Review of the security of energy supply of Ireland's electricity and natural gas systems

CEPA SHORT - LISTED MITIGATION OPTIONS

1. Strategic Floating LNG

This proposal should not proceed as it risks future lock-in to continued use of fossil fuels.
Natural gas produced by fracking is a primary source of LNG, and therefore it's use runs counter to the current Government ban on the use of fracked gas in Ireland.

2. Strategic Gas Storage

This proposal should only proceed with the minimum possible investment required to safely re-commission the Southwest Kinsale Reservoir as a gas storage facility. The stored gas should only be supplied from the existing reserves at the Corrib field, and the licence to operate the storage facility should be subject to annual Government review.

3. Gas Option Package

This proposal should proceed as soon as possible. Biomethane should be produced only from agricultural and industrial waste materials. The use of injected hydrogen may not be ideal, as the energy efficiency of this method is low.

4. Additional electricity interconnection

The Celtic Inter-connector to France should be completed as soon as possible, and a second similar inter-connector project should be designed and implemented.

5. Additional pumped storage

This project should proceed, together with research on potential tidal energy sites. This research should build on the MaREI project CRIMSON https://www.marei.ie/project/crimson/

6. Biomass Plant

There are many climate related concerns around the production and sourcing of biomass for use in power generation.
A better alternative to this proposal would be to accelerate the ESB Green Atlantic @ Moneypoint project.
https://esb.ie/what-we-do/generation-and-trading/green-atlantic-at-moneypoint

This project should bring forward the development of the proposed hydrogen storage and generation facility, based initially on the use of imported green hydrogen, and then on green hydrogen to be produced on-site using curtailed wind power.

7. Secondary fuel

The use of secondary fuel should be kept to an absolute minimum, as these are derived from primary fossil fuel.

8. Hydrogen plant conversion

This proposal should proceed as soon as possible.

In September 2022 ESB and dCarbonX signed a joint venture agreement that will allow the companies to progress large-scale energy storage projects off the coast of Ireland.
https://esb.ie/media-centre-news/press-releases/article/2022/09/05/esb-and-dcarbonx-expand-irish-offshore-energy-storage-partnership

One of the sites under investigation is east of the Poolbeg Generating station in Dublin. This project should be expanded to include the option to convert the existing gas fired 470MW CCGT station to green hydrogen. This converted plant should initially be supplied with imported green hydrogen stored offshore east of Poolbeg. The imported green hydrogen should then be replaced from indigenous sources when these have developed sufficient capacity.

9. Electricity Package

This proposal should proceed as soon as possible.

DSR actions should include a 5-year moratorium on planning permissions for new large energy users (including data centres) to enable additional green energy capacity to be designed, built and commissioned.
Due to grid constraints Eirgrid have imposed a de-facto moratorium on the connection of new large energy users in the Greater Dublin Area.
https://www.cru.ie/wp-content/uploads/2021/11/CRU21124-CRU-Direction-to-the-System-Operators-related-to-Data-Centre-grid-connection-processing.pdf

This de-facto moratorium should remain in place until such time as the Eirgrid "Powering up Dublin" project is completed.
https://www.eirgridgroup.com/the-grid/projects/dublin/

10. Onshore slow-liquefaction storage

This proposal should not proceed as it risks future lock-in to continued use of fossil fuels.

Gas Networks Ireland should be tasked to produce proposals on how their resources and network infrastructure could be utilised in future to support the storage and distribution of green hydrogen.

Useful links.

This link has details of hydrogen storage tanks installed at Puertollano, Spain
https://www.iberdrola.com/press-room/news/detail/storage-tanks-green-hydrogen-puertollano

This link has information on converting a gas turbine to a hydrogen turbine.
https://www.ge.com/gas-power/future-of-energy/hydrogen-fueled-gas-turbines

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