Ireland’s Draft National Energy and Climate Plan 2021-2030

Aughinish Alumina Ltd
Response

This response is non-confidential
Non-Confidential Response to a draft consultation on Ireland’s 2021-2030 National Energy & Climate Plan (NECP)

Aughinish Alumina Limited welcomes the opportunity to respond to this draft consultation, on Ireland’s draft National and Energy Climate Plan.

Background

Aughinish Alumina Limited (Aughinish) since 1983 has operated a large alumina refinery based in West Limerick. The alumina plant is one of the most energy efficient in the world and produces 20% of EU alumina requirements. In 2003, Aughinish invested over US $130M in a 160MW High Efficiency Combined Heat and Power (HE CHP) plant to meet the power and heat needs of the refinery, thus becoming an exporter of power and no longer only a consumer. Since commercial operation in 2006, the HE CHP plant has played a major role in Ireland reaching its energy efficiency targets and reducing emissions, accounting for an average saving of approximately 330,000 tonnes of CO2 per annum. Electrical power generated by Aughnish and exported to the grid has the lowest carbon content at 0.23tCO2/MWh of any fuel source except Renewables. This compares to the grid average of 0.437tCO2/MWh. Aughinish as a Large Energy User (LEUs) and the owner/operator of a High Efficient CHP (CHP) plant are strong supporters of reliable energy delivery and of the long term security of the Irish energy system. We recognise the importance to Ireland in retaining existing industry and attracting further foreign direct investment by having a world class energy supply system.

National Energy and Climate Plan (NECP) – Aughinish Alumina Response

AAL would like to reiterate its main points from the preliminary NECP consultation.


Recognition that the energy requirements of Energy Intensive Industry, such as the Aughinish Alumina Refinery, cannot physically be met by electrification at present. Gas is the lowest carbon fuel suitable to produce the heat needed to generate steam for the Alumina refinery.

Recognition of the phenomena of “Carbon Leakage”. Aughinish is among the highest ranking Alumina refineries in terms of Energy Efficiency, the 7th most efficient of 83 refineries worldwide. If the Alumina is not produced in Aughinish, it will be produced less efficiently elsewhere in the world resulting in a global net increase in Carbon emissions.
2. Support for gas infrastructure

Gas is the cleanest thermal fuel available, efficient use of gas will be a key element of a low carbon future and would be a key enabler of a future carbon-neutral society.

There is a clear path to decarbonisation of gas: This can achieve zero carbon while utilising existing gas infrastructure and electricity generation plants. Support and invest in measures to decarbonise gas such as renewable Bio methane and Power to gas.

The policies and measures should ensure that existing infrastructure continues to be used, safeguarding prior investment, achieving lowest costs and thus protecting Irish industry and consumers and ensuring Ireland remains attractive for inward investment.


Energy security is vital. Ireland’s indigenous gas supply, Corrib, is depleting and the remaining supply is at the end of a long pipeline.

Develop LNG infrastructure in the form of an FSRU (Floating Storage Regasification Unit) or LNG terminal that will allow for LNG supplies from all global sources, as well as the import of renewable gas.

Continue to explore indigenous sources of gas due to depletion of Corrib and uncertainty of interconnector supplies from single UK source. Banning exploration will only lead to more gas imports and less security of supply.

4. Energy Efficiency

There needs to be increased support for energy reduction. The MW not consumed is the cheapest MW to produce and generates no Carbon emissions.

Recognise the benefit of High-Efficiency CHP plant where an overall efficiency of 80% can be achieved by combining the production of heat and electrical power.

This high level of efficiency can only be achieved by combining both. It is achieved at Aughinish where a constant demand for both heat (steam) and electrical power exists. It can also be achieved anywhere both demands can be combined and supplied by a CHP plant, for example, district heating or large industrial plants.

The electrical grid code needs to be modified to recognise this combined demand by ensuring priority dispatch to the electrical power generated by CHP. If the electrical power
generated by a CHP is turned off by the grid operator, the associated heat demand is not met, and needs to be produced less efficiently.

A further deterrent to the investment is HE CHP is application of the PSO Levy on a capacity basis rather than a consumption basis.

5. Indigenous flexible demand versus Celtic Interconnector

It should be a priority to develop indigenous flexible demand, to better use renewable in times of high wind, instead of simply looking as interconnection as the answer.

The export of excess renewable power across inter-connecters at times of oversupply means the subvention paid by Irish consumers is supporting low export prices.

Policy should look at energy storage as a potential solution, such as pump storage, battery storage, hydrogen production, and even flexible demand which would contribute to carbon reductions.

6. Research

Priority should be given to research projects which are more likely to deliver

- Security of supply
- Sustainable carbon reduction
- A sustainable reduction in primary energy use
- Facilitation of renewable power generation
- Efficient use of existing infrastructure

The policy should facilitate open invitations for parties to apply for research funding. The funding should be assessed and awarded in a transparent manner against publically available score metrics.

Conclusion

Aughinish believes Ireland's energy security needs to be reinforced. We are an island on the end of a long gas pipeline. We have no gas storage, we have no infrastructure to receive LNG cargos, depleting indigenous gas supply and our gas security is heavily weighted on the UK who are leaving Europe.

We suggest the top priorities for the country’s Energy Plan are as follows:

1. Develop LNG infrastructure
2. Support further exploration of our own indigenous gas supplies
3. Support best in class energy efficiency. For example, our High Efficient CHP built without any state support 12 years ago extracts 30% more useful energy from its
fuel input than standalone electrical turbines and boilers. Since 2006 it has reduced our energy consumption, reduced our cost of production, reduced our carbon footprint and has delivered the cheapest, cleanest, reliable electricity to Irish consumers. We consistently deliver 3% of the country’s demand.

The country’s Climate Plan cannot be as simplistic as building wind turbines and then building interconnectors to export apparent cheap power to our neighbours through the PSO, all of it paid for by Irish citizens. Ireland is a small island poorly connected to the European mainland and it needs to address the bespoke challenges this brings to us. Ireland needs to find ways to harness the benefits of our resources in a useful manner. In our consultations response, we hope to have offered creative solutions to these challenges which could form part of a robust National Energy and Climate Plan.