



**AUGHINISH ALUMINA LIMITED**  
*(Registered in Ireland No.59982)*

CRU Celtic Interconnector Consultation

**Aughinish Alumina Ltd**  
**Response**



# Celtic Interconnector Response

This response is non-confidential

## Introduction

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 30% 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. 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. AAL recognise the importance to Ireland in retaining existing industry and attracting further foreign direct investment by having a world class energy supply system.

## General comments

Aughinish welcomes this opportunity to contribute to the Celtic Interconnector consultation. AAL appreciate that there are potential benefits to be gained from the Interconnector, such as increased security of supply, greater European Integration, and possible social welfare benefits. However, AAL believes that the overall driver for interconnection is to balance excess or paucity of power between separate regions. This is thus a means of better utilising renewables by balancing excess across regions. AAL believes that improved renewable penetration can be achieved more cost effectively by developing indigenous demand by electrification of heat and transport.

Aughinish agree with the CRU in suggesting that the Celtic Interconnector benefits are uncertain, and very sensitive to the assumed inputs. As well as the benefits being uncertain, Aughinish are concerned with the large discrepancy between the TSO and CRU cost models. The lower security of supply benefits associated with the Celtic interconnector, as determined by the CRU, is also worrying.

With all large infrastructure projects, there is risk of cost overruns. Ireland has a recent history of having large infrastructure projects going over budget. One only needs to read the news to see how the cost for the National Children's Hospital has spiralled out of control. Indeed, the largest energy infrastructure built in Ireland, the Corrib gas terminal, ran €2.4bn over budget. The consumer should not carry any risk of over budget costs.

As well as cost implications to be paid by the consumer, AAL are also wary of having a stranded asset, such as is possible with the Moffat gas interconnector, if either of the proposed LNG terminals get built.

Interconnectors are large, long-term strategic decisions, which require decades of usefulness to justify construction. Evolving political changes are the biggest risk of stranding assets, but also technological evolution and potential matrix power systems might see Interconnectors as enablers for historic large generation assets. Almost 30% of Ireland's electricity is generated from renewables, however at times of high wind, up to 70% of power generated can be from renewables.



## Putting renewable power to work in Ireland

Alternative use of this power in the form of heating, transport or storage on the island of Ireland would benefit families and industry while still allowing additional renewable penetration.

Wind generators in Ireland are subsidised by the PSO levy, which is a levy on all Irish consumers of power. AAL would prefer to see Ireland make use for this valuable subsidised power rather than dumping it to larger power grids. Alternatives to Celtic Interconnector in the form of heating, transport or storage on the island of Ireland would benefit families and industry while still allowing additional renewable penetration. The total cost of the Celtic interconnector calculated by the CRU would be ~€1.1b, of which up to 50-70% could be funded by the customer before any CEF grant is awarded. Aughinish propose looking at alternatives which may be a more cost effective way of achieving the same goals.

Electricity production in Ireland is one of the only areas that Ireland are going to achieve the EU binding targets of 16% renewable energy, and the Irish Governments target of 40% by 2020. As of the 2018 SEAI Energy in Ireland report, Transport accounts for 38.9% of Irelands emissions. Aughinish would suggest putting our renewable electricity to work in the form of transport and heating. Starting with all forms of public transport, the money should be spent on developing infrastructure for renewable forms of transport, and developing grants and schemes to facilitate the transition from oil to electric vehicles. By investing in electric vehicles, Ireland could become a world leader in green transport while solving a number of urgent issues impacting climate change:

1. *Emissions* – Reduction of emission from hydrocarbons.
2. *Agriculture* – Waste products from Agriculture could be used to power vehicles, heat homes and businesses.
3. *Battery Storage* - The increased level of electric cars on the grid should increase the level of renewable penetration, from the increased power demand. AAL also believe there should be a holistic solution investigated to allow EVs to act as micro Demand Side Units, allowing charging to be delayed, or timed in a smart manner by TSO/Energy supplier.
4. *Renewable penetration* – By switching from oil to electricity as the predominant fuel used for transport in Ireland, and with the help of smart meters/chargers, more renewables could be facilitated on the grid.

## EU interconnection targets

The consultation points out that the cost of achieving EU interconnection targets in Ireland would be ten times the cost of AC short distance interconnectors in mainland Europe. Additionally the DC technology required for sub-sea IC is not as useful in managing the grid as the AC interconnectors on the mainland. The practicalities of a one size fits all interconnection target needs to be considered, and who bears the cost of it.

## Cost to power

*“Overall, despite its potential benefits, Celtic would have a significant material impact on the Irish consumers, much higher than in other EU countries given the relatively high investment cost and the small size of the Irish market.” CRU*

Similar to CRU, AAL are concerned about adverse material impact on consumers. AAL are concerned that electricity tariffs could increase by 5.5%, and gas tariffs by up to 2.2%. This would hit the most vulnerable consumers hardest but will also affect Ireland’s competitiveness on a global scale. Renewable power generation and the evolution away from hydrocarbons is to the benefit of all of society, and because of this Aughinish recommend that the cost of any infrastructure to promote renewable power generation should be



paid from general taxation, and not levied only on power consumers. On this basis, if the Celtic Interconnector is to go ahead to satisfy the needs of EU targets for interconnection, AAL would recommend that the TSOs apply for 75% of funding from the CEF as opposed to the 50% proposed currently. In order to protect Irish power consumers or the Irish taxpayer, no work should commence until guaranteed funding is in place.

### Location of the Celtic Interconnector

Chapter 7 of [Eirgrid's All-Island Ten Year Transmission Forecast Statement 2017](#) mentions:

*“In general, there is very limited opportunity in the South-West of Ireland for new generation. The transmission network in these areas is mainly comprised of 110 kV circuits; these areas also have significant levels of connected and planned renewable generation.”*

AAL fear without substantial new transmission lines linking Cork to Dublin the Celtic IC might not offer much security of supply to the main demand situated in Dublin.

- Is Cork the best location to land a 700MW IC to provide security of supply to the Ireland?
- Could the IC act as a one-way exporter of power?

TLAFs (Transmission Loss Adjustment Factors) are applied to power delivered from generators. They are intended to be a location indicator for new generation. Currently the TLAFs are substantially below 1 in South and South-West indicating it is not the preferred location for new generation. If the Celtic IC is built by how much would existing wind and thermal generation assets in the South and South-West of the country be adversely affected by worsening TLAFs?

- In summary, AAL believes that renewable penetration can be achieved more cost effectively through development of indigenous demand, by electrification of heat and transport.
- The landing location in Cork does not have sufficient connection capacity to the main demand in Dublin.
- The interconnector has disproportionately high cost and lower benefits than land based European interconnectors.

If you have any questions regarding this response, do not hesitate to contact the undersigned.

