



Irish Academy of Engineering Restoring confidence in Irish energy supply November 2022

Introduction

Ireland has set some of the most ambitious national decarbonisation targets in the world.

Other than setting targets, Ireland has done little by way of serious planning to achieve those targets. The Academy supports proposals for a significant expansion of wind and solar power but is concerned at the lack of costed plans, the failure to reform planning legislation and the failure of policymakers to understand the requirement for dispatchable backup power generation. This is leading to the departure of international investors from the Irish energy scene.

The Academy also supports national energy saving programmes but again senses that the barriers to accelerating such programmes are not understood. Deep retrofitting programmes for the housing stock for example require a rapid expansion of wet trade resources. These are precisely the same resources that are required to build new homes and are already in short supply. What proposals do policymakers have to redress this shortage?

Irish energy supply reliability is below standard and is threatening to deteriorate further unless rapid practical action is taken to remedy the shortcomings over the next few years. The current perceived shortcomings are having a highly negative effect on proposed Foreign Direct Investment (FDI) in Ireland

In the medium term Ireland faces:

- A shortage of back up gas fired generation capacity caused by the failure of Irish institutions to recognise upcoming capacity shortages and remedy the situation.
- Highly volatile prices for gas and electricity following the outbreak of war in Ukraine.

- Worrying medium term vulnerability to supply shortfall from GB gas market now no longer part of the solidarity arrangements under EU gas market arrangements
- A dysfunctional planning and permitting process that is already killing off prospective investment in new infrastructure.
- The highest (pre-tax) electricity prices in Europe.

This short publication seeks to set out in summary form a useful list of positive measures which can be taken to set about remedying the shortcomings listed above.

Steps to be taken

A. Generation Capacity

1. Transfer to EirGrid direct responsibility for the planning, operation and overall reliability of the electricity system in Ireland.
2. Incorporate data centre back up power plants into the national electricity grid.
3. Arrange for the distribution of oil distillate to gas powered generating plants as a substitute for natural gas where appropriate.
4. Continue the use of coal and heavy fuel oil in power plants until they can be phased out by variable renewable generation backed up by gas fired generation.
5. Fix the flawed permitting processes both for onshore and offshore energy infrastructure in order to meet renewable energy capacity targets.
6. In light of current disruptions to the international energy supply chains, review the adequacy of Irish in-country energy stocks.

B. Gas supply

1. In order to ensure a secure supply of gas for back up generation to renewables until alternatives such as hydrogen or small modular nuclear reactors are available revoke the order banning exploration for natural gas in Irish waters and grant the necessary licences to enable delivery of gas from Irish waters into the gas grid.
2. Diversify sources of gas supply into Ireland by facilitating the importation of LNG into the Irish gas market.
3. Take steps to provide gas storage facilities on the Island of Ireland.

C. Electricity Market

1. Cooperate with EU initiatives to modify dysfunctional electricity market rules with a view to preventing windfall profits and excessive prices to consumers.
2. Strongly promote efficient energy use for all customers and encourage effective energy management programmes.
3. Get value from the smart meter investment programme (~€1bn) by encouraging electricity use at off peak periods.

D. Network expansion

1. Provide Government leadership supporting the development of the electricity grid in order to meet environmental and economic targets.
2. Review and repurpose Irish planning legislation and legal appeals processes in order to make them fit for purpose in a modern Ireland.

E. New Technology

1. Review the plans for supply and use of hydrogen as an energy vector in Ireland from a technical, economic and environmental perspective.
2. Give serious consideration to the use in the long term of new nuclear technologies –particularly Small Modular reactors (SMRs).
3. Consider the feasibility of a long term EU Supernode Technology approach to backing up variable renewable generation by 2050.

The Irish Academy of Engineering is an all-island body, concerned with long-term issues where the engineering profession can make a unique contribution to economic, social and technological development. Its members are Irish Engineers of distinction, drawn from a wide range of disciplines, and membership currently stands at 175. Drawing on the experience and knowledge of its distinguished members, the Academy works to facilitate communication and dialogue on engineering-related matters. It regularly publishes reports and analyses, some jointly with other learned and professional bodies.

The Irish Academy of Engineering
22 Clyde Road, Ballsbridge,
Dublin D04 R3N2

Chief Executive: Dr. Gabriel Dennison

Tel.: +353 (0)1 665 1337

Email: academy@iae.ie

Website: www.iae.ie

RCN: 20068455, CHY: 18046, Company No.: 439234