Electricity Interconnectors
Information Paper
Executive summary

Introduction
The purpose of this paper is to inform the public and all relevant stakeholders that Commission for Regulation of Utilities (CRU) has received an application from a Project Promoter in relation to a proposed electricity interconnector with Project of Common Interest status. The CRU also understands that an application for a second electricity interconnector with Project of Common Interest status is expected in 2018. This paper outlines at a high level national and EU policy in respect of electricity interconnectors, and the expected timelines for when the CRU will publish detailed consultation and decisions on the electricity interconnector application received.

Electricity Interconnectors with PCI Status
To become a Project of Common Interest a project must meet specific criteria. Projects are then assessed by regional groups made up of regulators, EU Commission, Transmission System Operators, and the Agency for the Cooperation of Energy Regulators (ACER) among others. After the assessments are complete the EU commission adopts the list of approved Projects of Common Interest by a delegated act. The third PCI list was published by the EU Commission in November 2017. The Celtic and Greenlink interconnectors were two Irish electricity interconnectors on this list.

In October 2017 the CRU issued a direction to EirGrid as the Transmission System Operator to commence processing grid connection applications from electricity interconnectors with PCI status, see CRU/17/300 for further details.

1 Projects of Common Interest
2 The Third PCI List
Electricity Interconnector Submissions
On 22 December 2017 the CRU received a submission from Element Power requesting the CRU to determine if the construction of the Greenlink electricity interconnector is in the public interest to be considered to be part of the transmission system for the purposes of calculating and imposing charges for the use of the transmission system. If the CRU determine that the construction of this interconnector is in the public interest the CRU must then decide on an appropriate regulatory regime to underwrite or part underwrite the interconnector.

The CRU also expects to receive an application for the Celtic Interconnector later in 2018, from EirGrid and RTE (the French TSO).

Next Steps
The CRU has commenced a detailed assessment of the Greenlink application request and expects to consult on the application in early summer 2018, and thereafter make a preliminary decision by the end of September 2018 (called an Initial Project Assessment).

In addition, on receipt of EirGrid’s and RTE’s Celtic Interconnector submission the CRU will process the application accordingly, in cooperation with the French Energy Regulatory Authority (CRE).

In 2016 in CER/16/239 the CRU requested interested parties to provide submission as to the matters that should be considered in the development of a policy for interconnectors. The CRU notes the responses received to CER/16/239 and proposes to publish a separate draft decision paper on this matter in April 2018 which will focus on the matters to be considered in the evaluation of electricity interconnectors.
Public/ Customer Impact Statement

An electricity interconnector is essentially a cable which crosses a border between countries and which connects the countries’ electricity systems, and allows the transport of electrical power between countries.

Interconnectors have the potential to provide substantial benefits to consumers, such potential benefits might include reducing electricity bills, enhancing security of supply, and reducing the electricity system’s carbon footprint by integrating higher levels of renewable energy.

Electricity interconnectors can flow in both import and export directions. At times of high prices in Ireland, interconnectors can allow cheaper electricity from other markets (if the other market has a lower price) to be imported into Ireland, thus lowering prices in Ireland. Conversely if the other market has a higher price and electricity is exported to this market, it can raise the price in Ireland.

From an Irish perspective, the security of supply benefit is that Ireland has another potential import route for energy.

There are times (for example on windy days) when renewable generators in Ireland can generate more renewable electricity than the island can safely take. In such circumstances this potential renewable energy goes unused. Additional interconnection could reduce this effect and allow more renewable energy onto the system (as it can safely be exported).

Since 2013 there has been one electricity interconnector between Ireland and GB, namely the East West Interconnector (EWIC). There is also an electricity interconnector connecting Northern Ireland and Great Britain called the Moyle Interconnector. The Greenlink interconnector would be a third interconnector connecting the same two areas (the island of Ireland and GB), while the Celtic interconnector would connect Ireland and France.

If interconnectors are underwritten by electricity customers, and they underperform, then this can be a cost to electricity customers in Ireland by increasing network tariffs. In contrast, if electricity interconnectors over-perform they can reduce
electricity network tariffs. The risk of underperformance arising and the cost of underperformance must be balanced against the potential benefits outlined above.
# Table of Contents

**Glossary of terms and abbreviations** ..................................................................... 1

1 Introduction ........................................................................................................... 1

1.1 Commission for Regulation of Utilities .......................................................... 1

1.2 Background ...................................................................................................... 1

1.2.1 Regulatory Regime for PCI Assessment and Incentives ............................ 1

1.2.2 Enduring Connection Policy .................................................................... 1

1.2.3 Policy for Electricity Interconnectors - initial call for comments ............... 2

1.2.4 Direction to EirGrid as TSO .................................................................... 2

1.3 Legislative Basis ............................................................................................. 3

1.3.1 Irish Legislation........................................................................................ 3

1.3.2 EU Legislation .......................................................................................... 4

2 European and National Energy Policy ................................................................. 7

2.1 EU Energy Policy .......................................................................................... 7

2.2 National Energy Policy .................................................................................. 7

3 CRU’s 2016 Consultation (CER/16/239) ............................................................. 9

3.1 Evaluation and Assessments.......................................................................... 9

4 Electricity Interconnector Projects ...................................................................... 10

4.1 Greenlink Application of December 2017.................................................... 10

4.1.1 Project Description Greenlink - PCI 1.9.1 ............................................. 10

4.1.2 Greenlink requests from the CRU ......................................................... 11

4.1.3 The Cap and Floor – Ofgem’s Initial Project Assessment ..................... 11

4.2 Application from Celtic expected in 2018 ..................................................... 12

5 Next Steps ........................................................................................................... 14
Glossary of terms and abbreviations

<table>
<thead>
<tr>
<th>Abbreviation or Term</th>
<th>Definition or Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACER</td>
<td>Agency for the Cooperation of Energy Regulators</td>
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<tr>
<td>CBA</td>
<td>Cost Benefit Analysis</td>
</tr>
<tr>
<td>CBCA</td>
<td>Cross Border Cost Allocation</td>
</tr>
<tr>
<td>CEF</td>
<td>Connecting Europe Facility</td>
</tr>
<tr>
<td>CRE</td>
<td>Regulatory Commission of Energy (French Energy Regulatory Authority)</td>
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<td>CRU</td>
<td>Commission for Regulation of Utilities</td>
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<tr>
<td>DCCAE</td>
<td>Department of Communications, Climate Action and the Environment</td>
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<td>EWIC</td>
<td>East West Interconnector</td>
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<tr>
<td>ENSTO-E</td>
<td>European Network of Transmission System Operators for Electricity</td>
</tr>
<tr>
<td>FPA</td>
<td>Final Project Assessment</td>
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<tr>
<td>Interconnector</td>
<td>Means a transmission line which crosses or spans a border between Member States and which connects the national transmission systems of the Member States[^3]</td>
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<tr>
<td>IPA</td>
<td>Initial Project Assessment</td>
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<tr>
<td>Ofgem</td>
<td>Office of Gas and Electricity Markets (GB Energy Regulatory Authority)</td>
</tr>
<tr>
<td>PCI</td>
<td>Project of Common Interest - a key infrastructure project, especially cross-border projects that link the energy systems of EU countries. They are intended to help the EU achieve its energy policy and climate objectives: affordable, secure and sustainable energy.[^4]</td>
</tr>
<tr>
<td>RTE</td>
<td>Réseau de transport d’électricité (French Transmission System Operator)</td>
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[^4] Projects of Common Interest
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<tr>
<td>TSO</td>
<td>Transmission System Operator</td>
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1 Introduction

1.1 Commission for Regulation of Utilities

The Commission for Regulation of Utilities (“CRU”) is Ireland’s independent energy and water regulator. The CRU was established in 1999 and has a wide range of economic, customer protection and energy safety responsibilities. The CRU’s mission is to regulate water, energy and energy safety in the public interest.

Further information on the CRU’s role and relevant legislation can be found on the CRU’s website at www.cru.ie.

1.2 Background

In December 2017, Element Power requested the CRU to determine if the construction of the Greenlink Interconnector (a PCI project connecting Great Britain (GB) and Ireland) is in the public interest for the purposes of calculating and imposing charges for the use of the transmission system. The CRU expects to receive a similar request later in 2018 from EirGrid and RTE in relation to the Celtic Interconnector (a PCI connecting project Ireland and France).

Since late 2015, the CRU has published four policy papers which outline the CRU process in the development of the regulatory framework for assessing electricity interconnector applications.

These papers are described in more detail below.

1.2.1 Regulatory Regime for PCI Assessment and Incentives

In November 2015 the CRU published an information note (CER/15/269 - “PCI Incentive Methodology in accordance with Article 13(6) of Regulation (EU) No.
In that paper the CRU noted “while the existing policy adequately addresses the requirements of the TEN-E Regulation [Trans-European Energy Infrastructure Regulation], there are other possible approaches to the evaluation and allocation of risk between the asset owner and the customer. Therefore the CER may consider the appropriateness or otherwise of the application of existing policy as it applies to different types of assets on a case-by-case basis”.

1.2.2 Enduring Connection Policy

In December 2015, the CRU published a Consultation Paper (CER/15/284 - the “Enduring Connection Policy”) on the development and implementation of an integrated and enduring connection policy for the electricity system in Ireland. In that paper, the CRU posed the question as to whether it was appropriate to consider the connection of interconnectors separately to the wider “Enduring Connection Policy” that pertains to generation and demand.

1.2.3 Policy for Electricity Interconnectors - initial call for comments

In August 2016 the CRU published a paper (CER/16/239 – “Policy for Electricity Interconnectors”) requesting submissions detailing what matters should be considered on a policy for electricity interconnectors.

CER/16/239 requested interested parties to provide submission as to the matters that should be considered in the development of a policy for interconnectors. The CRU notes the responses received to CER/16/239 and proposes to publish a separate draft decision paper on this matter (see section 3 for more details).

1.2.4 Direction to EirGrid as TSO

In October 2017, in accordance with section 34 of the Electricity Regulation Act 1999 (as amended) (“the Act”), the CRU issued a direction to EirGrid as the Transmission

5 This regulation lays down guidelines for the timely development and interoperability of priority corridors and areas of trans-European energy infrastructure in particular. The regulation also addresses the identification of projects of common interest and facilitates the timely implementation of projects of common interest.
System Operator to commence processing grid connection applications from electricity interconnectors with PCI status, see CRU/17/300 for further details.

1.3 Legislative Basis

1.3.1 Irish Legislation

Under section 16 of the Act, the CRU may grant or may refuse to grant to any person an authorisation to construct an interconnector and where the CRU grants such an authorisation, that authorisation shall be subject to such terms and conditions as may be specified in the authorisation.

Section 2A of the Act states, an interconnector owned by a person other than the board (i.e. ESB) may, where the CRU determines that it is in the public interest, be considered to be part of the transmission system for the purposes of calculating and imposing charges for the use of the transmission system. Furthermore, if an interconnector is constructed pursuant to section 16A it shall be deemed to be in the public interest.

Section 16A of the Act provides that, with the consent of the Minister, the CRU may secure the construction of an interconnector by:

- a competitive tender;
- an authorisation granted to a person without a prior competitive tender where the person demonstrates, to the satisfaction of the CRU, that the granting of an authorisation, subject to such conditions as the CRU deems necessary and appropriate, is in the long term interests of final customers; or
- requesting the transmission system operator to provide for the construction of an interconnector in its development plan.

In addition to the above and in accordance with Section 14 of the Act, the CRU may grant or refuse to grant to a licence to transport electricity across and maintain an interconnector.

Finally, pursuant to Section 9 of the Act, the CRU has responsibilities which include:

- protect the interests of final customers;
promote competition, efficiency and the use of renewable and sustainable energy;

- not discriminate unfairly between relevant stakeholders;

- to contribute to the development of the internal market and to the development of compatible regulatory frameworks between regions of the European Union, by engaging, co-operating and consulting with other national regulatory authorities, the Agency and with the European Commission in regard to cross-border issues;

- co-operate with other regulatory authorities at a regional level to foster operational arrangements to enable an adequate level of interconnection capacity within the region and between regions to allow the development of effective competition and improvement of security of supply, and;

- cooperate with other regulatory authorities at a regional level to develop rules on access to cross border infrastructure including allocation of capacity and congestion management.

1.3.2 EU Legislation

EU Directive 2009/72/EC

The CRU’s requirements under European legislation are also important. Under EU Directive 2009/72/EC (concerning common rules for the internal market in electricity) the CRU is required to take all reasonable measures to, “eliminate restrictions on trade in electricity between Member States, including developing appropriate cross-border transmission capacities to meet demand and enhance the integration of national markets.

EU Regulation No 347/2013 (TEN-E Regulation)

A PCI is afforded a number of additional benefits under the TEN-E Regulation. These benefits include timely implementation through streamlined planning.

6 Trans-European Energy Infrastructure Regulation (EU Regulation (EC) No 347/2013)
processes, improved regulatory conditions and access to financial support from the Connecting Europe Facility (CEF).

In particular, Article 12 (concerning cross border cost allocation) of the TEN-E Regulation, requires national regulatory authorities to make coordinated decisions on the allocation of the investment costs to be borne by each TSO. These coordinated decisions must be made within six months of receiving the last investment request from the promoters of a project of common interest. The CRU has, in the past, coordinated and made cross border cost allocation decisions for two gas projects. As in those decisions the CRU will apply ACER Recommendation 07/2013 (regarding cross border cost allocation requests) when assessing the completeness of the application file.

The submission of an investment request under Article 12 of TEN-E Regulation is not mandatory for project promoters who are not eligible for grants for works under the Connecting Europe Facility (e.g. because the project is commercially viable) or do not want to apply for grants for works.

In addition, Article 13 (concerning granting appropriate incentives) of the same Regulation, requires Member States and national regulatory authorities to grant appropriate incentives if;

- the net positive impact of a PCI is confirmed by a Cost Benefit Analysis (CBA), and;
- a project incurs higher risks for the development, construction, operation or maintenance than the risks normally incurred by a comparable infrastructure project.

7 Cross Border Cost Allocation Decision – Gaslink Twinning Project PCI
8 Cross Border Cost Allocation Decision – Shannon LNG Project PCI
9 ACER Recommendation 07/2013
10 Questions & Answers on the implementation of Regulation (EU) 347/2013 and the Connecting Europe Facility in the field of Energy
As required under Article 13(6) of the TEN-E Regulation, in November 2015 the CRU published an information note (CER/15/269) entitled “PCI Incentive Methodology in accordance with Article 13(6) of Regulation (EU) No. 347/2013”. In that paper, the CRU noted “while the existing policy adequately addresses the requirements of the TEN-E Regulation, there are other possible approaches to the evaluation and allocation of risk between the asset owner and the customer. Therefore the CER may consider the appropriateness or otherwise of the application of existing policy as it applies to different types of assets on a case-by-case basis”.

Finally, and as noted in CER/15/269, the CRU will take ACER Recommendation 03/2014 (on incentives for projects of common interest and on a common methodology for risk evaluation)\(^\text{11}\) into account when considering incentives for PCIs.

\(^{11}\) ACER Recommendation 03/2014.
2 European and National Energy Policy

2.1 EU Energy Policy

Physical interconnection of EU energy markets is considered important to achieving the European policy objectives of creating secure, competitive and sustainable energy in a single integrated internal energy market. EU legislation and policy explicitly facilitates interconnection between EU Member States. This is evident from the additional benefits afforded to projects with PCI status through the TEN-E Regulation, and the setting of electricity interconnection targets by the European Commission.

Electricity interconnection has the potential to contribute to EU energy policy objectives by; increasing cross border trading in electricity; enhancing security of supply, and; contributing to sustainability by integrating an increased level of renewable energy. The importance of electricity interconnection has been emphasised by the European Commission’s electricity interconnection targets of 10% and 15%\(^\text{12}\) to be achieved by 2020 and 2030, respectively. Ireland’s current electricity interconnection level is approximately 7%.

2.2 National Energy Policy

National energy policy objectives are closely aligned with the objectives of European energy policy. Published in 2015, the Department of Communication, Climate Action and Environment’s (“DCCAE”) 2015 Energy White Paper\(^\text{13}\) upholds the EU vision of further electricity interconnection. This is highlighted in CER/16/239 and further emphasised in DCCAE’s recent consultation\(^\text{14}\) on a policy for electricity

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\(^{12}\) Further details on interconnection targets can be found at [Commission Expert Group on electricity interconnection targets](#).

\(^{13}\) [Ireland’s Transition to a Low Carbon Energy Future 2015-2030](#).

\(^{14}\) [Draft National Policy on Electricity Interconnection in Ireland: Public Consultation](#).
interconnectors. DCCAE’s consultation paper describes Ireland’s positive approach to electricity interconnection and is aimed at providing policy certainty to interconnector developers and to the Irish public.

The CRU will take account of overarching national and EU energy policy when making decisions in regard to electricity interconnectors.
3 CRU’s 2016 Consultation (CER/16/239)

3.1 Evaluation and Assessments

As noted in section 1, in 2016 the CRU published a paper (CER/16/239 – “Policy for Electricity Interconnectors”) requesting submissions detailing what matters should be considered on a policy for electricity interconnectors. In that paper the CRU considered that a separate consultation on policy for electricity interconnectors was merited as:

- European policy explicitly favours further interconnection between Member States, providing for increased market efficiency, enhanced trading, improved security of supply and reduced curtailment;
- the provisions of the Third Package and the EU Network Codes require preferential treatment for interconnectors;
- interconnector projects are explicitly facilitated under the Projects of Common Interest (“PCI”) Regulations, and;
- interconnection is treated differently from generation and demand connections.

In CER/16/239 the CRU requested interested parties to provide submission as to the matters that should be considered in the development of a policy for interconnectors. The CRU received six responses to that consultation, the parties that submitted responses were:

- BGE
- EirGrid
- ESB GWM
- Greenlink (submitted two responses both private and confidential versions)
- IWEA

The CRU will take account of these responses when it publishes a separate draft decision paper regarding the assessment and evaluation of electricity interconnectors in April 2018.
4 Electricity Interconnector Projects

4.1 Greenlink Application of December 2017

The CRU has received a request to determine if an electricity interconnector is in the public interest to be considered part of the transmission system for the purposes of calculating and imposing charges for the use of the transmission system. The application was received, 22 December 2017, from Element Power in relation to the Greenlink electricity interconnector.

4.1.1 Project Description Greenlink - PCI 1.9.1

The Greenlink Interconnector is a proposed 500MW electricity interconnector linking the power grid in Ireland and Great Britain (GB). It is anticipated that the link will provide a new grid connection between the Great Island transmission substation in Wexford and Pembroke transmission substation in South Wales.

The developers of the Greenlink Interconnector assess that the interconnector has the potential to enable more wind development and reduce curtailment of wind in Ireland.

The developers consider that if built, it will provide more capacity between Ireland and GB and into continental Europe via the GB to continental Europe interconnectors. This capacity may help to converge market prices and enable the exploitation of renewable energy sources. Other possible benefits include increased security of supply, flexibility, capacity, system service provision and resilience in GB and Ireland via this interconnection. The Greenlink project promoter has submitted
the Greenlink application under Irish Legislation (Electricity Regulation Act 1999) and did not employ Article 12 of the TEN-E Regulation, at this juncture.

### 4.1.2 Greenlink requests from the CRU

In their application to the CRU, Greenlink set out its request for the CRU to:

- make a determination pursuant to Section 2A of the Electricity Regulation Act 1999 (as amended) that it is in the public interest for Greenlink to be considered to be part of the transmission system for the purposes of calculating charges and imposing charges for use of the transmission system, and;
- approve the proposed charging methodology for Greenlink based on a 25 year “cap and floor” charging methodology.

### 4.1.3 The Cap and Floor – Ofgem’s Initial Project Assessment

Ofgem (Great Britain’s Energy Regulatory Authority) has, in principle, awarded Greenlink a 25 year cap and floor\(^\text{15}\) regime in respect of 50% of Greenlink’s revenues. The cap and floor is based on Ofgem’s Initial Project Assessment. Consequently, Greenlink has requested, insofar as law and regulation permits, a symmetrical cap and floor regime in Ireland. In simple terms, the Greenlink Interconnector is, in principle, half underwritten by the consumer in GB and is requesting the Irish consumer to underwrite the remaining half.

Ofgem’s Initial Project Assessment assesses whether the project is likely to be in the GB consumer interests based on the projected costs and benefits. The Initial Project Assessment acts as an entry to Ofgem’s Final Project Assessment. Only projects that are likely to be in the consumer interest will progress to Final Project

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\(^\text{15}\) Regulatory framework that sets the maximum (cap) and a minimum (floor) on the level of revenues that can be gain/loss by project promoters
Assessment. At the Final Project Assessment stage the efficiency of the detailed project costs are assessed, as well as revising any information or aspect of the needs case that has changed significantly from the Initial Project Assessment.\textsuperscript{16}

Consistent with Section 9 of the Act, and in the spirit of cooperation, the CRU proposes to carry out an Initial Project Assessment on the Greenlink interconnector while considering issues specific to Ireland. Thereafter, if the CRU consider it likely for Greenlink to be in the public interest, the CRU will progress to a Final Project Assessment in cooperation with Ofgem.

The CRU’s proposed assessment timelines for the Greenlink interconnector are outlined below:

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{fig2.png}
\caption{CRU Proposed timeline for Greenlink Project}
\end{figure}

\textbf{4.2 Application from Celtic expected in 2018}

The CRU also expects to receive the Celtic Interconnector (a PCI project connecting Ireland and France) application later in 2018.

\textsuperscript{16} Proposal to roll out a cap and floor regime to near-term projects
EirGrid and their counterpart in France, RTE (“Celtic” project promoters), are proposing a 700MW electricity interconnector linking the power markets in Ireland and France. It is proposed that the link will provide new grid connection between a transmission substation in Cork and a transmission substation in Brittany in the Northwest of France.

The Celtic interconnector project has received EU grant funding through the Connecting Europe Facility (CEF) for studies, and the CRU understands that the project promoters plan to seek EU grant funding for works. Therefore the CRU will consider any grant received when carry out an economic assessment in respect of the electricity interconnector.

Given that this project is expected to apply for EU grants for works, the CRU understands the Celtic project promoters plan to submit an Investment Request as per Article 12 of the TEN-E Regulation. The CRU will process this application accordingly in cooperation with CRE (the French energy regulator).
5 Next Steps

The CRU has commenced a detailed assessment of the application request and expects to consult on the Greenlink application in early summer 2018. The CRU expects to make an Initial Project Assessment decision by the end of September 2018, and will continue to work in conjunction with Ofgem (the GB energy regulator).

The CRU also expects to receive the Celtic Interconnector (PCI connecting Ireland and France) application later in 2018, and will process this application accordingly in conjunction with CRE (the French energy regulator).

With regard to CER/16/239 (Policy for Electricity Interconnectors – initial call for comments paper), the CRU proposes to publish a separate draft decision paper in April 2018 which will focus on the matters to be considered in the evaluation of electricity interconnectors.