EirGrid PR5 Submission

Executive Summary

EIRGRID

Disclaimer

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IMPORTANT NOTICE.

The contents contained in this paper represent a part of the information EirGrid has provided to the Commission for Regulation of Utilities (CRU) in advance of the CRU's public consultation for Price Review 5 (PR5). Given the confidential nature of some of the contents of the original EirGrid submission to the CRU, we have removed a number of aspects of our submission which we issued to the CRU on 30 November 2019. Detailed costings have been removed which could impact on the procurement of products and services by EirGrid on the behalf of electricity consumers, KPMG reports have been removed as we are bound to do so by our contract and cyber/physical security details have been removed due to security of supply reasons . Our submission seeks to leverage the benefits of a single integrated system operator to unlock benefits for all customers connected to the transmission system. Through this approach we can deliver cost savings to the Irish electricity customer Many of the initiatives we are proposing are shared, this unlocks value through economies of scale and delivers cost savings to customers. These initiatives are outlined further in Part 3.

This document aims to provide electricity consumers and industry stakeholders with information as to EirGrid's planned outputs as part of PR5. As part of this publication, we have included a range of output metrics and targets (Appendix S). This aims to ensure full transparency with regard to EirGrid's performance throughout the PR5 period. The targets set out in Appendix S are conditional on the inputs being provided by the CRU as part of PR5. Without sufficient funding, EirGrid will not be capable of delivering the outputs. Given this, should the CRU reduce the inputs as requested by EirGrid, we reserve the right to recalibrate the metrics based on the level of funding.

Our PR5 proposals as submitted to the CRU on 30 November 2019, aim to enhance the capability of EirGrid to deliver an improved quality of service to our customers and stakeholders. Our submission contains proposals outlining a range of new initiatives that we are proposing to deliver during PR5. We recognise, that these new initiatives will represent a small cost increase to the electricity customer, however in the context of forecast demand growth at the time of the original submission this actually resulted in a net decrease in costs to customers. These initiatives will enable the delivery of a better quality of service for all customers, providing EirGrid the resources required to operate the electricity system with unprecedented levels of intermittent renewable generation, and finally, a step change in the level of engagement EirGrid delivers to both direct customers but also members of communities that EirGrid interacts with.

Introduction

EirGrid operates, develops and maintains Ireland's electricity transmission system.

This document sets out our business plan submission to the Commission for Regulation of Utilities, for the period from 1 January 2021 to 31 December 2025, also referred to as Price Review 5 (PR5). It also sets out at a high level our performance during the current price control period, 1 January 2016 to 31 December 2020, also referred to as Price Review 4 (PR4).

While our direct costs are approximately 1% of the typical domestic electricity bill, our actions and decisions positively influence a much larger proportion. Unlocking the value for customers in these areas is a key focus of our business plan.

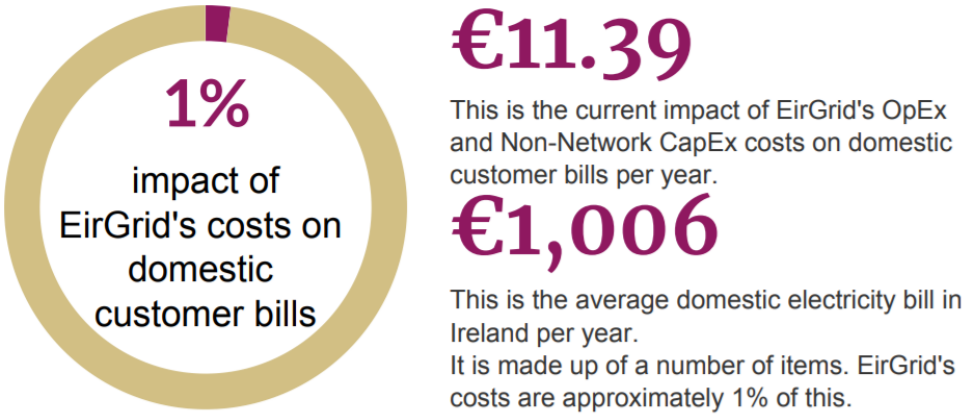


Figure 1. EirGrid Costs to Customers during PR4

This submission for PR5 has been developed against the backdrop of a strong and growing Irish economy. The expenditure proposals set out in this plan are designed to support that growth and to help ensure Ireland has a fit for purpose electricity infrastructure. Economic forecasters currently expect economic growth of 3.25[1]% per annum in the period 2020 - 2025. With increasing energy intensity and new large scale loads electricity demand is forecast to grow by 19% in the same period.

With prosperity comes a different set of challenges. Whilst EirGrid has delivered real cost savings and real reductions in input costs during PR4, we will see upward cost pressures in the PR5 period. The market for both skilled labour and Information Communication and Technology are particularly buoyant. These are key inputs to EirGrid's business.

[1] The ESRI estimates an annual average medium term growth rate of the economy at 3.25% in the period 2020 - 2025

The community and stakeholder environment in which we operate is also increasingly complex. We continue to invest in this important area to ensure that all voices are heard and that the projects we deliver do so taking into account stakeholder views.

This submission has been influenced and shaped by the objectives and vision set out by CRU in relation to this process on grid delivery, decarbonisation and local security of supply. In each instance these are underpinned by cost efficiency and a regulatory framework which supports the delivery of value to customers.

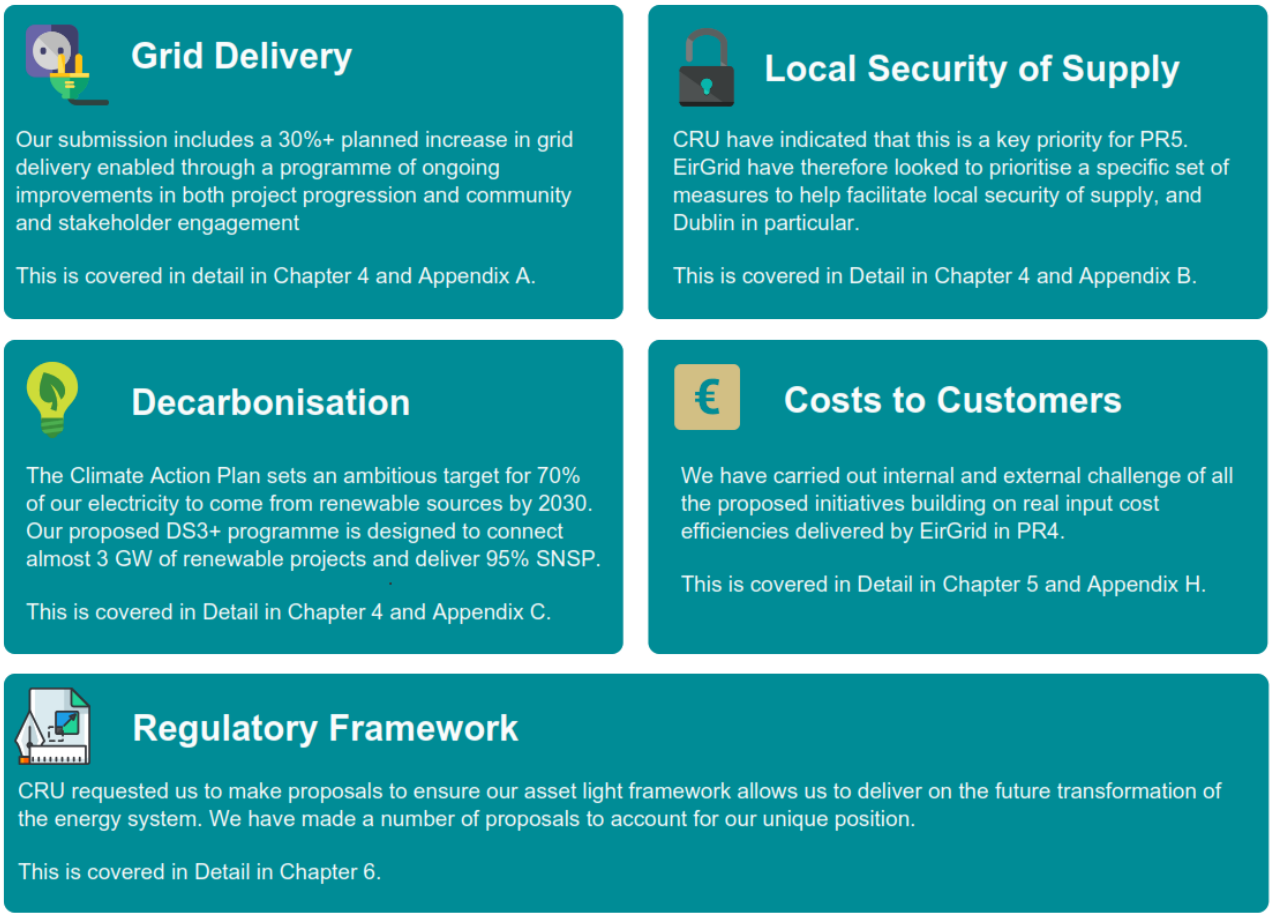


Figure 2. CRU objectives and vision

The second influence has been the EirGrid strategy which was launched in September 2019. Our strategy was underpinned by extensive consultation with external stakeholders and this feedback has helped shaped what our stakeholders want and expect from us.

Figure 3. EirGrid Strategy

Our strategy will enable us to help Ireland manage the energy transition and deliver a power system fit for future generations. The regulatory framework, and the regulatory allowances provided by the CRU, are key enablers to support this transition and to ensure that the value EirGrid can deliver is unlocked for electricity consumers.

Key Achievements during PR4

There has been a significant change in the energy system during the PR4 period. By the end of this period we will have successfully enabled 40% of the electricity demand being met by renewable sources. This was in parallel with the delivering of the Integrated Single Electricity Market (I-SEM) which went live in 2018.

These changes have resulted in EirGrid managing a significant increase in volume and complexity of our day to day work, which was not envisaged during the time of the submission of the PR4 plan.

Figure 4. Key PR4 Achievements for first 3 years

Financial Performance during PR4

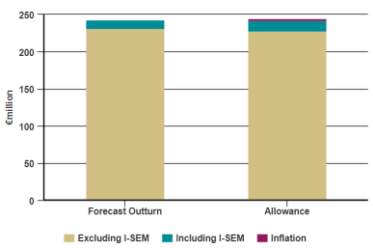
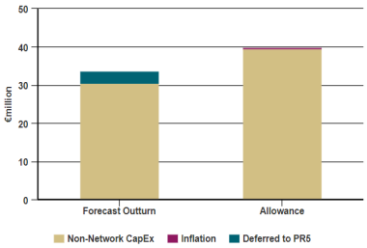
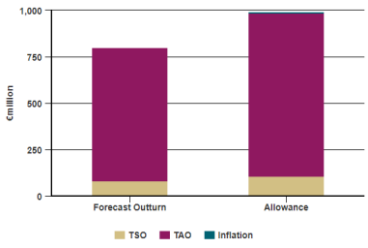
The current regulatory framework incentivises EirGrid to operate within the allowances provided by CRU for the price control period as it bears 100% of any costs incurred over and above this.

With the increased volume and complexity of the day to day work during the PR4 period EirGrid found it challenging to operate within the allowances provided by CRU. Our forecast outturn for PR4 is broadly in line with the operational allowances provided by CRU, but current expenditure is running above the allowances in the final years and cost pressure continue to increase going forward.

Even in the context of this challenge we have continued to deliver efficiencies to the benefit of customers throughout the control period. Many of these efficiencies were delivered through realising further synergies with SONI, the Transmission System Operator in Northern Ireland.

Both the transmission system and market are operated on an all island basis and with the changes in I-SEM are increasingly integrated. EirGrid bears only a proportion of the costs of delivery of all island initiatives, often as low as 50%. Customers in Ireland therefore benefit from significant economies of scale and see significantly lower costs than if EirGrid had to carry out these functions standalone.

Even though our costs are a relatively modest part of the overall electricity bill, we can influence a significant portion of the overall bill. For example we have delivered in excess of €33.5m in Imperfection Cost savings during the first three years of the current price control period. Furthermore the introduction of the new Capacity Market has delivered substantial savings for Irish electricity consumers (€100m+).

OpEx	Non-Network CapEx	Network CapEx
		
Forecast outturn of €242.8m against an adjusted allowance of €244.7m. Adjusted for I-SEM re-opener and inflation	**Forecast outturn of €33.7m against an adjusted allowance of €39.6m. Adjusted for inflation. €3.2m deferred to PR5.**	**Forecast outturn of €801m against an adjusted allowance of €993. Adjusted for inflation**

New Initiatives for PR5

In this submission we set out the initiatives that we need to progress for a decarbonised energy system which is ready to meet the ambitious targets set out in the Climate Action Plan.

We also remain focused on our primary role to operate, develop and enhance the grid and market. This is essential if we are to ensure a safe, reliable and cost effective power system.

We understand the importance of keeping the impact on consumer bills to a minimum. We have therefore adopted a meticulous approach to challenging the new initiatives. This has involved extensive challenge at all levels of our organisation to ensure the right initiatives have been brought forward at the lowest possible costs for our customers. Furthermore we have retained KPMG as independent advisors to assist in this challenge process.

We are part of the wider EirGrid Group and therefore benefit from economies of scale as we share resources and undertake joint procurement initiatives with the Northern Ireland TSO. EirGrid contributes to the overall cost of new initiatives in line with the EirGrid Group Cost Allocation policy. This results in Irish consumers paying less for outcomes and outputs than would otherwise be the case. This is however dependent on such sharing of costs and activities on an all-island basis being permissible within the regulatory frameworks in both Ireland and Northern Ireland.

We have produced a submission to the CRU outlines a range of new initiatives for the PR5 period. These initiatives are interlinked and no one one single output or outcome can be effectively delivered in the absence of the complementary initiatives. These initiatives are linked to our new strategy and are summarised in the table below. They will deliver the following benefits:

Sustainability and Decarbonisation

- Establish effective processes and tools to operate a power system where the majority of the power comes from non-synchronous intermittent sources;
- Strengthen data and communications networks to secure better access to real-time data and the means to analyse it; and
- Promote more informed choices through an improved approach to investment appraisal and improved engagement with internal and external stakeholders.

Operate, Enhance and Develop the Grid and Market

- Deliver efficient, economic operation of the power grid for the benefit of all customers in Ireland and deliver value for money;
- Improve the resilience of the operation of the power system in Ireland;
- Secure the operation of the grid (in partnership with ESB Networks) in a manner, which is capable of addressing the latest physical and cyber security threats; and
- Meet the core remit of the TSO in a way which complies with changes to the regulatory and legal environment, adhering to emerging changes in industry standards and best practice.

Engage for Better Outcomes for All

- Continue to transform our engagement with customers, communities and the public, and build world class stakeholder relationships; and
- Improve the connection process for new and existing customers.

The total cost of these initiatives is less than €1.60 per year on the average annual domestic customer bill. This is however offset through reductions in costs elsewhere and growing overall energy demand. This will result in overall unit prices falling during the PR5 period.

Sustainability & Decarbonisation

75c
Impact to customer bills per year

No.	Initiative	Description
1	Renewable Strategy (DS3+)	This programme will ensure that the system can operate with world leading levels of renewables and new technologies.
2	Control Centre Tools	These tools will ensure that the system can operate with world leading levels of renewables and new technologies.
3	Smarter Outage Management	To manage the increased complexity of managing transmission outages.
4	Clean Energy Package	Initial funding to help scope requirements in this legislation.
5	Migration to IP Communications	To facilitate the increased volume of communications with decentralised sites.
6	Data Science	Initial funding to help scope requirements to manage increased volume of data.
7	System Planning	To manage the increased complexity associated with the new technologies and renewables.
8	Promoting Change	To build internal and external stakeholder trust.

Operate, Enhance & Develop the Grid and Market

60c
Impact to customer bills per year

No.	Initiative	Description
1	Enduring Access Planning	To manage the increased volume and complexity associated with new technologies and renewables.
2	Control Centre Training	Due to new systems and tools we need to keep pace in our training environments.
3	Physical Security	Investment is needed on the physical security of our sites.
4	Cyber Security	We need to keep pace with threats in this area.
5	European Network Codes	We need to manage increased obligations.
6	Capacity Market: Secondary Trading	To deliver on this functionality which was de-scoped for I-SEM go-live.
7	DSU Compliance with State Aid	This is required to ensure compliance with the EC state aid decision.
8	Capacity Market: Algorithm Change	This will help deliver savings for customers.
9	Capacity Market: State Aid Cross Border	To facilitate cross border participation.
10	Governance, Risk Management & Compliance	To manage increased requirements in this area.
11	Metering System	To ensure this can manage increased volume into the future.
12	Project Delivery Support	Skilled operational staff are required to support IT project delivery.
13	Electricity Balancing Guidelines	This refers to the resources required to apply the requirements of the Electricity Balancing Guidelines to current balancing practices.
14	Multi – NEMO Arrangements in the SEM	This will see the introduction of designated NEMOs into SEM.

Engage for Better Outcomes for All

24c
Impact to customer bills per year

No.	Initiative	Description
1	Education & Engagement Campaign	To increase our stakeholder engagement to help us shape an energy transition to benefit customers.
2	Customer Journey	To improve and streamline the connection process, from initial enquiry through to commissioning.
3	Framework for Development of the Grid	To continue to develop and improve the current framework, including increased engagement on the ground to support grid delivery.

Regulatory Framework

As part of this submission we have been requested by CRU to look at whether our regulatory framework is fit for purpose for the future. We retained KPMG as independent advisors to assist with this process.

The outcome of this review is that whilst we believe that the framework is in general robust and well designed that customers would benefit from a number of modest changes to the existing framework. These changes include:

- An **Enhanced Benefit Sharing** framework which ensures customers see greater benefits through EirGrid being incentivised to deliver to stretching targets;
- A **Monitoring Committee** to deal with uncertainty and ensure customers are protected from the equally damaging risks of value adding projects not progressing or excessive allowances being provided for;
- The explicit introduction of **Real Price Effects** to help ensure those elements which EirGrid proposes be delivered, and with which CRU agrees, can actually be delivered; and
- Finally the introduction of a premium for **Asymmetric Risk** which enables the CRU to undertake a review of EirGrid's costs *ex post* without compromising its underlying financeability and protects the integrity of the regulatory framework.

Delivering Outcomes and Outputs

Our approach to this price control is focused on outputs and outcomes. The aim of the Enhanced Benefit Sharing framework proposed by us is to enhance the price control in an important way, to one where every decision made is about doing the right thing and unlocking value to the benefit of Irish customers. It also looks at the appropriate trade-off between input and output costs.

We therefore propose that a number of key areas are assessed as shown in the figure below. Appendix S contains our proposals which we submitted to CRU in February 2020.

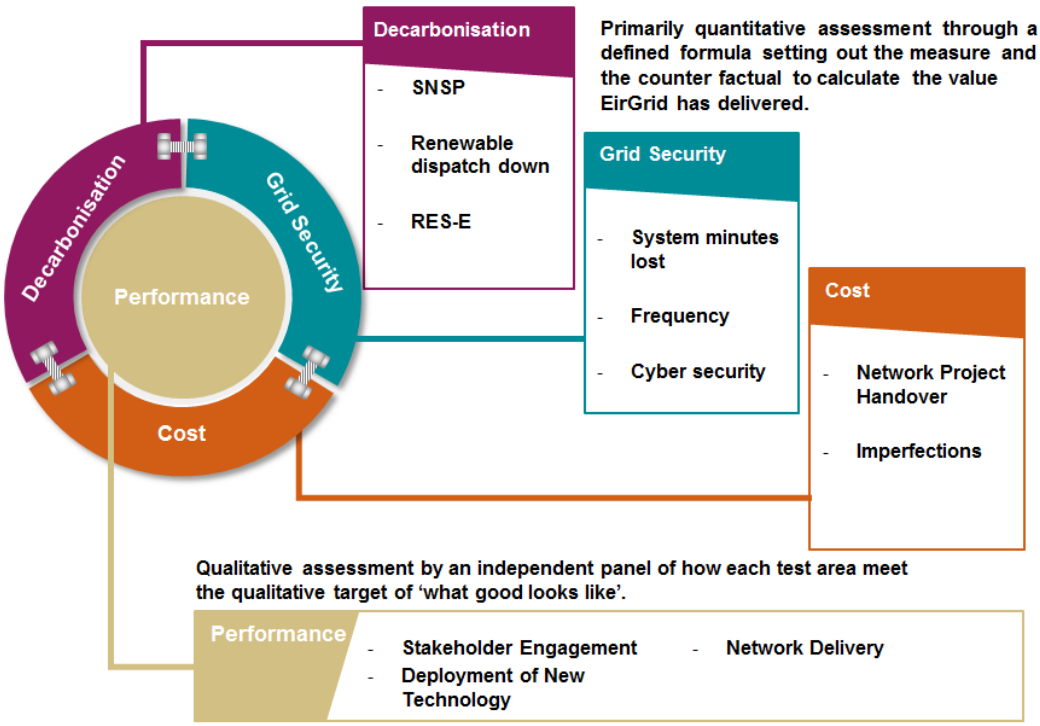


Figure 5. Enhanced Benefit Share

The purpose of the Monitoring Committee is to review projects that have a high degree of uncertainty. This will prevent EirGrid from being exposed to windfall gain or losses, however will allow essential projects to proceed in a timely basis. We propose that CRU, the Department of Climate Change, Communications and the Environment and EirGrid are on this monitoring committee and that it meets twice a year.

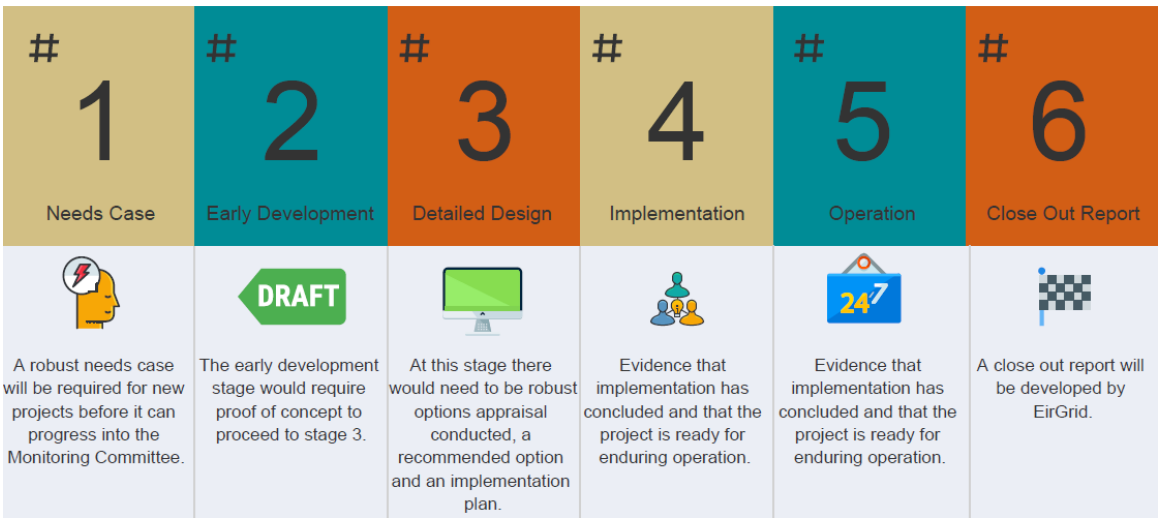


Figure 6. Monitoring Committee

We have retained the existing regulatory framework for the remuneration of capital. Overall, under the proposals in this submission we will see lower returns on capital employed in the forthcoming period than for the current one. This delivers further savings and value to customers. We have sought adjustments to the framework to ensure that there is symmetry in its application. This ensures customers can continue to benefit from regulatory oversight of EirGrid's activities whilst at the same time EirGrid can continue to source finance to carry out its activities.

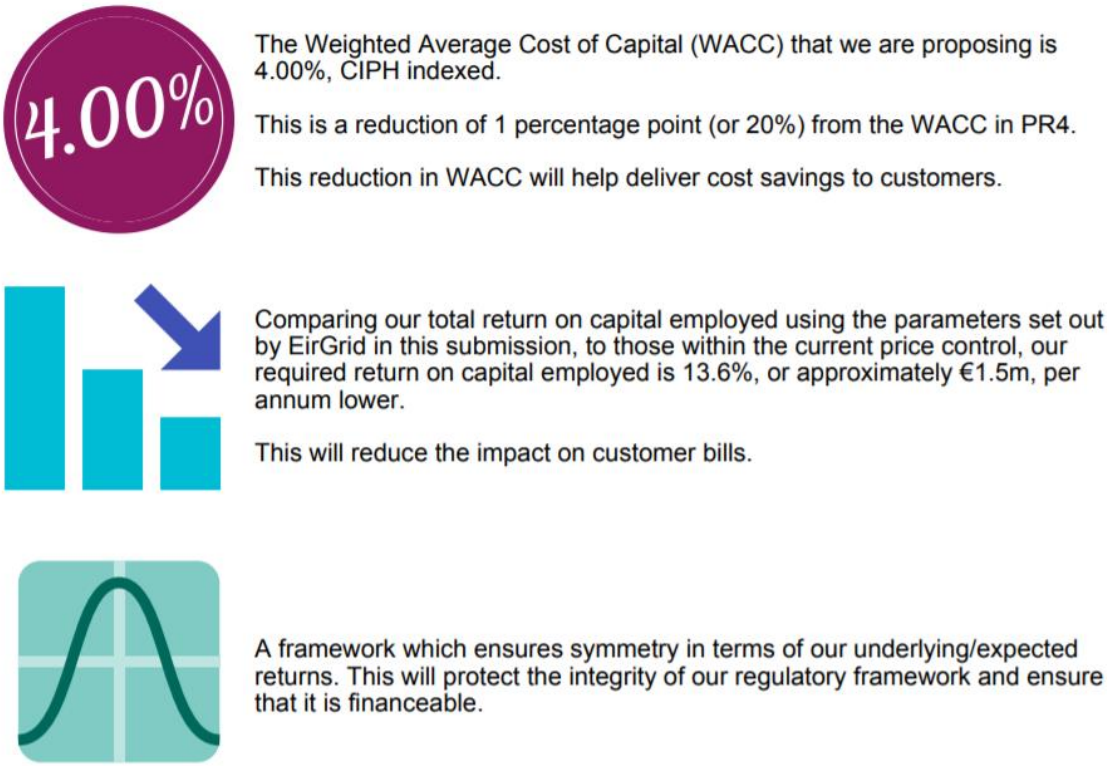


Figure 7. Remuneration of Capital

The Cost of these Proposals

The initiatives set out in this plan, will be delivered for no additional cost per average domestic electricity customer per annum. In fact we are forecasting a reduction in the EirGrid portion of the average domestic customer bill during PR5.

The forecast Network CapEx required for PR5, which is planned by EirGrid but delivered by ESB is €1.07 billion. This represents a step change on PR4 and will see significant new network infrastructure delivered. Due to the reduction in the Cost of Capital and the forecast increase in demand, this can however be delivered at an overall reduction in the cost to the average domestic electricity customer.

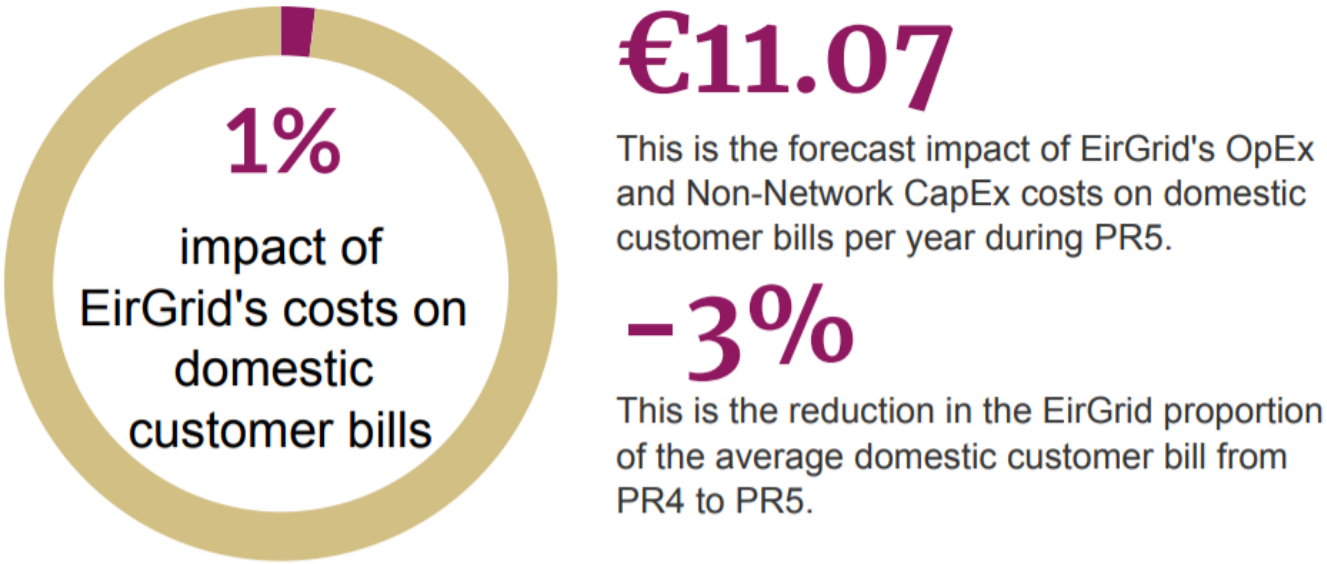


Figure 8. EirGrid Costs to Customers during PR5

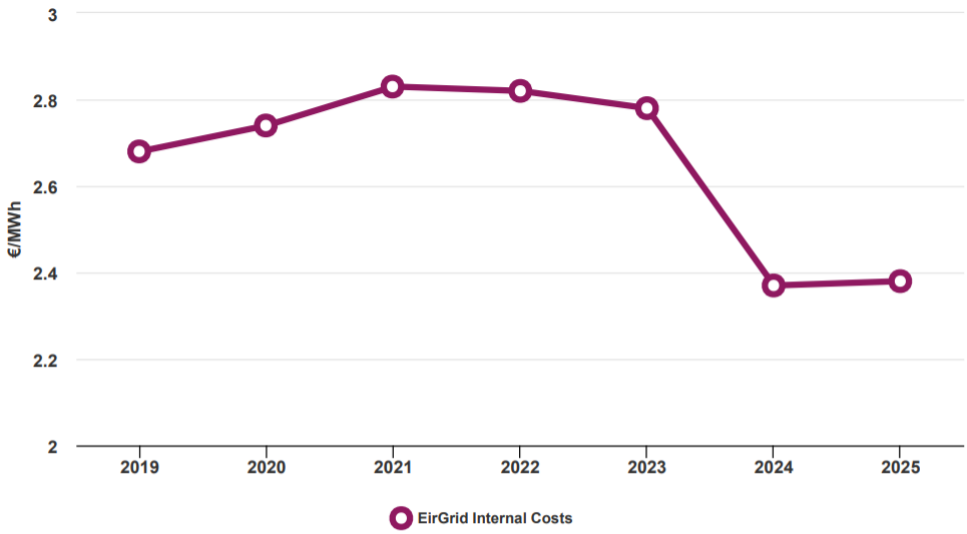


Figure 9. EirGrid Internal Costs to Customers during PR5

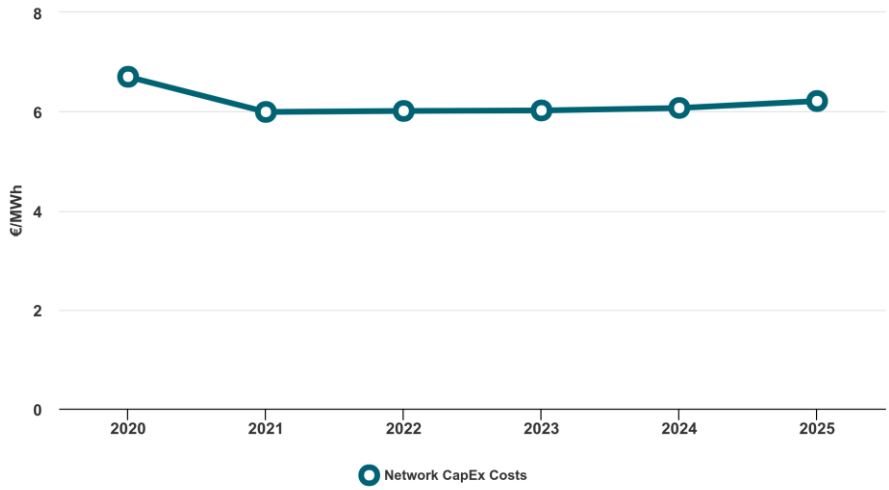


Figure 10. Estimated Network CapEx Costs to Customers during PR5

Layout of the Submission

Our PR5 submission comprises of a number of chapters and appendices, which work together as set out in the table below.

Part 1.	**A Future Energy System for Everyone**
1.	Future Trends in Energy Systems
2.	Engagement and Stakeholder Feedback
Part 2.	**Delivering Services and Outcomes**
3.	How the Past is Shaping the Future
4.	How we propose to meet this Challenge during PR5
	Appendix A. Transmission System Development & Maintenance
	Appendix B. Local Security of Supply
	Appendix C. Sustainability & Decarbonisation
	Appendix D. Operate, Develop and Enhance the Grid and Market
	Appendix E. Engage for Better Outcomes for All
	Appendix F. Non Network CapEx BAU (not published)
Part 3.	**Providing Value for Money and Managing Uncertainty**
5.	Ensuring Cost Efficiency
	Appendix G. KPMG Cost Efficiency Report (not published)
	Appendix H. KPMG Business Case Challenge Report
	Appendix I. Calculation of Cost to Customers
6.	Regulatory Framework
	Appendix J. KPMG Regulatory Framework (not published)
	Appendix K. KPMG Asymmetric Risk (not published)
Part 4.	**A Fair Balance of Risk and Return**
7.	Balance of Risk and Return
	Appendix L. KPMG Cost of Capital Report (not published)
Part 5.	**Conclusions**
8.	Conclusions
Part 6.	**Other Appendices**
	Appendix M. Securing Governance & Assurance
	Appendix N. Forecast BPQ Written (not published)
	Appendix O. Forecast BPQ Data (not published)
	Appendix P. Assumptions
	Appendix Q. Assessing Data Quality (not published)
	Appendix R. List of Abbreviations
	Appendix S. Output Metrics