gas Systems October 2022

Chambers Ireland, the voice of business throughout Ireland, is an all-island organisation with a unique geographical reach. Our 40 members are the Chambers of Commerce in the cities and towns throughout the country – active in every constituency. Each of our member Chambers is central to their local business community and all seek to promote thriving local economies that can support sustainable cities and communities.

In September 2019, our Network pledged to advocate for and support the advancement of the Sustainable Development Goals. In doing so, we use the Goals as a framework to identify policy

priorities and communicate our recommendations. We have a particular focus on five of the goals encompassing Decent Work and Economic Growth (SDG 8), Sustainable Cities and Communities (SDG 11), advancements in Gender Equality (SDG 5), viable Industries, Innovation, and Infrastructure (SDG 9) and progress in Climate Action (SDG 13).¹

The Department's decision to initiate a Security of Supply consultation is welcome and timely. Chambers Ireland has been calling for a greater government focus on this area since 2019. We strongly believe that Ireland is in a unique position to benefit from the Green Transition and the shift to offshore renewables. Given our extensive Exclusive Economic Area, our sea territory offers us access to enormous volumes of renewable energy. It is however variable which suggests that projects that would link us to the EU grid will be limited in the utility – not least because much of that grid infrastructure will not be needed except for during peak periods. Therefore, the potential to use Green Hydrogen to store this renewably derived energy will be key to smoothing out our energy supply and demand curves. Fixing this energy in chemistry offers us a way to commercialise our energy potential and will also allow us to smooth out our electricity supply to suit our highly variable daily demand curve, and annual supply curve.

Ireland has an enormous opportunity to become a key cog in the European energy network through the supply of compressed Hydrogen and Ammonia to that market. Our long-term Security of Supply will involve a combination of renewables and hydrogen storage. The principal barriers to delivery of this are institutional and regulatory. We urgently need to upgrade our state decision making apparatus to ensure that we can deliver these enormous projects. In the short run we need to take a maximalist approach to integrated new sources of renewable energy into our electricity and gas systems. Every watt that we use that is not coming from an off-island or fossil fuel source will make us more secure.

¹ The Chambers Ireland SDGs. Available at: <https://www.chambers.ie/policy/sustainable-development-goals/chambers-ireland-sdgs/>

While the Russian war on Ukraine has created an energy-shock that is highlighting our energy insecurity, it is not the cause of our energy insecurity. Ireland has long been navigating its course in an increasingly shock-prone world and there is an enormous need to build resilient energy supply networks that can continue to deliver regardless of the circumstances we encounter.

Chambers Ireland looks forward to future engagement with the Department on this issue.

Contents

Key Points	5
Chambers Ireland’s Perspective on Security of Supply	7
Risks	8
Mitigation Options	12
Proposed Gas Supply Mitigation Options:	15
Gas Storage Facility	15
Floating LNG Terminal	15
Gas Mitigation Package	16
Onshore Energy Storage Project	17
Proposed Electricity Supply Mitigation Options:	18
Additional Electricity Interconnection	18
Increased dispatchable generation capacity	18
Increased secondary fuel storage at gas fired power stations.....	19
Conversion of a gas fired power plant to hydrogen	19
Electricity Mitigation Package (DSR and Batteries)	19
Policy Measures	20
Joint Planning.....	20
Regular Security Reviews	20
International Agreements.....	20
A refocusing of energy policy	21

Key Points

- Chambers Ireland has concerns about the assumptions that underly the modelling of the technical paper.
- Chambers Ireland is concerned that the scenarios used in the analysis are not extreme enough to be reasonable, nor sufficient to stress the energy networks modelled.
- Chambers Ireland is concerned that shocks to our energy systems are generally assumed to be independent. As gas is clear from the Russian example, geopolitical supply-shock risks are tightly correlated with high-demand weather.
- Government needs to make the transformation of our energy systems central to policy and ensure that all agencies, departments, semi-states are both sufficiently resourced and motivated to deliver on what our demands will be.
- More consideration needs to be put towards how we secure our energy supply beyond 2030, the focus of this consultation is very short-term given the long lead in times to develop infrastructure projects
- Security of Supply is essentially dependent on the reform of our planning system so that the kinds of developments that we need can be completed in the timeframes we need
- There needs to be a major shift in government policy towards renewables, Government needs to ensure that maximising the inclusion of renewable energy sources is the core principle in all of our actions related to energy, every agency,

- department, authority, semi-state and regulatory body need to make that their primary goal in this space and stop hindering the projects that need to be delivered
- We need to stop holding back the development of southern, western, and floating windfarms
 - MARA role needs to develop into an IDA of the sea which can rapidly deliver projects for investors and can actively engage with state bodies to ensure that obstacles are overcome
 - Our national response to energy needs to be tightly bound to EU policy, particularly the EU Hydrogen and Decarbonised Gas market package, but we also need to clarify regulatory elements such as the Clean Energy Package articles on constraints and curtailments which introduce extra uncertainty for projects

Chambers Ireland's Perspective on Security of Supply

Ireland has enormous untapped green energy resources, and we have the potential to benefit from “second mover advantage”. While electrical security of supply is a key concern for businesses, it need not be. Had we engaged with the potential of our offshore energy resources in a timely manner we would not be as vulnerable as we are today to the energy shock that is being delivered by Russia.

We urgently need to become much more ambitious with respect to our offshore energy generation. At a time when Scotland is, by 2033, increasing their offshore energy capacity from 15GW to almost 40GW and including 17GW of floating offshore wind, our national objective is 7GW by 2030 (including 0GW of floating offshore wind).

We should utilise the REPowerEU decision regarding ‘overriding public interest’ to fast track the grid upgrades that are needed to make our electricity networks more resilient and effective. We must upgrade our electricity grid around the objective of becoming net exporters of green energy to the European continent. We have the potential to produce orders of magnitude more electricity than we will ever need, but we need to smooth out the intertemporal volatility of our production.

Aside from the indirect benefits of supplying large volumes of clean energy to the Irish population, at scale, there is also the regional development role that will be served with the expansion of offshore wind to the Atlantic coast.

Risks

Chambers Ireland has concerns about the assumptions that underly the modelling of the technical paper.

The low demand gas scenario and the Programme for Government commitments are not parameters which will lead to a robust assessment of the problems. Similarly using the EirGrid/SONI Median demand scenario is imperfect. While events may have superseded some of the modelling assumptions i.e. the seven different gas price points that were used in the model and the resultant electricity model/shock evaluation may not have an appropriate range to cater for the wide variance in prices that we have been experiencing in gas, and the baseline price of €35.63/MWh is unlikely to be a reasonable assumption given the secular changes to that market.

Chambers Ireland is concerned that the scenarios used in the analysis are not extreme enough to be reasonable, nor sufficient to stress the energy networks modelled.

When creating models that are to emulate risks that are as significant to the country as the loss of energy supply, stress testing should not be using moderate values. We need to test at reasonable extremes to ascertain whether we are likely to be able to maintain supply should our underlying assumptions prove to be incorrect.

An important example is our population. Census 2022 has demonstrated that our population is growing at a pace which is unexpected and exceeds our National Planning Framework targets.

This will have a number of impacts that will be ever more pronounced should that trend be maintained out to 2030. As our population will be higher, our baseline demand is set to increase, but the absolute quantity of our allowable emissions targets will be fixed. This means that in absolute terms more of our energy supply will need to be from cleaner sources if we are to be able to meet those targets.

There are other elements that may distort the assumptions which underpin these inputs to the risk models. It is unlikely that either the transport decarbonisation targets, or the electrification of heating targets will be met by 2030 in line with the Programme for Government's aspirations. Transport may decarbonise, but the uptake of electric vehicles is unlikely to be as high as projected (which will have an impact on certain smart meter optimisation models). There is a microlevel cost benefit analysis to be carried out by many people regarding the costs associated with buying an Electric Vehicle versus keeping an older vehicle on the road (while paying a higher marginal cost per km, but using it less) which for many households, particularly those with lower discretionary incomes, will be the most cost-efficient pathway. Similarly, there are many households where the benefits of investments, such as deep-retrofitting and heat-pumps, do not pay off within a timeframe that is sensible to the people involved. These could see demand for electricity to not grow as steeply as envisaged while increased ambitions for offshore energy projects should (if delivered) increase supply, where combined with energy storage systems such as Green Hydrogen, we are likely to see increased security of supply.

Therefore, our inputs to the modelling processes should be considering extremes as those fat-tailed risks are not simply more likely to occur than seemed reasonable five years ago, they are also likely to be non-independent. Should they be co-occurring, then our assumptions will inevitably be too optimistic.

The credibility of this process is not determined by the credibility of the inputs, but rather the robustness of our systems of energy supply. We are in, as the Minister of Finance has said “a risk-prone world”. Certain scenarios, such as the permanent suspension of Russian Gas Pipeline exports to Europe are now no longer possibilities, they are certainties where the impact is only a matter of degree. The Nordstream pipelines will not be recommissioned in the foreseeable future, the strategic threat of continued supply of energy inputs from Russia (Scenario 6) is apparent, so even if Russia’s invasion of Ukraine ends or freezes there will be little incentive from European peer nations to invest in the recommissioning of new gas pipelines or the upgrading of existing ones.

Therefore, we need to be considering all demand-side shocks in the context of continuing supply-side shocks.

Chambers Ireland is concerned that shocks to our energy systems are generally assumed to be independent. As gas is clear from the Russian example, geopolitical supply-shock risks are tightly correlated with high-demand weather.

Similarly, in relation to a supply-side shock at the Moffat connection the real concern is not that there is a technical problem, a planned contingency strategy is likely to already exist which will mitigate the impact and duration of such a shock – the greatest risk to Ireland arises from the ever-present political instability that is evident there.

Should the supply-side shock at Moffat arise as a result of a political decision, then it is likely to occur at a time when there are other ongoing factors at play that are undermining our security of supply – precisely because there is a decision to instigate it, there is a strong likelihood that it will occur at a time when it is most difficult to

accommodate i.e. when there is a weather shock to contend with, and/or perhaps an outage on the electricity interconnector.

Chambers Ireland is not convinced that the risks that are modelled in Scenarios 4 and 5 are reasonable because they ignore the possibility of them co-occurring with poor weather conditions and electricity interconnector cut-offs.

We ought to make the security-of-supply threat assessment an annual action, given the volatility that we are experiencing internationally. Also, there is a pernicious problem regarding planning in Ireland, projects are often delayed for considerable periods. As we progress through the 2020's it will become more apparent as to whether or not the aims of the Programme for Government remain credible, and so such an annualised assessment should give us foreknowledge of whether delayed infrastructure is undermining the findings of the technical analysis that underpins this consultation.

Also, in the event of there being future reassessments of the threats to our Security-of-Supply we must look towards the possibility (that is not remote) that we fail to achieve our climate action infrastructure aims to the degree which we would like, and also that the shocks if they do occur are likely to be correlated.

Mitigation Options

Government need to make the transformation of our energy systems central to policy and ensure that all agencies, departments, semi-states are both sufficiently resourced and motivated to deliver on what our demands will be.

Given that the Climate Action Plan (2019) exceeded the ambitions of the National Development Plan (2018) which was superseded by the ambitions of the Review to Renew Process (2021), which were surpassed by the Climate Action Plan 2021, which were in turn advanced upon by the government's Sectoral Emissions Agreement (2022), it is clear that this area of policy is in flux, and that policymakers are not keeping pace with the changes that are occurring.

Our preferred solution to the Security of Supply threats is to accelerate our offshore electricity generation capacity – which will also require us to significantly reinforce our transmission network, at a minimum EirGrid should be increasing the ambition of their “Shaping our Electricity Future” to include the High-Voltage Direct Current (HVDC) projects that are part of their “Technology led” plan to facilitate transferring large amounts of offshore generated electricity to high consumption areas. The delivery of the HVDC lines will bring forward the timelines along which Atlantic offshore wind farms will become viable. However, the delivery of those HDVC lines will take much of the rest of the next decade. In the short-run we should be facilitating the development of Western/Southern offshore windfarms by creating a regulatory regime that allows for hybrid connections at sites where existing thermal generation is occurring. This should be combined with a Hydrogen-ready floating terminal which can also facilitate LNG importation in the short run.

Regarding strategic supplies we should follow the lead of Finland and consider renting/buying an appropriate ship to store our excess LNG, which is linked to the floating terminal, so that we are not investing in assets that will become stranded or commit us to a long-term high fossil-methane use pathway. Such a vessel could also be used to store biomethane in the unlikely event that we should have supply ramp up to the point where it exceeds our short-run demand. As we shift towards Green Hydrogen production these facilities could be expanded and ultimately the LNG component can be converted to Green Hydrogen entirely.

In parallel we should be looking at using offshore salt caverns as reservoirs for storing Green Hydrogen with exploration and preparatory licences granted as soon as is feasible.

Consideration should be given to allowing thermal plants to charge for capacity provision for the periods where they are not in use. There is a significant shortfall in the capacity of our thermal electricity plants, relative to our demand. This is even more evident if we are to consider the pressing need to stop using coal as an electricity fuel stock.

There are two major risks to delivering this, state bodies are slow to adapt their strategies when government is unclear about what our policies are, given that the 2030 ambitions for offshore energy production have increased from 3.5GW to 5GW to 7GW over two years, that solar targets have increased from 500MW to 5.5GW in the same time, and that Green Hydrogen wasn't being discussed in 2019 but we are now to have 2GW of production by the end of the decade we can see how state bodies can be slow to adapt their 5+ year plans.

Infrastructure is slow to develop; by 2025 it will be too late to start adding many forms of new infrastructure to our energy networks. Therefore, a hard ceiling is approaching.

Government needs to alter policy towards maximising the onboarding of renewable energy sources and ensuring that all bodies support that through upgrading their infrastructure delivery ambitions to meet our likely needs (rather than optimistic estimates that are dependent on other policy changes being successful).

In parallel Government needs to deliver a planning system that has the capacity to process planning applications in a timely fashion, and a court system that can hear challenges without delay. We have seen in recent months that there are failings in the decision-making processes within planning bodies, and note that such failings are not unique to An Bord Pleanála. All planning authorities need to develop their planning teams so that they can be sufficiently multidisciplinary to accurately assess the impact of projects so that they can make decisions that will resist the inevitable challenges that they will receive. We are concerned that moves to limit the right to review processes through the courts will simply result in such legislation being challenged at higher courts leading to inevitable delays. A dedicated Environmental and Planning Court is essential if we are to be able to hear challenges within a timeframe that does not undermine the viability of projects. Finally, within the energy supply area specifically, Government bodies should be streamlining the planning permission for energy projects given the 'overriding public interest' involved.

Proposed Gas Supply Mitigation Options:

Gas Storage Facility

We would be concerned if the Kinsale field was to be converted solely for the purpose of storing methane. As noted previously, this field (and Corrib once it is exhausted) should be used for the storage of Hydrogen and policymakers should be very slow to take actions that would compromise that, any activities at the Kinsale field should be “hydrogen ready” so that the conversion from methane storage to Hydrogen storage can occur seamlessly.

It is likely that even without delays induced by planning systems, it will take at least three to four years to deliver such a storage facility, therefore commitments to this strategy cannot be deferred.

Floating LNG Terminal

If we are to build an LNG terminal alone, this would be a retrograde step, we should be following the German model – where everything gas related that is being commissioned in 2025, and beyond, is going to be ‘Hydrogen Ready’. It would be reasonable to build a Hydrogen Terminal that was backwards compatible with the import of LNG, but the aim ought to be creating a terminal that can export compressed/liquid Green Hydrogen to high-demand markets such as Germany.

There are likely to be significant planning risks associated with the creation of an LNG terminal which has led to some of our chambers advocating for a Floating Storage Gasification Unit. This has the advantage that the planning risk associated with it is likely to be reduced, but capacity would also be constrained (relative to an onshore LNG terminal, or a sub-sea storage facility).

We have a strong sense within our network that there is need for a gas terminal, in the short run for the import of LNG to mitigate geopolitical risks, and in the longer run for the export of Green Hydrogen. However only having a Floating Storage Gasification unit, or an LNG terminal, will not be sufficient to manage long-run (>30 day) interruptions in gas supply. The FRSU option is likely to be the quickest to deliver, but it will have the highest running costs (given the competition for those ships at present). The onshore LNG terminal will have the greatest planning risk, and is reliant on the development of new technologies if it is to be Hydrogen Ready. Kinsale also comes with both a large engineering challenge and also a planning risk. Choosing any one of those storage options is likely to be a high risk strategy. Thought should also be given to the balance between the capital efficiency of different options and their likely timelines of delivery, as they will not mitigate against our supply risks until they are connected to the gas network.

Gas Mitigation Package

The key to a resilient energy system, and decarbonisation more widely, is that there is no single silver bullet option that will solve all problems. Every option is to be pursued to its most effective degree. Even if fossil fuel consumption is mitigated marginally by an action (say the injection of Hydrogen into the feedstock for thermal plants) when combined with long-term storage (such as we would have with a LNG compatible Hydrogen Terminal combined with ships with storage capacity, then we will be able to extend the period during which we are reliant on our own reserves by a considerable time, when there is a lack of fossil methane, meanwhile when there is no lack of fossil methane we will be able to reduce our carbon emissions through feeding in Green Hydrogen and biomethane. These are 'no regrets' actions that ought to be effected even if Security-of-Supply was not a concern.

Onshore Energy Storage Project

Should an onshore energy storage project be developed, Chambers Ireland holds that it ought to be Hydrogen Ready at a minimum. We also think that it is necessary to highlight the planning risk that is attached to such a development. While onshore energy storage is absolutely something that would be of benefit, if it existed, if our Security-of-Supply is contingent on us *needing* such a development by 2030, then given the risk that it would not succeed within the existing planning framework, our national security of supply strategy would have failed.

Proposed Electricity Supply Mitigation Options:

Additional Electricity Interconnection

Increasing our electricity network interconnection, particularly with the continental European grid, would be welcome, though we have to consider that at present more than half of French nuclear power plants² are currently offline – a situation so extreme that they are recommissioning a coal-fired plant – so we should be wary of considering that supply to be impervious to shock.

Increased dispatchable generation capacity

Increasing the number of thermal plants that can be fed on biomass is another strong move as that will grant our energy systems increased reliability and, much like the Gas Mitigation Package,^a will facilitate greater resilience within our energy systems. As the Green Hydrogen industry leads to the generation of less carbon-intensive fertilisers the use of biomass is likely to become closer and closer to carbon neutral. Should Carbon Capture Technologies develop to full commercial utility, then these plants can become net negative (if their Carbon output is sequestered). In such a circumstance these plants are likely to have considerable value as they will be able to offset the emissions of other, more challenging to decarbonise, industries.

² <https://www.reuters.com/markets/europe/maintenance-five-french-nuclear-reactors-delayed-over-strike-2022-10-12/>

Increased secondary fuel storage at gas fired power stations

This is a far from ideal but necessary proposal given the risks we have relating to security of supply. However, the MW/carbon intensity of the fuel should be factored into the pricing for such retained capacity. It is likely that synfuels derived from bioplastics are likely to be less carbon intensive than other fossil fuels and consideration should be put to affording suppliers who use such fuels at a premium to compensate for avoiding the use of fuel oil.

Conversion of a gas fired power plant to hydrogen

The conversion of a gas fired thermal plant to Green Hydrogen would be welcome, but consideration should also be put to the addition of hydrogen fuel cell generators at the sites of existing thermal plants. Such moves would be welcome signals for commercial entities that are considering investing in electricity generation/Green Hydrogen production infrastructure.

Electricity Mitigation Package (DSR and Batteries)

As the consultation noted, these technologies are reliant on the uptake of technology, particularly by domestic users, and so while we should absolutely apply these options wherever feasible, no robust Security-of-Supply plan would have us reliant on our energy networks needing to have these measured added into the mix. These measures, like the Gas Mitigation Package and the Increased Dispatchable Generation Capacity options, should be applied to their greatest possible intensity but cannot be relied on as foundational elements of our security of supply plan.

Policy Measures

Joint Planning

As noted earlier in this document co-ordination between state bodies is essential if we are to have a clear pathway towards a secure supply of energy by 2030. It is a good move to have co-ordination between EirGrid, ESB Networks, and Gas Networks Ireland. At a minimum this should be happening.

Regular Security Reviews

As noted earlier Energy Security Reviews should be annual, and the assumptions that underpin them should be far more stringent than in the CEPA analysis. The structure of the CEPA analysis looks good, however it is overly optimistic regarding our energy demand, and the effectiveness with which government policy aims are delivered over a range of areas from transport, to construction, and investment.

International Agreements

We note that there is an International Agreement with Great Britain regarding our gas connections, we also note that GB's commitments to international agreements in recent years have not been as robust as they have been in the past, so an energy security policy that relies on their commitments may not be sufficient to guarantee our security. The eight years to 2030 are a very long time given the disorder of British politics, and it is not wise to be relying on all future governments taking a benign eye to this island.

A refocusing of energy policy

There is also a great need to ensure that government policy is coherent with both our energy needs and our climate ambitions. In 2023 Government should work towards assessing what the maximum quanta of renewable energy can be delivered to the Irish energy system by 2030, and then formulate a plan to deliver that explicit aim. There needs to be co-ordination between semi-states, regulators, departments and agencies. We have clearly been trying to keep pace with demand changes through piecemeal efforts over the last ten years, it hasn't been a robust approach, in the face of more volatile weather and markets it could be disastrous for us to continue with that strategy. We need to build out our energy infrastructure so that there is sufficient spare capacity to allow the rest of our economy to continue to grow.

Repowering of the existing fleet

Chambers Ireland has concerns that a significant proportion of our existing fleet of wind turbines are reaching either their end-of-life, in terms of their mechanical life, or their planning life. Should these windfarms be shuttered our national wind generation resources could contract in the short run which will make meeting our 2030 generation targets more challenging. Procedures will need to be implemented to extend the planning life, if appropriate, for windfarms where planning permissions are elapsing to have them extended. In parallel, a facility needs to be introduced to allow windfarms up-power and re-power turbines on sites where the existing fleet mix is no longer viable.