

National Policy on Electricity Interconnection in Ireland

EirGrid Response to the DCCAE
Consultation

02 March 2018



Executive Summary

EirGrid welcomes the publication of the DCCAЕ's Consultation Paper on the *Draft National Policy on Electricity Interconnection in Ireland* ('the Consultation Paper'). In the context of the DCCAЕ's three core objectives of its national energy policy, sustainability, security of supply and competitiveness, electricity interconnection is a strategically critical implementation tool since it has potential positive effects on all three areas and thus on the Irish consumer.

EirGrid agrees that higher interconnection capacities will enhance energy security in Ireland and help to mitigate the adverse effects of being located in Europe's periphery. EirGrid further believes that greater diversification of energy supplies and closer cooperation with our European neighbours are crucial measures to ensure greater stability and solidarity in an energy market that is becoming increasingly complex and dynamic.

EirGrid is supportive of the content of the draft policy paper and the clarity and thoroughness of the aspects considered. EirGrid has in this response paper focused on each of the questions posed by the DCCAЕ in Section 5 of the Consultation Paper and have summarised below the key areas that we believe should be considered and taken into account in the finalised policy.

- It is currently proposed that security of supply and diversity of supply are 'Additional Aspects' that 'may' be taken into account by CRU during evaluations. EirGrid believes that these matters should be regarded as core evaluation criteria.
- European interconnection targets should be taken into account in the assessment of interconnection projects, and consideration should be given to whether for Ireland, particularly in light of its domestic resource portfolio and special situation as an island system, greater levels of interconnection may be appropriate and therefore should potentially be higher than the European target.
- EirGrid agrees that the scenarios employed for the basis of the economic assessment of interconnector projects should be closely specified, however, we believe that the European TYNDP scenarios should be set as the primary baseline scenarios as opposed to scenarios derived from national models such as those in EirGrid's *Tomorrow's Energy Scenarios*. By applying the TYNDP scenarios, CRU and DCCAЕ can ensure that projects are assessed on a consistent and objective basis.
- It is EirGrid's view that priority should be given to projects that can guarantee Irish consumers long-term access to the EU's Internal Energy Market. Projects that have the potential to mitigate the risk of being detached from the rest of the IEM should be a core consideration in CRU's evaluations.
- EirGrid suggests that the assessment of an interconnection project should appraise the project developer's capability to deliver the project and/or the likelihood of the

project going forward. Such an approach should seek to ensure that the potential for developers to unnecessarily hold capacity is limited, thus reducing network planning risks for the TSO and ensuring that other/future interconnector projects are not inadvertently impacted or hindered by projects that are not progressing.

- EirGrid is concerned that placing too much emphasis on potential negative effects on existing individual developments will effectively protect inefficient generation assets and could lead to market distortions.
- EirGrid believes that Irish system marginal costs is a key metric for assessments but suggests that these costs should only be considered in conjunction with Market Sustainability as a system with a high penetration of low-cost renewables can have unsustainable periods of zero-pricing.
- EirGrid believes that the assessment of an interconnection project should acknowledge the project's contribution to reducing CO² emissions and to meeting Ireland's climate targets.

Introduction

EirGrid plc is committed to support the DCCAE to achieve the three core objectives of its national energy policy (sustainability, security of supply and competitiveness). By providing a safe, secure, reliable, economical and efficient transmission system, and through its operation of the SEM, EirGrid contributes in many respects to the practical implementation of the three policy objectives. Electricity interconnection is in this context a strategically critical implementation tool since it has potential positive effects on all three policy areas and thus on the Irish consumer.

EirGrid supports the DCCAE's efforts to further interconnect Ireland with the rest of Europe and its commitment to the European Internal Energy Market (IEM). EirGrid shares the DCCAE's view that higher interconnection capacities will enhance energy security in Ireland and help to mitigate the adverse effects of being located in Europe's periphery. Interconnection in addition creates real value for Irish consumers since it promotes competition and offers new trade opportunities to efficient generators.

EirGrid further believes that greater diversification of energy supplies and closer cooperation with our European neighbours are crucial measures to ensure greater stability and solidarity in an energy market that is becoming increasingly complex and dynamic.

EirGrid welcomes the publication of the DCCAE's Consultation Paper on the *Draft National Policy on Electricity Interconnection in Ireland* ('the Consultation Paper') and believes that the proposed criteria for the evaluation of interconnection projects are comprehensive, robust and based on sound economic reasoning. EirGrid further welcomes the clarity and structure of the paper and is confident that the policy will provide clear guidance to both the CRU and project developers.

In this context EirGrid is supportive of the content of the DCCAE's draft policy paper. In this response paper, EirGrid has focused on responding to each of the questions posed by the DCCAE in Section 5 of the Consultation Paper.

Consultation Questions

Question 1 – What, if any, additional weighting should the CRU apply to security of supply considerations in its decision-making process?

Security of supply is rightly considered to be one of the three pillars of Irish energy policy. Interconnection with the European Internal Energy Market (IEM) is in this context key to realising this objective.

Interconnection unlocks the ability of generation in other regions to serve load in Ireland, and vice versa. This has daily benefits when facilitating the lowest cost generation to serve load in interconnected regions with higher wholesale prices. Along with these daily price benefits, interconnection also enhances security of supply as it enables generation in one European country or region to serve load in another during periods of low margin or system stress events. This benefit is recognised in the European Commission's guidelines which state that the contribution of interconnection to security of supply should be considered in national and regional generation adequacy assessments.

A primary measure of the potential benefits of an interconnector to security of supply is the expected level of coincident stress events in the interconnected regions. If the expected correlation of coincident stress events is low then the interconnector will have a significant benefit to security of supply. Considering the size and diversity of the European IEM, interconnection is expected to provide particularly strong benefits to security of supply since it significantly reduces the risk of experiencing periods of coincident stress events.

Overall, interconnection helps to achieve the DCCAE's national objective to enhance security of supply at the lowest cost to the consumer.

EirGrid therefore believes that security of supply should be regarded as one of the core evaluation criteria for the CRU's decision making process in the final policy document.

Question 2 – What, if any, additional weighting should the CRU apply to diversity of supply considerations in its decision-making process?

Diversity of supply has significant positive impacts on both price and security of supply since it increases competition and reduces reliance on particular fuel sources. This subsequently reduces price volatility in the electricity market and thus protects Irish consumers from the adverse effects of unexpected price hikes. It further supports security of supply benefits by reducing the negative impact of potential shortages/interruptions to domestic fuel sources or indeed in Ireland's case to interruptions in supply of fuel sources to Ireland, for example natural gas.

Furthermore, the assessment of an interconnection project should take into account the correlation of systems and whether the interconnection with another electricity system would reduce the risk of experiencing periods of coincident stress events. It can be anticipated that any connection with a larger and strongly interconnected electricity system in Europe will inevitably reduce this risk due to greater stability and manifold abilities of these systems to re-balance stress events.

A diverse energy supply is of particular importance to an island system, such as Ireland, with high levels of intermittent renewable generation. Interconnection is in this context a key asset for increasing diversity of energy supply since it gives access to the European generation portfolio at times of low renewable generation output while simultaneously enabling exports at times of high renewable generation output.

Further interconnection will aid the transition to a low carbon energy system while maintaining a secure and resilient power system. Hence, EirGrid believes that diversity of supply should be defined as one of the core evaluation criteria in the final policy.

Question 3 – Should the CRU take EU interconnection targets into account in its evaluation? If so, how?

Interconnection between member states will play an important role in achieving European energy policy objectives (see Question 4 below). Increasing the level of interconnection will also facilitate more efficient trading of energy, thus lowering costs to the consumer and enhancing security of supply through increased regional co-operation of system operators.

The completion of Projects of Common Interest (PCIs) to achieve interconnection targets as laid out by the European Commission, and referenced to in the Consultation Paper, clearly shows the level of commitment by member states, system operators and investment opportunities available. EirGrid welcomes the establishment of the Expert Group and the recommendation to adopt a set of additional thresholds for the 2030 targets, namely priority given where:

- the price differential exceeds an indicative threshold of 2€/MWh between bidding zones;
- the nominal transmission capacity of interconnectors is below 30% of their peak load; and
- the nominal transmission capacity of interconnectors is below 30% of installed renewable generation capacity.

The Expert Group recommended each new interconnection project must be subject to a socio-economic cost-benefit analysis and implemented only if the potential benefits outweigh the costs. Further, recognising Ireland's domestic resources, generation plant portfolio and special situation as an island system, consideration should be given to

whether the optimal level of interconnection for Ireland may be above the EU average targets.

In this context EirGrid believes that a project's contribution to reaching the EU interconnection targets should be an integral part of CRU's evaluation.

Question 4 – What impact does EU Policy and the EU's Clean Energy Package for all Europeans have on electricity interconnection to Ireland? Are there any other EU/national legislation or policy objectives that should be considered?

EU policy sets out climate and energy framework objectives, binding targets and rules for market design and grid operation. EU policy therefore has a direct and significant impact on long term planning and investment of infrastructure, including interconnection and on the roles and responsibilities of national regulators and system operators.

Increasing the level of electrical interconnection between member states will support the vision of an 'energy union' and the efficient functioning of the European internal energy market. Efficient cross-border trading of energy is also a critical enabler of global objectives on climate change as set out in the binding Paris Agreement and in the European climate and energy framework 2030 targets¹.

EU Regulation 347/2013 – PCI Regulation

The EU Regulation 347/2013 on guidelines for Trans-European energy infrastructure ('PCI Regulation') is the central piece of legislation for all interconnection projects in Europe. The Regulation sets out the criteria for designating an interconnection project as a Project of Common Interest, the eligibility criteria for financial assistance from the European Union and the procedures for the assessment of the project. In terms of the latter, Article 11 (1) outlines that PCIs shall be assessed based on a harmonised energy system-wide cost-benefit analysis at Union level (please see EirGrid's response to Question 5 for more details on individual provisions of the PCI Regulation).

EU Framework for Connection Offers to Interconnectors

It is noted that interconnection is treated differently from generation and demand connections. The provisions of the EU Regulation 714/2009 ('Third Package'; Annex I 1.2) and the EU Network Codes require preferential treatment for interconnectors and such projects are explicitly facilitated under the PCI Regulation. It is important that the arrangements under this framework are respected.

However there is an inherent risk that interconnection projects may reserve capacity on a transmission system(s) but not advance in a timely manner or indeed ever go forward.

¹ https://ec.europa.eu/clima/policies/strategies/2030_en

Amassing of network capacity by such projects is something which should be actively avoided and discouraged. Failure to do so could result in network planning risks for the TSOs, negatively impact the ability for other interconnector or generation projects to advance, and would distort the market.

EirGrid suggests that the assessment of an interconnection project should appraise the project developer's capability to deliver the project and/or the likelihood of the project going forward.

Ultimately, this approach would mitigate network planning risks and unintended impacts to other developments and the markets and thus avoid unnecessary costs for Irish consumers.

Clean Energy Package

The proposed clean energy package² seeks to add updated and new legislation to support the clean energy transition and help fulfil EU policy objectives. Although the package is still in draft form, the latest Council versions (20 December 2017) of the Regulation³ and Directive⁴ on the internal market for electricity include elements which may impact interconnection to Ireland.

- The Regulation (Art 18 & 19 [Resource adequacy]) and Directive (Art 51 [Network development and powers to make investment decisions]) will introduce a standardised methodology for the TSOs' assessment of resource adequacy for security of supply. TSOs will also be required to provide this information to ENTSO-E for inclusion in the ten-year network development plan (TYNDP). The TYNDP indicates transmission infrastructure requirements to be built within the next ten years, and once agreed following consultation, provides the basis for any investment decisions that may be required.

This illustrates that security of supply is set to become an integral part for the assessment of interconnection projects under EU policy and thus gives further justification as to why in the final policy paper it should provide that CRU apply additional weighting to security of supply (see Question 1) in its evaluations.

- Under the draft Regulation (Art 23), new design principles for capacity mechanisms will explicitly limit payments for generation capacity emitting more than 550 gr CO₂/kWh of energy. This may have a direct impact on the economic viability of existing old or inefficient generation and hence may have a secondary impact for the

² <https://ec.europa.eu/energy/en/news/commission-proposes-new-rules-consumer-centred-clean-energy-transition>

³ <http://data.consilium.europa.eu/doc/document/ST-15879-2017-INIT/en/pdf>

⁴ <http://data.consilium.europa.eu/doc/document/ST-15886-2017-INIT/en/pdf>

promotion of increased interconnection to maintain security of supply on the island of Ireland (subject to system adequacy reviews).

Again, this proposed element in the Clean Energy Package underlines the important role of interconnection in mitigating security supply risks which EirGrid believes should be mirrored in CRU's evaluations (see Question 1).

Question 5 – Gaps in the Policy Backdrop

EirGrid is of the view that the description of the national policy parameters in the Consultation Paper is accurate and captures the core parts of legislation and policies that project developers should consider prior the submission to the regulators. However, for completeness and the avoidance of confusion or potential for conflict between the policy and statute, EirGrid believes that the DCCAE should reference the three pieces of legislation in its final policy backdrop.

1. Authorisation to construct an interconnector under Section 16 and 16A of the ERA 99

EirGrid noted that there are two routes under the Irish statutory framework by which a project developer can receive an authorisation to construct an interconnector: An authorisation granted by the CRU under Electricity Regulation Act (ERA) 99 Section 16 (as referenced in the Consultation Paper) and an authorisation granted by the CRU with the consent of the MCCAIE under ERA 99 Section 16A.

It is clear from ERA Section 16A that the decision lies with the CRU to initiate the alternative route under 16A and to seek consent from the Minister to secure construction of an interconnector.

2. Inclusion in network tariffs under Section 2A of the ERA 99

An authorisation to construct granted under ERA Section 16 is limited to the physical construction of the asset and associated matters. It does not include or pre-determine any future decision by the CRU in respect of the inclusion of the interconnector in network tariffs. Such a decision must be discharged in the public interest pursuant to ERA Section 2A.

However, it is noted that Section 2A of the ERA also explicitly exempts an interconnector constructed pursuant to ERA Section 16A from these requirements.

3. Offer to connect to the transmission system under Section 34 of the ERA 1999

Under the Irish statutory framework a project developer must in addition to the necessary authorisation to construct an interconnector, also receive an offer from the TSO to

connect to the transmission system. In accordance with ERA Section 34(1), the TSO shall offer to enter into an agreement for connection subject to the terms and conditions specified by the CRU.

It is noted that following a direction from the CRU (CRU/17/300), EirGrid is currently progressing any grid connection application for Interconnectors that have received PCI status.

Question 6 – Gaps in the Evidence Base

EirGrid welcomes the clarity around the foundation of evidence to support the evaluation of proposed interconnectors by CRU provided in the Consultation Paper. We feel the proposals provide a sound rational basis for evaluating projects. However EirGrid believes that further refinement of the proposals would be beneficial and have set out below a number of areas of note.

Baseline scenarios

EirGrid agrees with the DCCAE's view that the scenarios employed for the basis of the economic assessment of interconnector projects should be closely specified. In particular, where more than one project is being considered, it is important that an analysis is based on very similar, if not identical, scenarios. This would enable objective comparison between projects, if required.

The Consultation Paper makes reference to two scenario models, namely the *Generation Capacity Statement (GCS)* and *Tomorrow's Energy Scenarios (TES)* models. Although these two models, established by the EirGrid group, represent in-depth energy outlooks based on robust and prudent forecasting methods, we feel that they are not the appropriate basis for the economic analysis of interconnection projects.

Interconnection projects are, by definition, multi-jurisdictional. Yet, the two scenario models mentioned in the Consultation Paper only provide information on future scenarios for Ireland (and Northern Ireland in the case of the GCS) and do not make predictions about the rest of Europe. As such these documents should only be used as additional sources of information to support core analysis to paint part of the picture required for delivering a complete analysis of an interconnection project.

EirGrid believes that the sole use of national scenario models will inevitably lead to inconsistencies, particularly if cross-jurisdictional partners use their own national scenario models for their respective part of the economic analysis. These may present forecasts that are at variance with the forecasts presented in the aforementioned scenario models and will arrive at different results being presented to the relevant stakeholders in each jurisdiction.

Pursuant to Article 11 (1) and 13 (a) of the PCI regulation, the project-specific cost-benefit analysis for the assessment of an interconnection project shall be based on

harmonised and energy system-wide modelling at Union level. This regulation is fulfilled through the EU **TYNDP⁵ process**. The TYNDP process and the scenarios developed within provide the following advantages:

- **Cross-jurisdictional.** The scenarios used in TYNDP provide a number of co-ordinated scenarios on a Europe-wide level, ensuring that there are no inconsistencies between jurisdictions (e.g. in terms of fuel costs, take-up of new technologies etc.).
- **Acceptance.** The TYNDP scenarios are developed in consultation with all major stakeholders across Europe, in particular ACER and the European Commission.
- **Quality Assurance (inputs).** Due to their importance for the PCI designation process, ENTSO-e is committed to a rigorous level of testing and continuous quality control in terms of the scenario modelling. The drafting process includes a review of data carried out by every TSO member.
- **Quality Assurance (outputs).** The published TYNDP documents contain appraisals of all PCIs in Europe and will already cover many of the metrics mentioned in the Consultation Paper. Each PCI is assessed by analysts and modellers from multiple TSOs, with robust cross-checking taking place to ensure error-free and high quality analysis.
- **Policy.** The scenarios are framed by European policies and strategies, while also taking national policies and objectives into account.
- **Accessibility.** All relevant scenario data is freely available through the ENTSO-e website.

By applying the TYNDP scenarios, CRU and DCCAE can ensure that projects are assessed on a consistent and objective basis using reliable scenario models reflecting the view of stakeholders and industry experts across Europe.

EirGrid recommends that the DCCAE's final policy paper should make reference to the EU's TYNDP as the source for the primary baseline scenarios and avoid placing too much emphasis on national scenario models.

Market Sustainability

EirGrid welcomes the Consultation Paper's identification of Irish system marginal costs as a key metric for assessments. However, these costs should only be considered in conjunction with market sustainability.

To allow for objective market analysis, analysts typically use Short-run Marginal Costs (SRMC) to represent generator bidding, and marginal pricing to forecast future electricity

⁵ Ten-Year Network Development Plan

prices. This follows marginal-cost theory which predicts that in a competitive market, product revenues will be set by the cost of the next cheapest unit available. While having economic justification, this also allows for simplicity and transparency in analysis, and negates the need for more subjective and complex models relating to bidding strategies.

However, in systems with high penetration of low-cost renewables, this approach can lead to sustained periods of zero-pricing (or very low pricing), meaning that generators running during these periods do not receive (significant) revenues. When such periods constitute a significant proportion of a year, it can lead to market failures: increases to market-based subsidy payments, required conventional generation unable to recover costs, lack of efficient investment signals, high market volatility.

These zero-price periods typically coincide with periods of renewable curtailment. One of the key benefits of interconnector projects to Ireland comes from increasing RES penetration and alleviating curtailment. Moreover, it removes unsustainable zero-price periods.

The argument above implies that this is good for market sustainability. However, removing these periods of zero-price will cause the average wholesale price to increase, which is generally considered a negative effect for consumers. It is therefore important not to look at price points in isolation, and to also consider how a project will impact market stability, for example by analysing the frequency and duration of low-price periods.

EirGrid believes that Irish system marginal costs is a key metric for assessments but suggests that these costs should only be considered in conjunction with market sustainability as a system with a high penetration of low-cost renewables can have unsustainable periods of zero-pricing.

Impact on Network Development

The evaluation criteria should consider an interconnector project's effects on the future Irish power system - that is, given the current state of the Irish system, and projections of future grid developments, will the project benefit Ireland? Increased competition has the potential to decrease the value of both privately and publicly owned assets.

EirGrid does not support the inclusion of analysis of possible commercial impacts on existing generation stations in the evidence base for evaluation of interconnector projects. Interconnection by its very nature promotes competition to the benefit of consumers. In our view, the assessment should look at the overall costs and benefits for Ireland Inc. and, not for individual stakeholders.

EirGrid is of the opinion that more competition in the electricity market generally enhances the resilience of the industry and provides real value for Irish consumers. We are concerned that placing too much emphasis on potential negative effects on individual

developments will effectively protect inefficient assets and lead to severe market distortions.

Reduction of CO² Emissions

EirGrid is committed to the Paris Agreement and the European climate and energy framework 2030 targets and supports the DCCAE in its climate efforts. We believe that further interconnection can help Ireland to significantly reduce its CO² emissions and thus entails positive externalities that should be taken into consideration by the CRU.

By avoiding curtailment of renewables and offering renewable units new export markets interconnectors contribute directly up to 8% of the CO² decrease by 2030 on a Europe-wide level, and indirectly drives decarbonisation by facilitating RES connection in an integrated European market. Under the assumption that carbon prices will continue to rise in the future, further interconnection will lead to additional savings that benefit Irish consumers. Overall, this will support Ireland in meeting its climate targets and thereby further strengthen the government's strong reputation among international actors in terms of climate change matters.

EirGrid therefore believes that an interconnection project's expected contribution to reducing Ireland's CO² emissions should be part of the cost-benefit analysis and consequently be considered by the CRU in its decision making process.

The UK's decision to leave the EU - Brexit

EirGrid closely cooperates with actors in the energy market of the United Kingdom and intends to maintain strong and trustful relations between the two islands regardless of the outcome of the UK Government's negotiations on leaving the European Union.

EirGrid equally remains a committed member of the EU's Internal Energy Market and is convinced that a greater integration of the electricity markets in Europe will provide real benefits to Irish consumers and enable society to move towards a low carbon future. Considering that the UK government has hitherto made no commitment to remain part of the IEM, we believe CRU should therefore acknowledge identified uncertainties and risks associated with the UK's decision to leave the EU and take note of their possible impacts.

In addition, EirGrid believes that the CRU should give priority to projects that can provide Irish consumers long-term access to the IEM and have the potential to mitigate the risk of being detached from the rest of the IEM - giving particular consideration to Ireland's vulnerability due to its geographical position in Europe's periphery.

Question 7 – Any Other Issues

EirGrid has not identified any additional items of note to those set out in this response paper.