Response to Department of Communications Climate Action & Environment - Consultation on Draft National Policy on Electricity Interconnection in Ireland

2nd March 2018

Ervia

Introduction to Ervia

Ervia is a commercial semi-state company with responsibility for the delivery of gas and water infrastructure and services in Ireland, through Gas Networks Ireland and Irish Water. It also provides dark fibre broadband infrastructure through its business Aurora Telecom.

Gas Networks Ireland develops, operates and maintains the natural gas transmission and distribution networks in Ireland, consisting of 13,954km of gas pipelines. Gas Networks Ireland provides gas transportation services to all gas suppliers and shippers.

Irish Water is the national water utility responsible for providing safe, clean and affordable water and wastewater services to 1.7 million customers in the Republic of Ireland. Irish Water is responsible for the operation of all public water and wastewater services.

These national gas and water utilities underpin the social and economic development of Ireland and will play strategic roles in the transition of Ireland to a low carbon, climate resistant and sustainable economy by 2050.

Overview / Executive Summary

Ervia welcomes the opportunity to respond to the Draft National Policy on Electricity Interconnection in Ireland.

Ervia provide the following comments and recommendations as its response to the Draft National Policy on Electricity Interconnection in Ireland consultation:

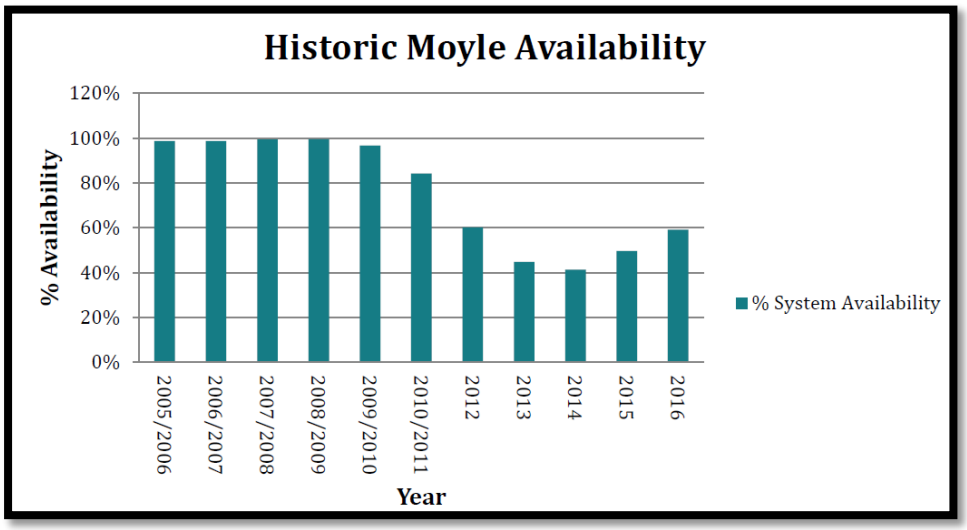
1. **Reliability of Electrical Interconnectors should form a key element of investment analysis.**
2. **Electrical Interconnection is a very expensive means of transferring energy when compared to gas interconnection.**
3. **Further interconnection should only be considered if it can be shown to provide best value for consumers compared to the alternatives.**
4. **Brexit may provide an opportunity to seek derogation from EU interconnection target**
5. **Further interconnection may lead to increased emissions in Ireland**

Reliability of Electrical Interconnectors should form a key element of investment analysis

In the EirGrid report All-Island Transmission System Performance Report 2016[1] it was highlighted that Irish Interconnectors have suffered significant reliability issues since they have started operation in the Irish market.

1. In 2016 the availability of the East-West Interconnector (EWIC) was 70%
2. In 2016 the availability of the Moyle Interconnector was 59.04%

Electricity interconnection is expensive and when Ireland is considering investing significant sums of money building further interconnection, a full analysis should be carried out to ensure the Irish consumers will not be burdened with paying for unreliable infrastructure. The chart below shows the poor reliability of the Moyle interconnector between 2010 and 2016. If Ireland is to rely on further interconnection for electricity, a full analysis of their reliability should be a major component of any evaluation. It seems from the recent reliability history of Irish Interconnectors (also UK-France Interconnection[2]), Electrical Interconnection is not the most reliable way to increase a country's security of supply.



Electrical Interconnection is an expensive means of transferring energy when compared to gas interconnection

When compared to gas interconnection, Electrical Interconnection is substantially more expensive to build and can only carry a small fraction of the energy that gas interconnection can supply. Below is a comparison between the EWIC electricity interconnector and IC2 the second gas interconnector built to the UK. The gas

[1] http://www.eirgridgroup.com/site-files/library/EirGrid/All-Island-Transmission-System-Performance-Report-Rev.1.pdf
[2] https://www.ft.com/content/52e957a6-b64a-11e6-ba85-95d1533d9a62

interconnector can carry over 30 times the energy for less than half the cost of the electricity interconnector.

	EWIC	IC2	Comparison of gas to electricity
Costs	€600m	€270m (equivalent in 2012 money)	Gas less than half the cost
Max energy flow per day	12,000 MWh	376,000 MWh	Gas can carry 31 times more energy flow
Energy rating	500MW	15,600 MW	
Longest outage	4 months	0 days	Zero outages on the gas interconnectors

Ervia is not promoting a new gas interconnector, but this is an important point to note. It is clear from the table above that the most efficient way to transfer energy across borders is via gas interconnection. Electrical Interconnectors offer Ireland very little in terms of enhanced energy capacity.

Further interconnection should only be considered if it can be shown to provide best value for consumers compared to the alternatives.

Ervia believe that interconnection can play a role in Ireland's electricity system, however, a recent report by ESRI states that;

"*The impacts of interconnection are difficult to accurately quantify and so there should be a clear net benefit before this, or indeed any, infrastructural project is approved. If there is no clear net benefit Ireland should instead argue for an exemption from any requirement to have a given level of interconnection with another EU Member State rather than pursue suboptimal interconnection to France or elsewhere.*"[3]

Another recent piece of analysis by Valeria Di Cosmo (ESRI, FEEM), Sean Collins and Paul Deane (UCC) shows that if the annual costs of a proposed interconnector between Ireland and France exceed or equal €45m per annum, this new interconnector would not bring "overall welfare gains neither to the Island of Ireland nor France, even if the interconnector's owners and Irish consumers may partially benefit from this project". Interestingly the paper also notes that if electrical storage becomes popular during the next ten years in either France or Ireland, interconnection between these two countries would generate welfare losses in both states[4].

[3] ESRI - https://www.esri.ie/pubs/RN20170201.pdf
[4] https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3035165

Ervia believes that Ireland's energy trilemma (security, competitiveness and sustainability) should, if possible, be achieved at least cost to consumers. Further Electrical Interconnection must demonstrate that it is the least-cost solution versus the alternatives to meet the three requirements of the energy trilemma. Comprehensive Macro Economic Modelling is required to compare all possible options. It is not enough to just consider the pros and cons of another Electrical Interconnector within the electricity market. The investment must be considered within the wider energy market to determine its overall impact on, for example, existing CCGTs, utilisation of the state-owned gas network, impact on future potential LNG infrastructure, impact on future potential carbon capture & storage project utilising state infrastructure etc. Assessment of the interconnector in isolation of the wider market could have unintended negative impacts with an overall net negative outcome for the country.

Brexit may provide an opportunity seek derogation from EU interconnection target

According to a European Commission document, Ireland in 2013 had an interconnection level of 7% with the UK (East West Interconnector and North South Interconnector) and could exceed its 15% target with further interconnection to France and the UK[5]. When the United Kingdom leave the European Union in March 2019, Ireland's installed interconnection with other European Member States will be 0%. Rather than building more Electrical Interconnection to meet EU targets, Ervia believes that Brexit could provide a strong case for Ireland to seek a derogation from EU interconnection targets.

Interconnection may actually increase Ireland's emissions

When the price of carbon is different between two countries (like Ireland and United Kingdom), there is the potential for interconnection to have a negative effect on the country with the lower carbon price in terms of emissions. It is also important to note here that France is considering implementing a significant carbon floor price[6].

"Interconnection between electricity markets facilitates greater penetration of intermittent generation on the electricity network but interconnection also enables carbon leakage, particularly if policies relating to the price of carbon are misaligned across countries."[7]

Before committing to significant investment for further Electrical Interconnection Ireland needs to be sure it will not have unintended consequences for its carbon emissions.

[5] European Commission – Achieving the 10% electricity interconnection target
[6] Emmanuel Macron – 26th September 2017
[7] ESRI – Working Paper 458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