

# Review of the Security of Energy Supply of Ireland's Electricity and Natural Gas Systems Consultation

## October 2022

Response to consultation

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*I welcome the opportunity to respond to this consultation, in my role at TUS. I have authored and am delivering two modules in our springboard funded Masters of Engineering course. In the first semester I delivered the Utilisation of renewable Energy module and in the second semester Community Energy Development module. Both these modules are relevant to the Security of Supply issues.*

### **9. Consultation Questions**

The Department of Environment, Climate and Communications would welcome your feedback on the Electricity and Gas Security of Supply Review. Respondents are requested to consider the questions asked in this consultation when submitting a response, but it is not necessary to provide responses to all questions. Please supplement your response with any relevant supporting information, evidence and/or analysis.

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

***State sponsored sabotage as seen in the Baltic Nord Stream gas network. The electrical interconnectors and communication cables are similarly at risk.***

***Our own planning law and regulation system – The planning system inhibits timely development, the CRU tendering for additional generation capacity has failed – and has proved to be not fit for purpose. RESS auctions likewise – ref the solar capacity in Ress 1***

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

***The state needs to invest in security infrastructure and to co-operated with neighbouring States to co-ordinate surveillance and actual prepare for preventative interventions for the subsea interconnections.***

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

***No, there is an additional potential shock - Disruption of seaborne transportation of oil and LNG by Russian submarine intervention.***

***Comment – LNG storage and Oil storage in Ireland, at least 4 months capacity. Mitigation by rationing system, which should be being prepared now.***

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

**Further mitigation should include actual deployment of Direct Air Capture of CO<sup>2</sup> technologies for the purpose of production of Efuels (see <https://www.efuel-alliance.eu/efuels> ) and Prometheus fuels in California (see <https://www.prometheusfuels.com/news/our-e-fuel-pathway-debuts-in-major-report> ). These technologies provide a pathway for full self-sufficiency for Electricity, Transport and Heat, predicated on a significant ramping up of Wind (offshore) and Solar capacity in Irish Waters and on land.**

**Note - Prometheus process produces Methane, Kerosene, Diesel and petrol from direct Capture of CO<sup>2</sup> and water vapour in the air via renewable electricity.**

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

**Development of the Efuel paths as above**

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

**Significant ramping of Wind energy for efuel production. The installed Generation Capacity would need to be in the order of 40 GW. Similar to the UK plan see (<https://www.bp.com/en/global/corporate/news-and-insights/reimagining-energy/offshore-wind-explainer.html> )**

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

**Emergency Legislation should be enacted to prepare for the forcing of private and corporate entities to disconnect or reduce demand on request in certain emergency circumstances.**

**Community developed district heating schemes using High temperature heat stores integrated with domestic Solar PV on a local grid with EV charging incorporated**

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

**Emergency legislation is required to legally protect the private individuals and corporations affected by the enforcement of the control of assets, in terms of compensation and insurance of assets.**

9. Do you support the policy measures proposed in section 8 of the consultation paper?

**Yes,**

**Further the current situation is in effect a precursor to an Emergency, so changes to the planning system to fast track developments that are in the system and have Appropriate Assessments completed and are engaged in the planning process needs to be implemented by legislation.**

10. What further tools and measures do you think would contribute the most to Ireland's energy security of supply?

**Self-sufficiency is essential, the lessons from the Emergency (WW2) should be investigated and repurposed for the contemporary situation. Legal provisions for the use of emergency law to force citizens and corporations to surrender property and assets to the state to ensure essential supplies should implemented.**