REPORT ON CONSULTATION ON DRAFT TRANSMISSION DEVELOPMENT PLAN 2016-2026

EIRGRID

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Abbreviations

ATR	Associated Transmission Reinforcement
CER	Commission for Energy Regulation
DSO	Distribution System Operator
EC	European Commission
ESB	Electricity Supply Board
FAQ	Firm Access Quantity
SI	Statutory Instrument
SONI	System Operator Northern Ireland
TDP	Transmission Development Plan
TSO	Transmission System Operator

Glossary

Associated Transmission Reinforcement (ATR)	ATRs are the transmission reinforcements that must be completed in order for a generator to be allocated Firm Access Quantity (FAQ). ATRs include reinforcements such as line and busbar upratings, new stations and new lines
Firm Access Quantity (FAQ)	The level of firm financial access available in the transmission network for a generator is that generator's FAQ. Firm financial access means that if a generator is constrained on or off, it is eligible for compensation in the manner set out in the Trading and Settlement code

Introduction

As the Transmission System Operator (TSO) for Ireland, we are responsible for the development of the Irish transmission network. We are obliged to develop a safe, secure, reliable, economical, and efficient transmission network to meet all reasonable demands for electricity, in accordance with our legal obligations.

We plan the development of the transmission network taking account of the long-term electricity system needs and the economics of various development options.

We have both statutory[1] and licence[2] obligations to produce a Transmission Development Plan (TDP) annually. Before the TDP can be approved the Commission for Energy Regulation (CER) is obliged to hold a public consultation on the draft TDP[3]. Based on the responses to the consultation we update the draft TDP, where necessary, and submit a consultation report alongside the final TDP for approval to the CER.

This document is the consultation report on the TDP 2016 consultation. It describes the consultation process and provides an overview of the submissions received and our responses to the issues raised.

Description of Consultation Process

We consulted the CER, Electricity Supply Board (ESB) in its role as Distribution System Operator (DSO) and System Operator Northern Ireland (SONI) prior to the draft TDP being issued for public consultation.

The CER held the public consultation on the draft TDP 2016-2026. The draft TDP was posted for consultation on the CER website on 02 March 2017 and the consultation ended 4 weeks later on 30 March 2017.

[1] Statutory Instrument No. 445 of 2000 (Paragraph 8) and EU Directive 2009/72 (Article 22)

[2] TSO Licence (Condition 8)

[3] European Directive 2009/72 (Article 22)

A notification of CER's consultation was sent, via email, to all CER's stakeholders subscribed to CER's info@cer.ie mailing list.

Purpose of the Transmission Development Plan

It is useful to outline the purpose of the TDP.

National and European strategic energy policy objectives set the context for investment in the Irish transmission system to ensure security of electricity supply, competitiveness of the national economy, and long-term sustainability of electricity supply in the country. To achieve these strategic objectives, it is necessary to invest in the development and maintenance of the electricity transmission system.

The primary objective of the TDP is to describe the transmission network reinforcements planned for the next ten years. The TDP explains:

- Our approach to network development;
- The drivers for investment, both policy drivers and technical drivers;
- The needs of the transmission network; and
- The planned network developments with expected project completion dates.

In so doing, the TDP raises awareness of planned network reinforcements. It is important to note; the TDP is neither a strategy-forming nor a policy-forming document.

Responses to the Consultation

The CER received two submissions in response to the consultation. These were from:

- Gas Networks Ireland; and
- SSE.

We would like to thank both parties for their responses. The rest of this report deals with the issues raised in these submissions. We have attached the two submissions to the back of this report.

In the following sections we summarise and respond to the submissions.

Welcome for the opportunity to respond to the TDP Consultation

Both respondents welcomed the opportunity afforded them by the consultation process to comment on the plan.

Summary of feedback

The Balance of Irish Demand Served by Wind

Summary of feedback

Gas Networks Ireland

"In 2016, despite an installed wind generation capacity of over 2,300 MW in the Republic of Ireland, wind accounted for an average of just 5.5% of system demand over the course of the 2015/16 peak day which occurred on the 25th of February. At one point, wind generation accounted for just 0.6% of electricity demand in that year. Similarly wind accounted for just 1.1% of demand on the 2014/15 peak day. The balance of system demand is principally made up of thermal generation along with some electricity imports and other renewables."

Our response

We agree with the respondent that the balance of system demand is principally served by thermal generation. However as Ireland continues to transition to a Low Carbon Energy Future as detailed in the Energy White Paper[4], the fuel mix in Ireland is ever evolving. At the end of 2014 the amount of wind capacity installed in Ireland reached 2,165 MW[5]. At the end of 2016 this figure had risen to an installed capacity of over 2,740MW[6]. Figures 1 and 2 below show the fuel mix for demand served in Ireland in 2014 and 2016, respectively. As can be seen from these figures, wind and renewables are

[4] http://www.dccae.gov.ie/en-ie/energy/topics/Energy-Initiatives/energy-policy-framework/white-paper/Pages/White-Paper-on-Energy-Policy-in-Ireland-.aspx

[5] Source: All-Island Generation Capacity Statement 2015-2024.

[6] Source: All-Island Generation Capacity Statement 2017-2026.

supplying an ever increasing amount of demand in Ireland, with RES supplying 26% of demand in Ireland in 2016.

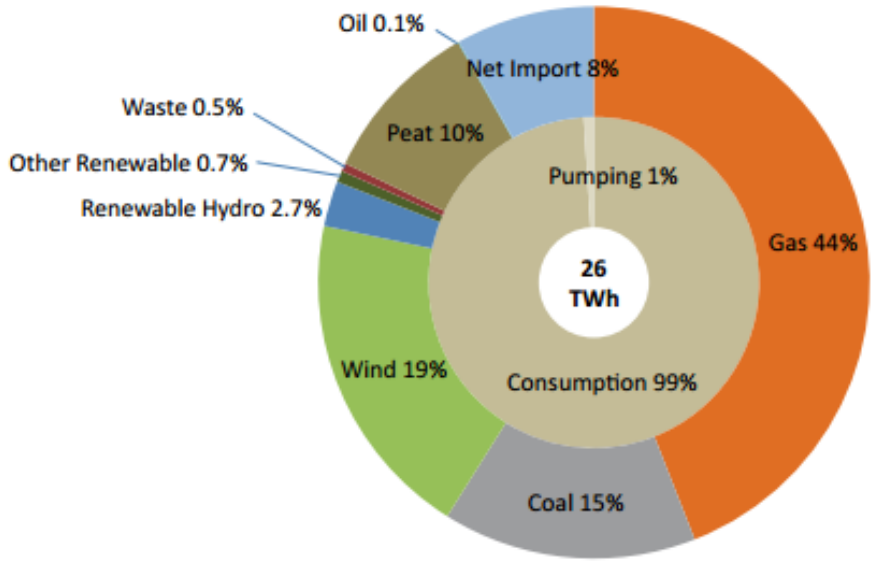

Figure 1: Fuel mix in Ireland in 2014 (Source: All-Island Generation Capacity Statement 2016-2025)

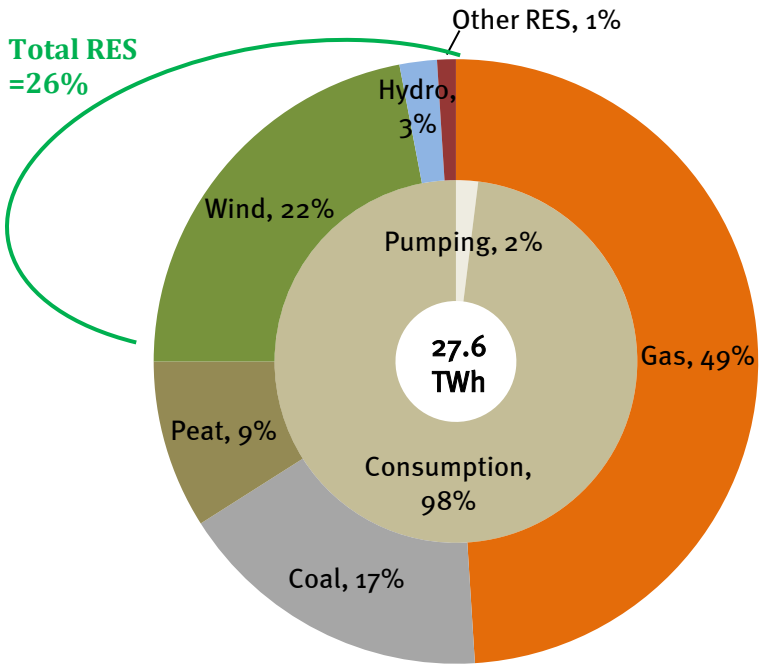

Figure 2: Fuel mix in Ireland in 2016 (Source: All-Island Generation Capacity Statement 2017-2026)

Summary of feedback

Interconnection – North South; Celtic Interconnector; and Ireland-GB Interconnection

Summary of feedback

Gas Networks Ireland

"GNI is very supportive of the work related to providing and facilitating interconnection capacity with regard to the North South Interconnector. The North South Interconnection Development work will significantly increase cross-border transmission capacity, enhance security of supply and remove constraints thus improving competition and economic operation."

GNI recognises that there are potential benefits of interconnection between Ireland and France. However, GNI has also concerns about possible future interconnection with France and possible further interconnection with the UK, including;

- Business cases for interconnection - existing infrastructure in the Irish Energy System needs to be considered before investing in new infrastructure;
- Interconnector reliability and the impact of existing and planned French-interconnection to the rest of Europe on the ability of Celtic interconnector to supply Ireland when required;
- GNI stress the need to ensure appropriate analysis is performed including:
  - Detailed risk and benefit analysis;
  - Impact assessment on existing transmission system and customers; and
  - Appropriate evaluation of the interdependencies between the gas and electricity networks must be considered.

Our response

We agree with the respondent of the importance of the North South Interconnector. The project is currently progressing through the planning processes in both jurisdictions. Further information on the North South Interconnector is available on our website here.[7]

Regarding further potential interconnection - interconnection is viewed as critical infrastructure by the Irish Government and the European Commission. It enhances security of supply and helps the move to a genuinely integrated electricity market. Interconnection development relieves international grid congestion, in much the same manner as national transmission development alleviates congestion of the transmission system within any individual jurisdiction. It also enables most efficient dispatch and associated market trades.

Appendix D of the TDP documents the Irish projects in European plans at the data freeze date, 31 March 2016. This includes a list of EirGrid and third party projects that are currently in European Plans, including interconnection projects between Ireland and France, and Ireland and Great Britain.

The Celtic interconnector is a proposed electrical interconnector between Ireland and France. We are currently investigating the opportunity for this infrastructure with the French TSO, Réseau de Transport d'Electricité (RTE). This project is currently in the early stages of development. No decision has been made on whether or not to build the Celtic Interconnector. This decision will be made by EirGrid, RTE, and our respective shareholders[8], in consultation with the energy regulators in Ireland and France.

Any decision to proceed to construct the project would be supported by a rigorous cost benefit analysis which would include an assessment of the effect on consumers, producers and existing interconnectors operating in the electricity market. This analysis will consider risk analysis, interconnector reliability/availability and the impact of existing and planned French interconnection to the rest of Europe as suggested by the respondent.

[7] http://www.eirgridgroup.com/the-grid/projects/north-south/the-project/

[8] In EirGrid's case, the Irish Government.

The project will only go ahead if there is a net benefit to both Ireland and France. We would also submit a planning application to the appropriate planning authority. Further information on the Celtic Interconnector is available on our website here.[9]

Summary of feedback

Impact of Tomorrow's Energy Scenarios on TDP

Summary of feedback

SSE

"The TSO is currently consulting on scenarios to feed into its grid development plan. The scenarios will be reviewed every two years which will presumably result in the development plan also being updated, if the development plan is the accepted formal plan for investment. The scenarios will be reviewed every two years in this way and any other new information available to us on trends, changes in the industry, and other relevant factors will be included. This two-year cycle of 'review and renew' will be ongoing. We would welcome clarity on whether these scenarios if or how these scenarios will be reflected in the TDP."

Our response

Transmission Development Plan 2016 has a data freeze date of 31 March 2016. TDP 2016 was therefore based on the best information available at this date. Section 2.6 of draft TDP 2016 refers to the fact that, at the data freeze date, the approach and methodology for network development was under review, with a view to enhancing our network development and consultation processes.

Since the data freeze date, we have published the following documents:

- Our updated Grid Development Strategy[10];
- A consultation on Tomorrow's Energy Scenarios[11] ; and

[9] http://www.eirgridgroup.com/the-grid/projects/celtic-interconnector/the-project/

[10] http://www.eirgridgroup.com/the-grid/irelands-strategy/

[11] http://www.eirgridgroup.com/customer-and-industry/energy-future/

- Have Your Say[12].

The updated approach and methodology will be reflected in future TDPs. As such, the impact of Tomorrow's Energy Scenarios will be captured in future TDPs.
Please note that in Section 2.6 of final TDP 2016 we have included a reference to the three documents that have been published since the data freeze date. We also state that the updated approach will be reflected in future TDPs.

Summary of feedback

Clear Measurable Milestones for Transmission Investment

Summary of feedback

SSE

"EirGrid is in the process of developing its new Grid Development Strategy, in January 2017 it published a technical report, the detail of which is at a similarly high level to that in the TDP. If this document is to be the basis for transmission investment for Ireland we believe it needs to be more detailed with clear measurable milestones. Again, we would welcome clarity on this.
As a developer, we are seeking clarity from both the CER and network companies on what documents to consider when making investment decisions. There is no clear guidance on what information is considered sufficiently firm to underpin development."

Our response

TDP 2016 presents our plan to develop the network over the next ten years. The TDP presents the projects which are currently being advanced to solve the needs of the transmission network. The TDP provides information on all our transmission development projects and we update it every year. The TDP endeavors to be as customer focused as possible, with the document undergoing a transformation in recent years to make it more accessible, whilst retaining the required level of detail.
As Section 5.3 of TDP 2016 highlights, the development of the transmission network is subject to delivery risk. We use risk management plans and processes to identify,

[12] http://www.eirgridgroup.com/the-grid/have-your-say/

analyse, monitor and manage project and programme risks. We provide project Estimated Completion Dates (ECDs) based on the best project information available at the time of the data freeze, 31 March 2016. Certainty with regard to completion dates increases as a project progresses.

The Technical Report which accompanies the updated Grid Development Strategy provides information, similar to that in the TDP, on all our major projects and a selection of regional projects.

We also publish a quarterly Associated Transmission Reinforcement (ATR) [13] report to provide customers with up to date information regarding the progress of the delivery of all ATR projects. ATRs are projects associated with the delivery of transmission network infrastructure necessary for the firm access of customers.

The ATR status update includes information on:

- Scheduled ATR Completion dates; both the assumed completion date used in latest Firm Access Quantities (FAQ) Analysis (2012) and latest updated completion date;
- Changes to the ATR since previous quarterly update; and
- Any comments on the ATR, including information on project risks.

This information is updated every quarter and available on our website[14].

In addition, the CER published project information in the Joint TSO/TAO Capex Monitoring Report as part of Price Review 3 (PR3). The report provided a project timeline for all capital projects with a total forecast expenditure of greater than €10 million. The report also provided original and updated forecast completion dates and comments regarding project progress and risk. The report was updated quarterly and the reports are available on the CER website[15]. At the time of writing this consultation report it is

[13] http://www.eirgridgroup.com/customer-and-industry/general-customer-information/operational-constraints/

[14] www.eirgridgroup.com

[15] https://www.cer.ie/document-detail/PR3-Transmission-Capital-Expenditure-Monitoring/457

assumed that PR4 Capex Monitoring Reports will provide more comprehensive data compared to that in the PR3 reports[16].

Depending on the project data that is required, customers and stakeholders may consult the following documents:

- The updated Grid Development Strategy and the accompanying Technical Report – the strategy will be reviewed on a regular basis to ensure that it continues to be up to date and fit for purpose;
- The Transmission Development Plan which is updated every year; and
- The Associated Transmission Reinforcement Report which is updated every quarter.

Once the PR4 Capex Monitoring Framework is in place, the resulting Joint TSO/TAO reports will be a useful source of project information.

We also publish the All-Island Generation Capacity Statement (GCS) and the All-Island Ten Year Transmission Forecast Statement (TYTFS). In the GCS we forecast the likely balance between supply and demand for electricity. In the TYTFS we detail:

- Opportunities for connecting new demand and generation; and
- Forecast power flows and short circuit current levels.

These documents are also a helpful source of information for customers and stakeholders.

Those who are considering connecting to the Irish transmission system should contact us. It is advisable to consult us early in the project process. Customers can contact us at info@eirgrid.com for further information.

[16] See next section "Capex monitoring for PR4 2016-2020" for an update on the PR4 Capex Monitoring Framework.

Summary of feedback

Capex Monitoring for PR4 2016-2020

Summary of feedback

SSE

"The delivery of infrastructure has been challenging over the past few years with significant delays being experienced by developers. In the PR3 period a capex monitoring tool was used by the CER to track actual project progress through the price control term. In its PR4 determination the CER stated that it "intends to put in place a more comprehensive and active Capex monitoring framework". We are concerned that this framework is not yet in place."

Our response

As an input into the development of a more comprehensive and active PR4 Capex Monitoring Framework, EirGrid and ESBN have submitted a joint PR4 Capex Monitoring proposal to the CER. Interested parties should contact the CER for further information.

Submissions received

Commission of Energy Regulation

Draft Transmission Development Plan 2016 - 2020

Gas Networks Ireland Response

30th March 2017

Introduction

Gas Networks Ireland (GNI) welcomes the opportunity to respond to the consultation on Eirgrid's Draft Transmission Development Plan 2016-2020 published by the Commission for Energy Regulation (CER) on the 2nd of March. GNI was incorporated on the 13th of January 2015 as a fully owned subsidiary of Ervia (formally known as Bord Gáis Éireann). GNI is responsible for the safe, reliable and efficient transportation of Ireland's gas demand (representing 30% of Ireland's primary energy) through the state-owned natural gas network.

Natural gas mades up circa 40% of the fuel mix for electricity generation in Ireland. Gas-fired power stations are a vital system component to accommodate sudden changes in electricity demand or supply. Ireland has one of the highest levels of wind penetration in Europe and requires the security of gas fired power plants and the gas network to back up this intermittent source of renewable energy. The severe weather conditions experienced in both January and December 2010, demonstrated the need for significant backup to renewable electricity generation. The temperatures in certain parts of the country plummeted to -18°C during those months and energy demand, for both gas and electricity, reached record highs. Winds were relatively light during these periods, with the low level of wind generation requiring conventional plant to generate almost all of the high levels of electricity required. In 2016, despite an installed wind generation capacity of over 2,300 MW in the Republic of Ireland, wind accounted for an average of just 5.5% of system demand over the course of the 2015/16 peak day which occurred on the 25th of February. At one point wind generation accounted for just 0.6% of electricity demand in that year. Similarly wind accounted for just 1.1% of demand on the 2014/15 peak day. The balance of system demand is principally made up of thermal generation along with some electricity imports and other renewables.

The CER has stated that it would welcome comments on all aspects of Eirgrid's draft TDP but it is specifically requesting stakeholders views on planned interconnection, forecast generation and demand growth, and the impact of further transmission development on security of supply.

Planned Interconnection

Eirgrid has highlighted three electricity interconnections in the Transmission Development Plan which are the North South Interconnector between Ireland and Northern Ireland, the possible interconnector between Ireland and France (known as the Celtic Interconnector) and possible further interconnection between Ireland and Great Britain.

GNI understands the importance of electricity interconnection and the benefits that it can bring to the Irish energy system. GNI is very supportive of the work related to providing and facilitating interconnection capacity with regard to the North South Interconnector. The North South Interconnection Development work will significantly increase cross-border transmission capacity, enhance security of supply and remove constraints thus improving competition and economic operation.

However, GNI has concerns about possible future interconnection with France and possible further interconnection with the UK. It is essential that any analysis of additional interconnection considers the macro-economic implications of this additional interconnection. There are strong interdependencies between the gas and electricity networks and these must be considered. In particular, the potential impact on gas demand and on utilisation of the gas network where electricity is imported rather than being generated in Ireland must be considered. In addition, consideration must be given to the impact of additional interconnection on existing gas-fired power plants where it results in lower load factors.

GNI believes that the exisiting infrastructure in the Irish Energy System needs to be considered before investing in new infrastructure. It is essential that transparent and rigorous analysis is undertaken when assessing the financial benefits of additional interconnection and that the assumptions underpinning the analysis are tested thoroughly. It may be worth examining the original business cases for the current interconnection with the UK to understand if the expected benefits came to fruition and whether the expected import/export ratios were accurate.

There are a number of possible advantages to the potential Celtic Interconnector between Ireland and France. For example, the weather in Ireland is less correlated to the weather in France which may create more import/export opportunities. France is connected to the Central Western European power market which should provide security of supply and may provide upside with regard to electricity prices.

However, the fact that France is heavily interconnected may also pose a risk for Ireland. There have been occasions where France has been dependent on its neighbours for imports. For example in Winter 2016/17, France experienced a very cold spell and was heavily dependent on power imports from Germany even though most of France's nuclear reactors were online.[1] If there is an emergency event in a number of countries there is a concern that electricity will not flow across the Celtic Interconnector to Ireland where it may be needed. There may also be a risk with regard to the French peak as it is highly weather dependent. This is due to the fact that France gets a lot of its space heat from electric units which during cold spells could prove challenging for exports. Another source of concern is the risk of outages as there have been a number of recent outages on the electricity interconnectors between Ireland and the UK and between the UK and France. The reliability of electricity interconnectors is an important consideration.

The benefits and risks associated with an interconnector between Ireland and France must be considered very carefully as this would be a significant financial investment. GNI believes that a more detailed assessment is required for the Celtic Interconnector than perhaps was carried out for the existing electricity interconnectors between Ireland and the UK.

[1] http://energypost.eu/france-cant-meet-power-demand/
Energy Post article published on January 24, 2017.

Response to the Consultation on EirGrid's Draft TDP for 2016-2026

SSE Response to

the Commission for Energy Regulation

2017

INTRODUCTION

SSE welcomes the opportunity to comment on EirGrid's TDP for 2016 – 2026 which was published for consultation by the CER. The TDP provides vital information for industry stakeholders by setting out EirGrid view on required network investment.

We have not provided comments on each individual projects, our comments related more so to the purpose of the plan and interdependencies of other TSO documentation and obligations.

Network delivery

The CER published its PR4 determination in 2015. This set the Capex allowance for transmission network development in the 2016 – 2020 period. The document did not set out a list of approved projects.

The delivery of infrastructure has been challenging over the past few years with significant delays being experienced by developers. In the PR3 period a capex monitoring tool was used by the CER to track actual project progress through the price control term. In its PR4 determination the CER stated that it "intends to put in place a more comprehensive and active Capex monitoring framework[1]".

We are concerned that this framework is not yet in place. This means that industry stakeholders and consumers have no insight into the capex expenditure. The capex monitoring reports published by CER have historically been a useful information source to track project progress. SSE would welcome clarity from the CER on when this tool will be implemented and what approach will be taken to ensure the grid is delivered in a timely and cost effective manner. It is essential that spending of monies collected from customers is done in a transparent and efficient manner to ensure that infrastructure is developed to customers and the industry's best interests. In the absence of a clear framework, SSE is unsure how the CER can monitor and ensure this occurs.

SSE seeks an implementation plan for the framework with a short timeline for delivery.

PR4 and future development

[1] https://www.cer.ie/docs/001043/CER15296%20Decision%20on%20TSO%20and%20TAO%20Transmission%20Revenue%20for%202016%20to%202020%20(1).pdf

The TSO is currently consulting on scenarios to feed into its grid development plan. The scenarios will be reviewed every two year which will presumably result in the development plan also being updated. If the development plan is the accepted formal plan for investment

The scenarios will be reviewed every two years in this way and any other new information available to us on trends, changes in the industry, and other relevant factors will be included. This two-year cycle of 'review and renew' will be ongoing[2]. We would welcome clarity on whether these scenarios if or how these scenarios will be reflected in the TDP.

In addition, EirGrid is in the process of developing its new Grid Development Strategy, in January 2017 it published a technical report, the detail of which is at a similarly high level to that in the TDP. If this document is to be the basis for transmission investment for Ireland we believe it needs to be more detailed with clear measurable milestones. Again, we would welcome clarity on this.

As a developer, we are seeking clarity from both the CER and network companies on what documents to consider when making investment decisions. There is no clear guidance on what information is considered sufficiently firm to underpin development.

[2] http://www.eirgrid.ie/site-files/library/EirGrid/EirGrid-Technical-Appendix-to-Grid-Strategy-(Download).pdf